CITY OF VANCOUVER

REPORT

Report Date:	September 4, 2020
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Meeting Date:	September 16, 2020

Submit Comments to Council

TO: Standing Committee on City Finance and Services

FROM: General Manager of Engineering Services

SUBJECT: Granville Bridge Connector and Drake Street Improvements

RECOMMENDATION

A. THAT Council endorse the long-term design concepts for the Granville Bridge Connector and for Drake Street, as generally described in Appendix A and Appendix B, respectively, subject to funding availability and prioritization in future capital plans;

B. THAT Council approve detailed design and construction of the interim Granville Bridge Connector, as described in Appendix C, to be included in the 2019-2022 Capital Plan for an approximate cost of $12.5M, including a Multi-Year Capital Project Budget of $1,000,000 to complete the detailed design of the interim Connector; and

C. THAT Council approve the construction of the interim Drake Street Improvements, as part of the 2019-2022 Capital Plan as described in Appendix C.

REPORT SUMMARY

Originally designed for high-volume freeways that were never built, Granville Bridge presents significant accessibility and safety challenges for today's urban context. Based on extensive stakeholder and public engagement, this report recommends a long-term vision, subject to funding availability and prioritization in future capital plans, to provide for safe, accessible, and comfortable walking, rolling, and cycling on the Granville Bridge and Drake Street, with an

interim design to be constructed in the *2019-2022 Capital Plan*. The Granville Connector interim design and construction project is planned to be coordinated with the North Loops project, to be presented to Council in the fall of 2020.

The Granville Bridge Connector would take advantage of excess road space on the bridge to address a major gap in the city's active transportation network and serve some of the densest areas of the city. Construction of the interim design recommended in this report would provide essential connectivity and accessibility improvements, while laying the groundwork for future improvements such as means prevention fencing, art, lighting, seating, and place making features to create a special place for people of all ages and abilities. The project is a key to accommodating the growing number of people living, working, and playing in the city and region, and helping us meet our *Climate Emergency Response* transportation targets.

COUNCIL AUTHORITY / PREVIOUS DECISIONS

On March 26, 2002, Council received the *False Creek Pedestrian and Cycling Crossings Study* and supported the recommended long-term strategy for making safety and connectivity improvements to the pedestrian and cycling environments on all three False Creek bridges.

On October 7, 2010, Council adopted the *Granville Loops Policy Plan* (amended on July 17, 2018), which calls for the replacement of the freeway-like, elevated traffic loops with an "H" configuration of streets that connect the surrounding transportation network and the bridge. The reconfigured street network would improve the public realm of the area, create better development parcels, improve transportation connections, and upgrade a valuable area in terms of image and economic viability.

On October 31, 2012, Council adopted the *Transportation 2040 Plan*, which identified the need to improve accessibility and address gaps in Vancouver's walking and cycling network, and further identified the False Creek Bridges, including the Granville Bridge, as a high priority. The full length of Drake St was likewise identified as a priority for a potential All Ages and Abilities cycling route, and a key connection to the Granville Bridge.

On December 12, 2012, Council directed staff to report back with a design, budget and implementation proposal for Section 2 of the Comox-Helmcken Greenway, including Drake Street east of Hornby.

On January 15, 2019, Council declared a climate emergency and on April 29, 2019 Council endorsed a *Climate Emergency Response* to increase Vancouver's efforts to tackle climate change, including six "big moves", two of which are creating "walkable complete communities" and "safe and convenient active transportation and transit".

On January 30, 2019, Council directed staff to engage the public on design options for a safe and accessible path so people of all ages and abilities can comfortably walk, cycle, use wheelchairs, strollers, and other devices across the Granville Bridge, while facilitating views to the water. As part of this work, Council also directed staff to coordinate with the bridge's rehabilitation work and any plans for means prevention, and to explicitly consult the Vancouver Police Department and Vancouver Fire and Rescue Services.

On May 27, 2020, Council directed staff to consult the public to identify appropriate reallocations of road space to people-focused public space throughout the city, and consider changes that

could become longer term or possibly permanent, with the goal of reallocating a minimum of 11% of today's street space.

CITY MANAGER'S / GENERAL MANAGER'S COMMENTS

Granville Bridge is one of the biggest barriers in Vancouver's pedestrian and cycling networks. Significant work has been done over the last 20 years to determine how to address this gap. Through a comprehensive technical review and public process, the "West Side +" design emerged as the clear preference among both stakeholders and the public as the best way to improve walking, rolling, and cycling conditions across the bridge while promoting views and maintaining transit and motor vehicle travel-time reliability.

Drake St is an essential component of the project, providing improved walking, rolling, and cycling connections between the Granville Bridge Connector and the rest of the active transportation network.

These additions to the city's pedestrian and cycling network are critical to meeting our *Climate Emergency Response* mode share targets and delivering an accessible city. COVID-19 has also highlighted the need for better multi-modal connections to provide a more resilient city.

The City Manager recommends the approach outlined in this report in order to advance this critical project.

REPORTS

The Granville Bridge Connector and Drake Street Improvements had separate engagement processes, as it was recognized that the interest in the Granville Bridge Connector would be more citywide, while the Drake Street improvements would have more localized impacts. Since the Drake Street Improvements are essential to the functioning of the Granville Bridge Connector, they are being presented to Council as a single project.

Each project developed distinct project goals and underwent different engagement processes. To reflect this, the background and strategic analysis for each project are presented separately below.

REPORT: GRANVILLE BRIDGE CONNECTOR

Background/Context

Improving walking and cycling conditions over the Granville Bridge has long been identified as a Council priority for the City of Vancouver, including in the 2002 *Downtown Transportation Plan*, the 2002 *False Creek Crossings Study*, and the 2012 *Transportation 2040 Plan*.

Walking, rolling, and cycling improvements to the Granville Bridge would address a major gap in the city's pedestrian realm and cycling network, serving the substantial and growing number of people living, working, and playing in this part of the city. The *Granville Bridge Connector* was an essential transportation project to meeting the City's original 2040 mode share targets and it becomes even more critical to achieving these targets earlier as part of the Climate Emergency

Response. The area surrounding the downtown core contains some of the City's most significant opportunities to increase walking and cycling (see Figure 1).

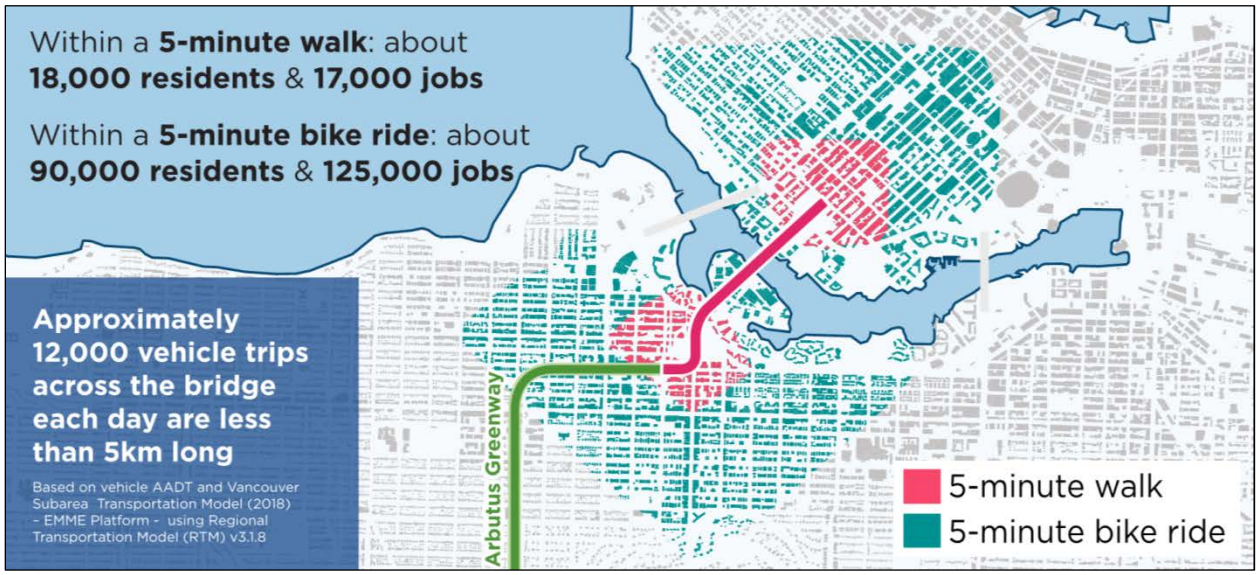


Figure 1: 2016 population and jobs within a 5-minute walking and cycling catchment of the Granville Bridge[1]

In the 2019-2022 Capital Plan, $25M was earmarked to deliver this project. On January 30, 2019, Council directed staff to engage the public on the project and report back with recommendations.

Engagement and Consultation Process

Feedback from stakeholders and the public in 2019 and early 2020 has helped shape the project goals, the design options considered, and the recommended design. The engagement included a wide range of stakeholders representing diverse interests: local resident and business associations; Vancouver Police Department and Vancouver Fire and Rescue Services; transportation, seniors, accessibility, and placemaking organizations; citizen advisory bodies; equity seeking groups; emergency, health, and social services; and Granville Island. Staff also reached out to Musqueam, Squamish, and Tsleil-Waututh First Nations through the City liaison.

Staff conducted a three-phase public engagement process including open houses, workshops, walking tours, and surveys for the broader public to share their ideas and concerns:

1. In **Phase 1 (April 2019)**, staff sought input on the draft project goals and invited the public to share how they currently use the bridge, along with specific ideas and concerns.

2. In **Phase 2 (September 2019)**, staff provided the public with an opportunity to review and comment on six shortlisted design options, and shared information on other options which were explored but eliminated.

[1] Population and place of work densities are based on the 2016 Census and do not factor in future growth, with distances calculated from either end of the bridge using the 2016 road network. A 5-minute walk is assumed to cover a distance of 400m (approximately 4 city blocks). A 5-minute bike ride is assumed to cover 1.3km, which is an average speed of 15.5km/h.

Beginning in Phase 2, the City worked with Jay Pitter, an expert in mobility equity and placemaking, to better assess how this project can increase mobility options and capacity for individuals from equity-seeking groups. This work is part of a broader intervention to ensure that our streets and public spaces are designed in a more equitable manner. Jay Pitter's contribution included running mobility equity workshops with staff and the public, facilitating mobility equity conversations with 20+ individuals and grassroots organizations, and collaboration to lead a Granville Bridge Women's Storytelling Walk. These engagement events created an opportunity to unpack mobility equity principles, uncover the cultural heritage and history of the Granville Bridge and surrounding area, and cull rich anecdotal data that will inform the approach to the design and placemaking for the Granville Bridge Connector. See Appendix E for a copy of the consultant report containing recommendations submitted to the City.

3. In **Phase 3 (January & February 2020)**, staff presented a recommended design, and provided opportunities for the public to share opinions and provide further comments.

A full summary of the engagement process and findings is outlined in Appendix D.

Current Conditions

Built in 1954, Granville Bridge is an eight-lane bridge over False Creek. The bridge was designed to connect to future high-speed, high-volume freeways that were never built. As a result, the bridge has more motor vehicle capacity than could ever be utilized. Even when all the lanes leading to the bridge are full, traffic on the bridge itself is relatively light since the signalized intersections at either end constrain vehicle volumes.

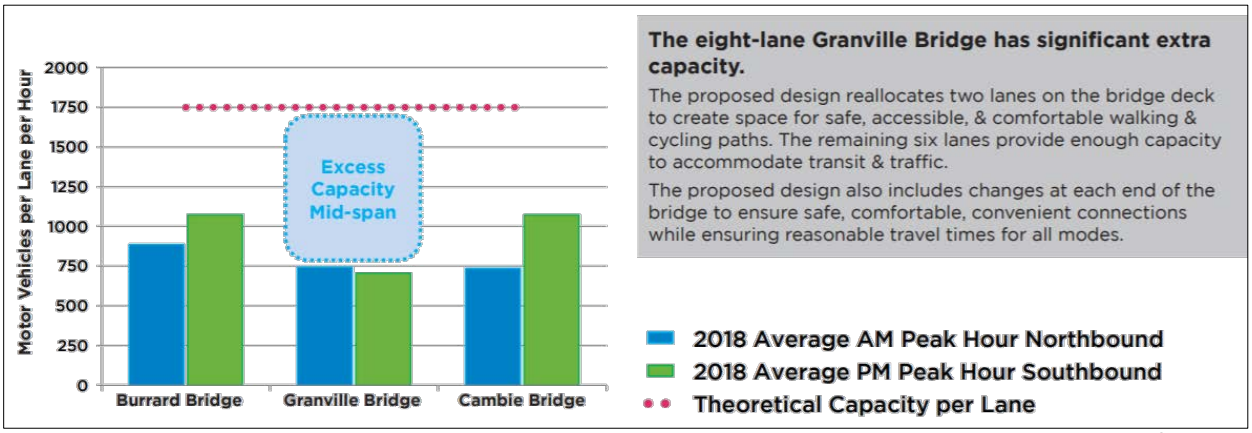


Figure 1: Motor vehicle volumes over the False Creek Bridges (per lane during peak hours)[2]

Granville Bridge is a major gateway to and from Downtown Vancouver. On a typical weekday, the bridge has a little over 65,000 motor vehicles and over 25,000 trips on 6 bus routes, with almost 80 buses per hour during peak periods. Truck volumes on the bridge are limited because of weight restrictions.

[2] Currently, Burrard Bridge has 2 vehicle lanes in each direction, Granville Bridge has 4 in each direction, and Cambie Bridge has 3 northbound vehicle lanes, and 2 southbound vehicle lanes.

Despite its role as one of downtown's principal gateways, fewer people walk, roll, and cycle on Granville Bridge compared to other False Creek Bridges. On a summer day, the bridge can see about 2,000 people walking across the bridge, a few hundred people cycling across the bridge, and essentially nobody who requires using a wheeled mobility aid. Comfort and accessibility challenges are primary reasons for these relatively small numbers compared to the other False Creek bridges.

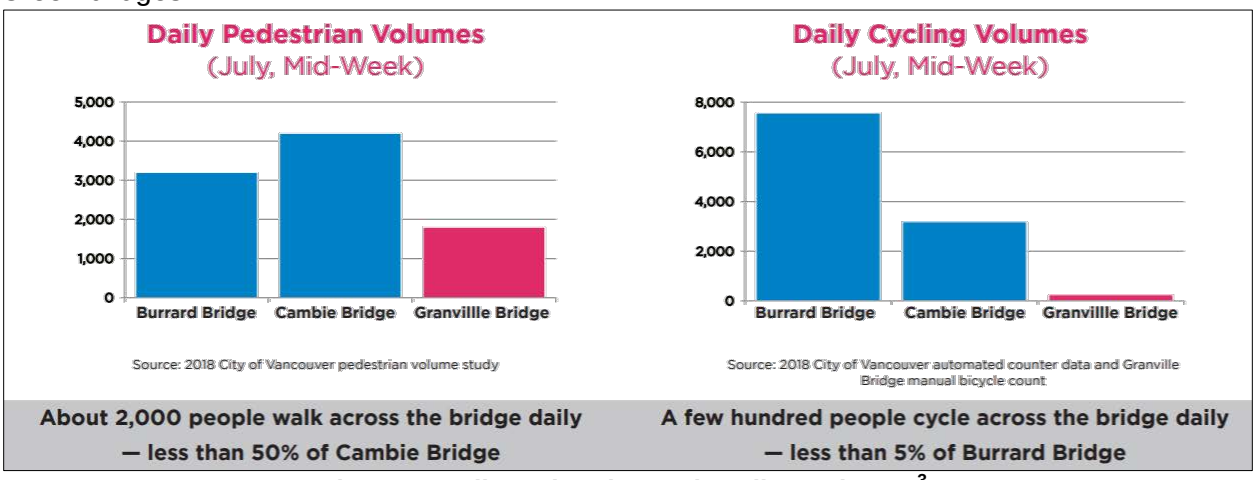


Figure 2: Daily pedestrian and cycling volumes[3]

Granville Bridge's freeway-style design results in significant challenges from a comfort, accessibility, and urban design point of view. Most notably:

- Eight wide travel lanes in the middle of the bridge encourage high vehicle speeds
- Sidewalks on the bridge are narrow and uncomfortable, with no buffer from traffic
- Steps in the sidewalks make the bridge inaccessible to people who use mobility aids or push strollers
- Unsignalized crosswalks at vehicle on-/off-ramps feel unsafe and contribute to motor vehicle collisions
- People cycling over the bridge either have to share a travel lane with high speed motor traffic or mix with pedestrians on the narrow sidewalk
- Vehicle on/off-ramps, pathways, and associated signage designed for high-speed motor vehicles make it challenging for pedestrians or people cycling to reach their destinations on either end of the bridge

Project Goals

Staff received high levels of support for draft goals that were presented in Phase 1 of engagement, along with feedback on how they could be improved. The revised goals of the Granville Bridge Connector, as presented in Phase 2 of engagement, are to:

1. Support the City's **climate emergency** efforts by enabling more trips via sustainable transportation
2. Make **walking, rolling,** and **cycling** across the bridge **accessible, safe,** and **comfortable** for all ages and abilities

[3] Source: 2018 City of Vancouver pedestrian volume study, 2018 City of Vancouver automated counter data and Granville Bridge manual bicycle count. Note, winter cycling volumes vary considerably relative to summer volumes, with permanent counter data showing winter cycling volumes at 20% - 50% of those observed during summer months.

3. Provide **direct** and **intuitive** walking, rolling, and cycling **connections to key destinations** and the sustainable transportation network
4. Create a **special place** that provides an enjoyable experience for all
5. Enable **reliable transit** and continued access for **emergency vehicles**
6. Accommodate **motor vehicles**, considering the bridge's role in the regional transportation network
7. Integrate **means prevention** to deter self-harm
8. Incorporate **environmental features** into the design, including provisions for rainwater management and wildlife habitat
9. Design for the future, considering **compatibility with related projects** and **flexibility to adapt** as the city grows
10. Provide **value for money** and maximize coordination opportunities

Strategic Analysis

Through extensive stakeholder and public engagement, as well as concurrent staff analysis, there was a strong preference for the 'West Side +' design option out of the six leading design options. People generally preferred alignments on the sides of the bridge versus the centre with traffic on both sides, and they also preferred the views to the west. Furthermore, people generally weren't comfortable leaving any existing sidewalks unimproved, and strongly supported additional bike network connections that were possible using the west side. This public and stakeholder preference was also reinforced by an internal staff analysis of the performance of each option against project goals (see Appendix F for a detailed description of the options considered and the evaluation of each). As such, the 'West Side +' design evolved into the final recommended design for the Granville Connector.

Overview of Recommended Long-term Design Concept

The recommended Granville Bridge Connector design would help link several major initiatives at either end of the bridge (see Figure 3) to fill significant gaps in the network, creating comfortable, accessible, and convenient connections that significantly improve walking, rolling, and cycling, while creating a unique civic experience.

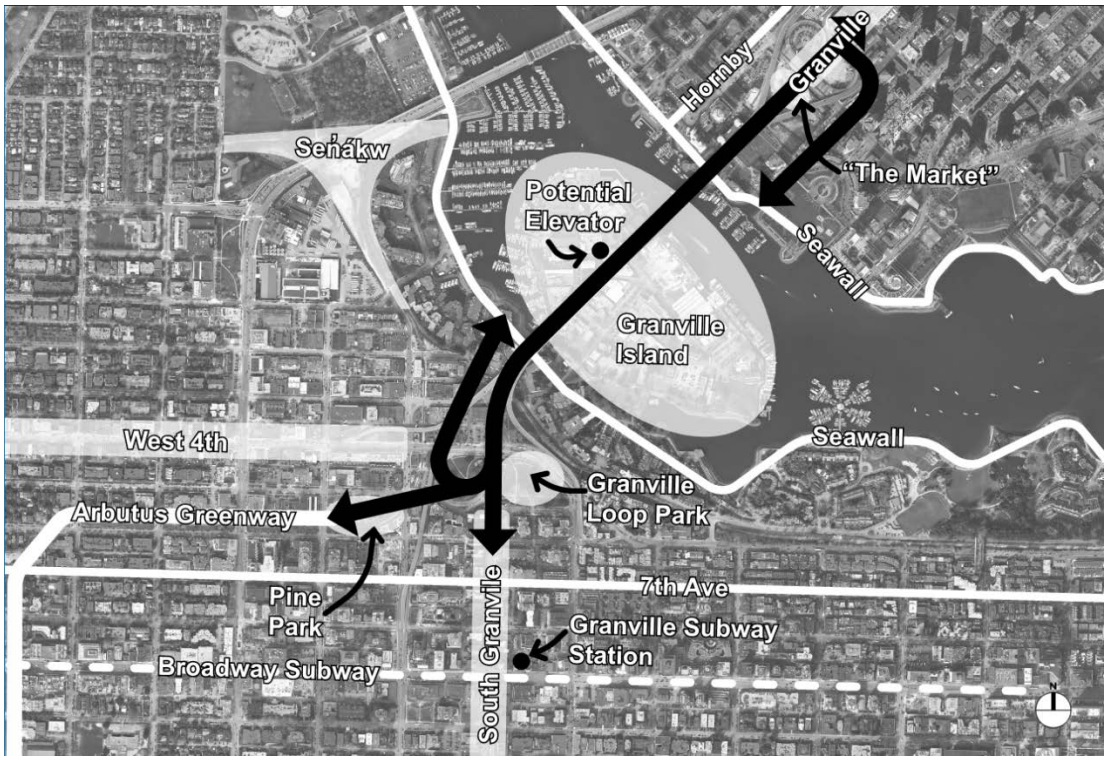


Figure 3: Connecting major destinations to benefit the entire city.

The long-term design involves reallocating two existing travel lanes to create wide walking, rolling and cycling paths on the west side of bridge, while also widening the east sidewalk. This would create a more comfortable and accessible pedestrian realm on both sides of the bridge, in addition to adding a two-way bike lane on the west side (see cross-section in Figure 4). The recommended design also includes a widened sidewalk down the full length of the Hemlock on-ramp and a two-way bike lane on the Fir off-ramp to connect to 10th Avenue.

As part of the long-term concept, City staff are working with Vancouver Coastal Health and other experts to include means prevention fencing to deter self-harm. Research shows that self-harm attempts from bridges are impulsive and, generally, if someone is prevented from jumping off a bridge they do not try other means. Through careful design, means prevention can be incorporated in a way that preserves views and complements the overall bridge experience, e.g. by integrating lighting such as was done on the Burrard Bridge.

Overall, the recommended long-term design achieves direct and accessible pedestrian connections to Granville St at both ends, linking major shopping and entertainment districts. For cycling, direct and safe connections to the broader all ages and abilities (AAA) network at the north end are made via new facilities on Drake and Richards streets. At the south end, the design connects seamlessly to the Arbutus Greenway, effectively extending that project into the downtown. A feasibility assessment has also been completed for an elevator and stair connection to Granville Island, which would provide direct connections for walking, cycling, and transit while providing spectacular views and placemaking opportunities. Figure 4 and Figure 5 provide an overview of the overall long-term design concept. For more detailed illustrations of the long-term recommended design, see Appendix A.

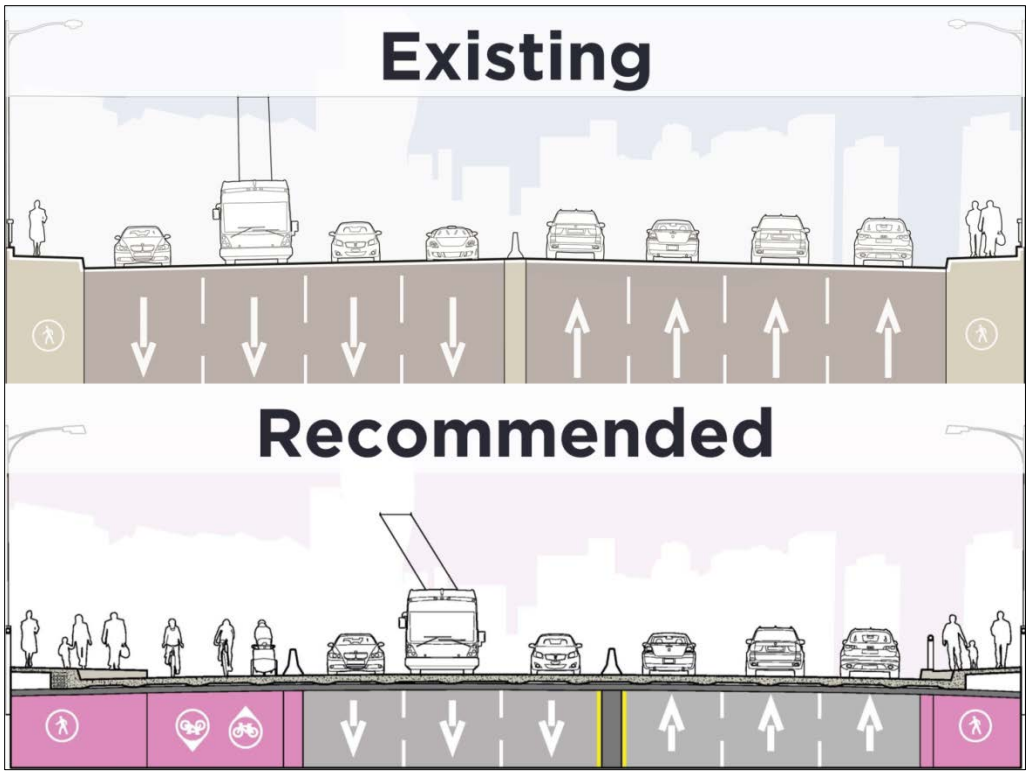


Figure 4: Cross-section of long-term recommended design (mid-section, looking north)

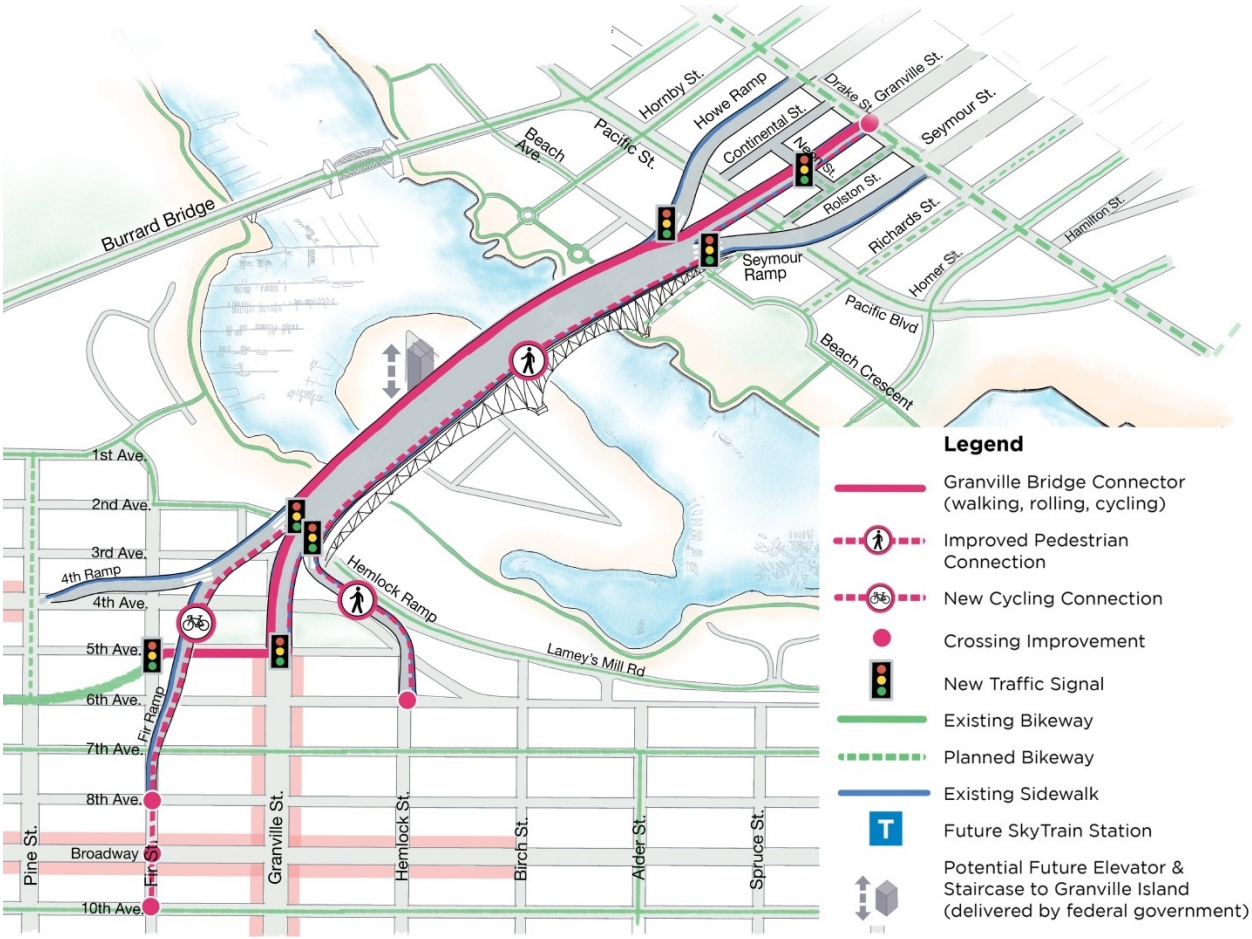


Figure 5: Overview of the long-term recommended design

Stakeholder and Public Feedback

Public interest and participation levels were very high throughout the engagement process. In total, there were over 3,000 attendees at 9 open houses and 12 workshops, and over 9,300 surveys received. Staff also held over 80 stakeholder sessions with more than 830 participants representing diverse interests. Highlights are shared below, and a complete summary of the engagement process and findings is included in Appendix D.

Phase 1 – Discuss Project Goals | Share Hopes, Concerns, Ideas, and Experiences

In Phase 1 (April-May 2019), staff gave the public and stakeholders an opportunity to review the draft project goals, and provided space for people to share experiences, hopes, concerns, and ideas. Notably, staff heard:

- Strong overall support for the project from stakeholders and the public
- Support for all of the draft project goals, along with suggestions for improvements, particularly relating to the climate emergency, public transit, means prevention fencing, and environmental considerations
- Most people currently feel uncomfortable walking (52%) or cycling (78%) across the bridge, especially when considering doing so with someone who needs assistance walking (78%) or is less confident cycling (88%)

- Many people avoid walking or biking across the bridge even when it would be the most direct route (41% and 69%, respectively), suggesting a strong latent demand for using the bridge
- People who rely on mobility aids and people who cycle find it especially challenging to use the bridge today, due to unsignalized crossings with steps and a lack of separated bike lanes
- Diverse opinions on the level of investment required, with many people interested in a once-in-a-lifetime placemaking opportunity, and others more concerned with safety and the bridge's transportation function
- Many ideas for particular Connector alignments to explore.

Based on Phase 1 engagement, staff refined the draft goals and explored over 20 options for the Connector. These options were then shortlisted to six using evaluation criteria derived from the refined goals.

Phase 2 – Review Design Options

In Phase 2, six shortlisted options were shared with stakeholders and the public for detailed review, along with information on options that did not make the shortlist (see Appendix F for details).

Staff heard a strong preference for the 'West Side +' option from both stakeholders and the public, along with some ideas for refinement. People generally preferred side alignments over the centre with traffic on both sides, and the views to the west. Also, people generally weren't comfortable leaving any existing sidewalks unimproved, and strongly supported additional bike network connections.

Based on Phase 2 engagement, staff refined the West Side + option into a recommended design.

Phase 3 – Review Recommended Design

In Phase 3, the recommended design was shared to gauge levels of support, and for additional input to allow for further refinements. There was strong public support for the recommended design, with 73% of survey respondents 'liking' or 'really liking' it, and 17% expressing a negative opinion *(see Figure 6)*. There was also strong support for the recommended design from engaged stakeholder groups representing broad interests, including transportation; local businesses; people with disabilities; seniors; women, children, and families; and public space. Letters from stakeholders are included in Appendix I.

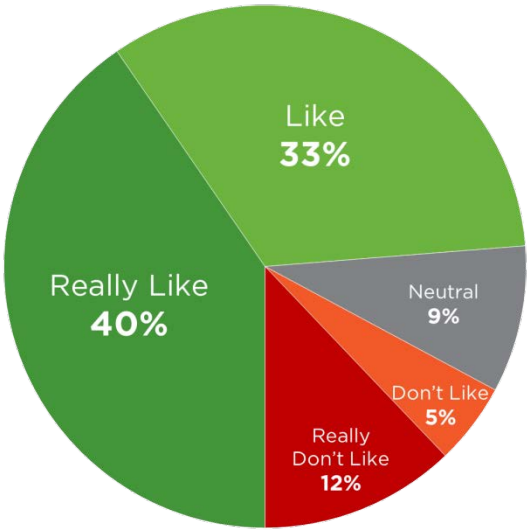


Figure 6: Overall reaction to the recommended design from the general public[4]

Specific feedback included very strong desires to maintain views, create safe and comfortable paths with places to rest along the way, and provide good separation between people walking, cycling, and driving. Lighting upgrades were frequently identified as an important element for safety, personal security, and ambiance, as well as an opportunity for public art. Although many people were excited about the opportunity to create a unique and special experience, others were concerned about overall costs and more interested in simply establishing functional accessible connections. There was considerable excitement for a potential future elevator and staircase connection with Granville Island, and for a more direct connection between the Granville Bridge Connector and the False Creek Seawall.

Those who did not support the design were generally concerned about City projects that reallocate road space away from motor vehicle traffic, concerned about potential traffic congestion and/or neighbourhood shortcutting, and/or felt that the project is unnecessary in that safety and accessibility concerns for people using other modes besides driving are overstated. Table 1 below highlights key refinements made to the recommended design based on input during in Phases 2 and 3.

Overall, participants expressed high levels of satisfaction with the engagement process. A detailed summary of the engagement process and the feedback received is included in Appendix D.

[4] Responses to the survey question, "Overall, what do you think of the proposed design?" based on all 1,682 Phase 3 engagement survey responses.

Table 1: Key Refinements to the Recommended Design Based on Public & Stakeholder Feedback in Phases 2 and 3

Public Feedback	Staff Response
Ensure the two-way bike paths are wide enough for passing	■ Widened the bike path design in most locations to match the sidewalk width (both 4.2m / 14' wide, almost as wide as the Seawall through Olympic Village)
Prioritize safe, accessible movement while creating special places, such as mini-plazas	■ Developed an urban design framework focusing on: o All ages and abilities paths, with views, places to rest, & lighting for safety & ambiance o Room for special moments at key locations along the way, including at the bridge apex, gateways, and at the potential future elevator to Granville Island o A process to refine placemaking elements with key stakeholders, including means prevention fencing
Views are important **Ensure means prevention fencing enhances rather than detracts from the experience**	■ Exploring means prevention fencing options that preserve views (identified as a key criteria), integrate lighting, and complement other design elements
Ensure new crossings at on- and off-ramps are safe & accessible for path users & drivers	■ Advanced on-/off-ramp crossing designs, including: o Traffic signals & road markings o Accessible ramps for people with low mobility o Geometry to separate different travel modes & provide clear sightlines for maximum visibility o Introduced channelization to prevent unsafe last-minute lane changes
Encourage slower vehicle speeds	■ Reduced speed limit (from 60 to 50km/h) ■ Reduced number of lanes and lane widths to those more typical urban streets (matching Burrard Bridge) ■ Created additional signalized crossings / intersections
Make sure it is safe & intuitive to get on and off the bridge **Improve connections with key locations including Granville Island, Seawall, & bike network**	■ Advanced design at each end of the bridge, with clearer cycling connections to existing network ■ Refined pedestrian improvements on Hemlock ramp ■ Refined cycling connection on Fir ramp to 10th Ave ■ Working with stakeholders to explore more direct future connections to Granville Island and Seawall
Ensure local streets on the south end are protected from shortcutting traffic	■ Vehicle volumes and speeds on local streets will be monitored before and after the project. Staff will work with the neighbourhood on traffic calming solutions if there are issues. ■ The Broadway Plan will also look at the roles of streets in the area and any future changes will respond to those needs.

Delivering an Interim Granville Bridge Connector

The original 2019-2022 Capital Plan included $25M for the Granville Bridge Connector project, whereas the cost estimate for the long-term design concept is currently $39M, not including planning and scoping costs to date ($2M) nor costs associated with means prevention ($16M)

or 5th Avenue normalization ($7M). As such, it was anticipated that the project would need to be phased across multiple capital plans. With the additional budget pressures due to the COVID-19 pandemic, the need to look for options to minimize project costs has been heightened.

Staff recommend that the first phase of the project be delivered this Capital Plan and focus on establishing the core transportation components of the project. The recommended interim design is shown in Figure 7 and includes the following components:

- Convert two west-side travel lanes on the Granville Bridge to walking, rolling, and cycling using a large floating barrier (similar to Burrard Bridge)
- Signalize the Fir & Howe on/off-ramp crossings
- Redirect south loop traffic to 5th Ave and Fir St, and make South Granville Loop car-free to install a pedestrian and bicycle connection to Fir St
- Install a new traffic signal at the Fir St and 5th Ave intersection
- Upgrade pedestrian and cyclist wayfinding
- Coordinate with North Granville Loops replacement

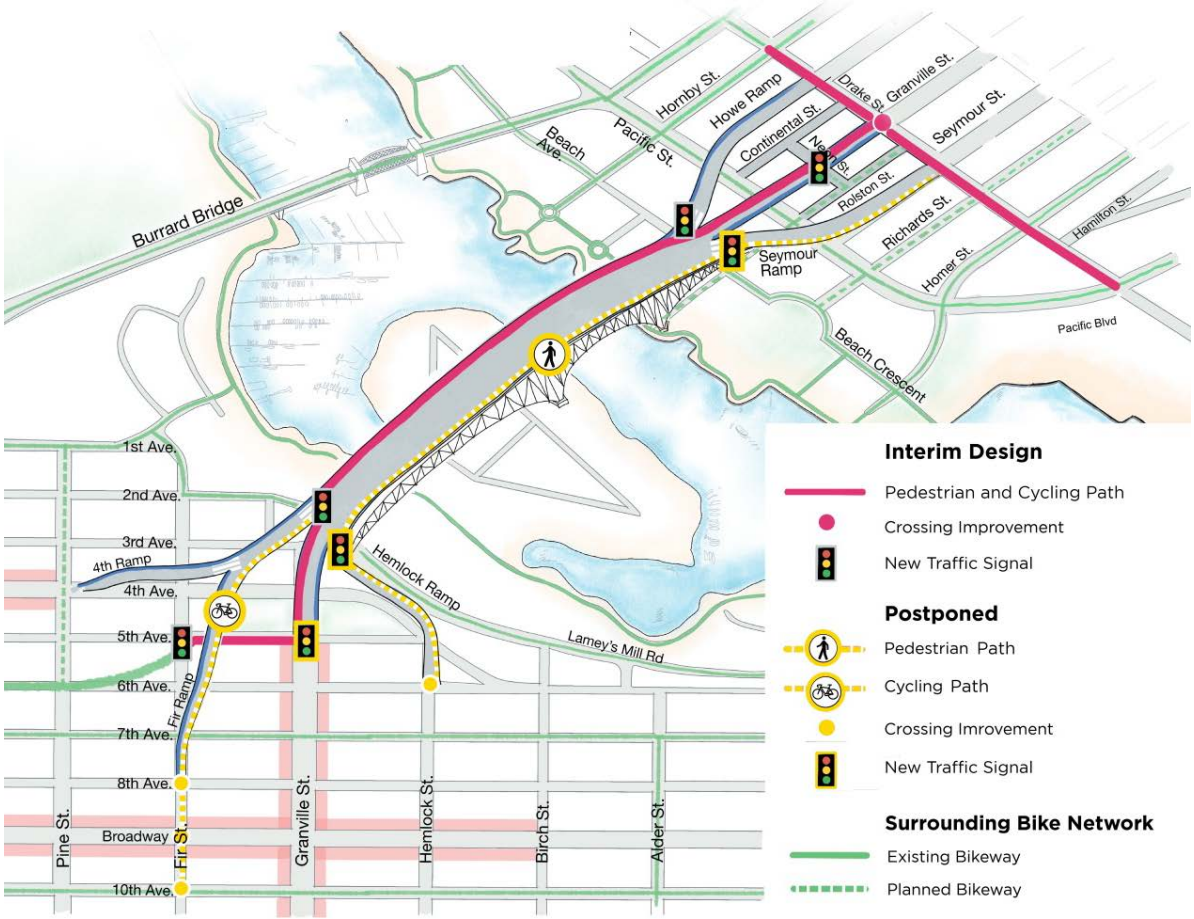


Figure 7: Granville Bridge Connector and Drake Street interim design concept[5]

Please see Appendix C for more details on the interim Granville Bridge Connector design. The cost of this work is currently estimated to be approximately $12.5M including detailed design.

[5] Population and place of work densities are based on the 2016 Census and do not factor in future growth, with distances calculated from either end of the bridge using the 2016 road network. A 5-minute walk is assumed to cover a distance of 400m (approximately 4 city blocks). A 5-minute bike ride is assumed to cover 1.3km, which is an average speed of 15.5km/h.

REPORT: DRAKE STREET

Background/Context

Currently, there are no cycling routes that connect the north end of the Granville Street Bridge to the rest of downtown. With Granville Bridge upgraded to accommodate safe and comfortable cycling, an east-west route is needed to better connect people walking and cycling from the bridge with other active transportation corridors downtown. Drake St was identified in the *Transportation 2040 Plan* as a key east-west route in the Downtown Bike Network and it was also identified in other policies, including the *West End Community Plan* (2013) and the *Granville Loops Policy Plan* (2010).

Current Conditions

A protected bike lane already exists for a single block between Burrard St and Hornby St. For the remainder of Drake St east of Hornby St, it is a typical downtown arterial street, with a vehicle lane in each direction and a full-time parking lane on each side of the street. The roadway is fairly narrow and there is no space to add protected bike lanes within the existing roadway without repurposing two of these four lanes.

Although Drake St is not currently an officially designated bike route, it is a strong desire line for those cycling. Dooring and other collisions with drivers parking on-street made up 40% of collisions on Drake St. between people cycling and driving from 2007 to 2017, as compared to 15% citywide. A further quarter of collisions on Drake St are related to drivers making left turns with oncoming bikes on a green light, particularly around Howe St. This can be compared to 15% city-wide at all intersection types, or 5% specifically at signals.[6]

Project Goals

The Drake St Upgrades project would close major gaps in the existing bike network by providing an east-west connection between the West End and Yaletown, with separate space for walking, cycling, and motor vehicles to reduce conflicts and improve comfort and safety for everyone. The project goals presented in Phase 1 and 2 of public engagement include:

1. Improve safety, comfort and accessibility for people of all ages and abilities to walk, roll and cycle
2. Provide an east-west cycling route to connect the proposed Granville Bridge Connector with the rest of downtown
3. Maintain access for residents and businesses
4. Coordinate with utility upgrades and nearby projects such as Richards Street and the Granville Bridge to minimize construction impacts

Additional project goals related to providing more street trees and improving the ability of the street to manage rainwater would be achieved as part of the long-term concept.

[6] Collision data from ICBC (2007-2017). The City of Vancouver does not attribute to ICBC any results, information or data derived from the use, interpretation or analysis of the collision data.

Engagement & Consultation Process

Drake Street Improvements were first discussed with the public and stakeholders during the Comox-Helmcken Greenway process in 2012, which looked at how to connect the Comox-Helmcken Greenway to the east (and ultimately the Seawall). A focused engagement took place from spring 2019 to spring 2020, and was structured around a two-phase public engagement process:

1. In **Phase 1 (spring 2019 – fall 2019),** staff sought input on the role of the Drake Street bike lane in the overall downtown cycling network and on future connections that could improve safety and encourage sustainable travel. Two options were presented for discussion, a preferred option with bi-directional bike lane (see Figure 8) and an alternate option with uni-directional bike lanes (see Figure 9).

2. In **Phase 2 (early 2020)** staff reported back on the feedback heard in Phase 1 and shared a refined recommended design that addressed the feedback received from public.

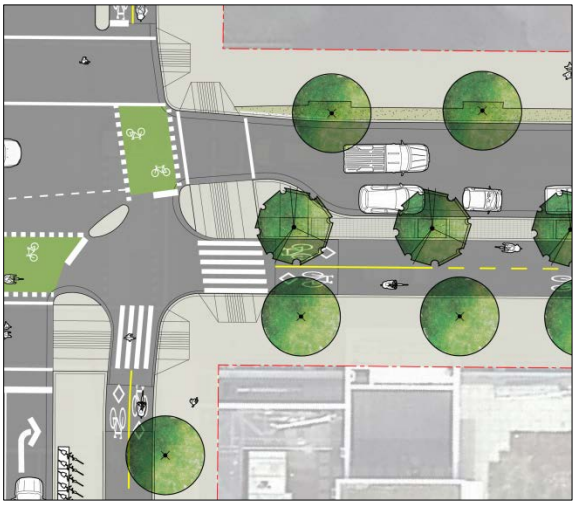


Figure 8: Preferred Option

This option proposed a bi-directional (two-way) bike lane on the south side of Drake Street with protected intersections and significant opportunities for new trees, landscaping and green infrastructure. In this option, Drake Street would become one-way eastbound for motor vehicles. Approximately half of the on-street parking would be retained.

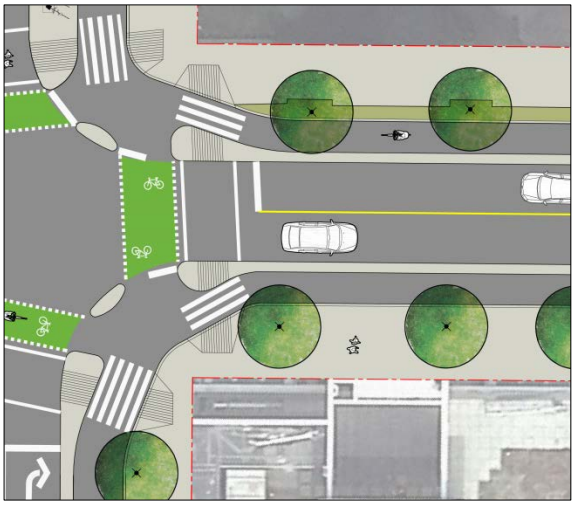


Figure 9: Alternate Option

This option (called “Option 2” during Phase 2 engagement) proposed uni-directional (one-way) bike lanes on both sides of the street. The option maintained two-way motor vehicle traffic, but would require turn restrictions at key intersections, such as Howe St and Granville St. Significant sidewalk narrowing would be required, for example at the Hornby, Granville, and Richards intersections. Approximately one tenth of the on-street parking would be retained.

In both phases, there were multiple opportunities to review and comment on the designs, including public open houses, surveys, and personalized stakeholder discussions, which were offered to local businesses, business improvement associations, stratas, and citizen advisory groups to discuss the proposal in more depth.

See Appendix G for a detailed engagement summary for both phases.

Strategic Analysis

Extending the Drake St protected bike lane east of Hornby St would provide a safe and accessible cycling connection to neighbourhoods including the West End and Yaletown. It would fill a major gap in the cycling network by linking a number of existing and future routes including Burnaby St., Hornby St., Richards St., and the future Granville Bridge Connector.

Overview of Recommended Long-term Design Concept

The recommended design reallocates a westbound travel lane and a parking lane to create more comfortable sidewalks and a two-way protected bike lane on the south side of the street. The roadway would include an eastbound travel lane with on-street parking, turn lanes, and corner bulges to reduce crosswalk lengths. This long-term concept is based on feedback received for the 'Preferred Option' that was presented during the public engagement process.

The recommended long-term concept for Drake St builds off the Green Complete Street approach for Richards St. Along with expanded sidewalk space, shorter crosswalks, and accessible design features, priority for walking is increased by raising sidewalks continuously across intersecting lanes and unsignalized minor street crossings.

The proposed treed and landscaped median are also enhanced with integrated green rainwater infrastructure including permeable paving materials, trees and rainwater trenches which will help reduce road flooding during heavy or prolonged rainfall. This is a key component of meeting the City's Rain City Strategy, and will particularly enhance the experience of walking along the south side of Drake St as an important walking connection from the Granville Bridge Connector.

Stakeholder and Public Feedback

As an outcome of Phase 1, staff advanced the Preferred Option (two-way bike lane on south side of street and one-way car traffic) over Option 2 (one-way bike lanes on each side of the street and two-way car traffic). Many people supported the preferred option as it offered more transportation and public realm improvements, including better sidewalks and public realm, retention of more parking and loading zones, fewer turn restrictions, fewer conflict points, and opportunities for green infrastructure. Some participants felt it was important to maintain two-way motor vehicle traffic along Drake St (a key feature of Option 2) while others shared concerns about the compromises it would require (e.g. very few parking spaces retained, more turn restrictions, and less efficient signal operations). A detailed table comparing the two options can be found in Appendix H.

Significant changes were made to the preferred option based on feedback from both phases of engagement. Key modifications are highlighted in Table 2 below.

Table 2: Key Refinements to the Recommended Drake Street Design Based on Public & Stakeholder Feedback

Public Feedback	Staff Response
Concerns that initially-proposed turn restrictions at Drake-Pacific were too restrictive **Concerns that one-way design would hinder customer access to businesses on Hamilton St**	■ Revised design to retain two-way vehicle traffic from Hamilton St to Pacific Blvd, with vehicles travelling eastbound on Drake St being able to turn left, turn right and go straight at Pacific Blvd. ■ Relocated the transition for people cycling westbound from Pacific Blvd to Hamilton St (required to enable the above change)
Concerns about providing adequate loading zones, including locations such as: ■ **The Ismaili Community Centre** ■ **Wildlife Thrift Store**	■ Worked with stakeholders to understand passenger and loading zone requirements, retaining and relocating zones as needed ■ Confirmed passenger zone locations adjacent the Ismaili Community Centre ■ Incorporated changes with respect to the Granville Bridge Connector, particularly as it favours loading zones adjacent to businesses such as the Wildlife Thrift Store
Concerns about potential conflicts between people walking, cycling, and driving, including pick-up/drop-off for Elsie Roy Elementary School **Concerns about wayfinding for people walking and cycling between Drake St and Seawall**	■ Designated the onward connection to the Seaside Greenway (Seawall) via Marinaside Cres. between Drake St and Davie St, and identified future improvements along the Seawall at Davie St & Marinaside Cres
Concerns regarding proposed loss of commercial parking serving Yaletown businesses	■ Adjusted design to maximize remaining metered parking spaces in the vicinity of Yaletown, for example introducing pay station parking on adjacent streets

There was strong public support for the changes to the recommended design, with 65% of survey respondents ‘very supportive’ or ‘supportive,’ and 28% expressing a negative opinion (see Figure 10).

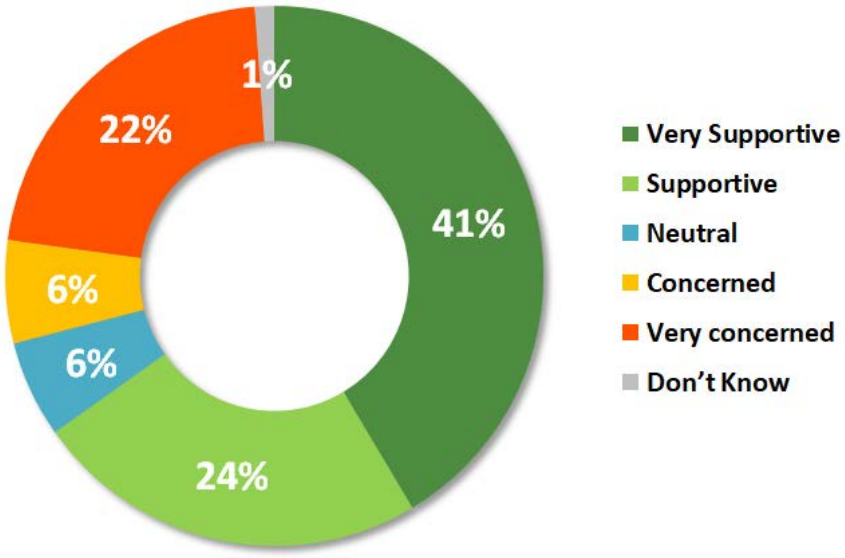


Figure 10: Overall reaction to on changes to the recommended Drake Street design from the general public[7]

The City's Transportation Advisory Committee (TRAC) passed a motion on the project based on the Phase 2 engagement materials expressing support, reinforcing the project's role in the downtown cycling network, and recommending that further improvements to better connect the Drake St cycling facility to the seawall and Elsie Roy Elementary School be explored (see Appendix I**)**. Staff also presented to the Persons with Disabilities Advisory Committee, Seniors' Advisory Committee, and Children, Youth and Families Advisory Committee in conjunction with the Granville Bridge Connector project to collect feedback and answer questions.

A full summary of the Drake Street project's engagement process and findings is outlined in Appendix G.

Delivering an Interim Drake Street Design

Staff had initially identified $9M in 2019-2022 Capital Plan and development contribution sources to match the cost estimate for the long-term design concept, including coordinating with green infrastructure, lighting improvements, and sidewalk rehabilitation work to be completed at the same time. Based on cost constraints, particularly those created by COVID-19, staff recommend deferring some midblock design features from the long-term concept to future capital plans. This interim design approach would involve:

- Constructing the protected bike lane with interim materials at road grade between key intersections, with a corresponding reduction in the length of raised bike lane, treed median, and green infrastructure
- Installing an interim median using paint, planters, and limited concrete work between key intersections similar to the approach taken on Richards St north of Dunsmuir St.

Please see Appendix C for more details of the interim design. The cost of this work is currently estimated to be approximately $4.4M.

[7] Responses to the survey question, "How do you feel about the changes to the recommended design?" Of 1.237 Phase 2 Engagement survey responses, 91% responded to this question.

CONSTRUCTION AND PHASING

Phasing

To ensure cost-effective construction and to minimize traffic impacts, delivering the interim Granville Bridge Connector and Drake Street improvements will require a tightly coordinated sequencing of construction phases with those of the Granville Loops Replacement project, which will replace the existing Granville Loops on/off Pacific St with an "H" network (see description in section 2.2 of the City's 2010 *Granville Loops Policy Plan*).

This sequencing approach has several benefits, including providing alternate routes for the north Granville Loops traffic during construction, reducing total construction duration and preventing a need for future interruption of operation of the new Granville Bridge Connector. An approximate design and construction timeline, in coordination with the North Granville Loops Replacement, follows:

2020: Implementation planning and detailed design RFP process

2021: Detailed design, implementation planning for Drake Street (by internal City crews), and Council approval to hire service of a contractor for the Granville Bridge Connector and North Granville Loops replacement.

2022: Construct interim Granville Bridge Connector and Drake Street improvements in coordination with North Granville Loops replacement "H" network (i.e. Continental, Neon, and Rolston streets).

2023: Complete "H" network and finalize remaining work for interim Granville Bridge Connector, Drake Street, and North Granville Loops removal.

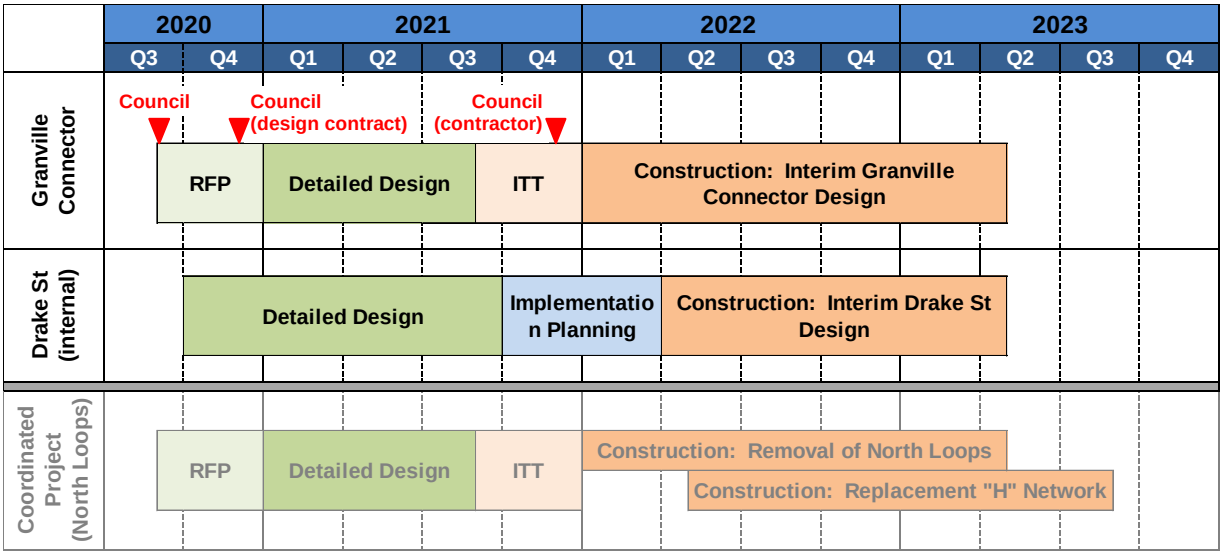


Figure 12: Draft design and construction timelines, including coordination with the North Loops[8]

As detail design and construction planning advances, staff will look for opportunities to compress the construction schedule.

[8] RFP = request for proposals from consultants wishing to bid on the detailed design work; ITT = invitation to tender, which is the initial step in competitive tendering of contractors.

Construction

City crews are expected to deliver the improvements along Drake St. Staff plan to procure an external contractor for the detailed design and construction of the Granville Bridge Connector and Granville Loops Replacement projects, since they both include structural work. It is advantageous for the Granville Loops replacement to be delivered with or ahead of the Granville Bridge Connector to avoid:

- Having to accommodate traffic during construction with Drake St already converted to one-way
- Having to accommodate an interim pedestrian and bicycle crossing of the west loop
- Future traffic management complications with significantly increased pedestrian and bicycle volumes on the bridge

City staff will work with the contractor, CMBC, Granville Island, and local businesses and residents to minimize construction impacts.

Coordination with On-going Structural Repairs and Seismic Upgrades

As part of the City's on-going Structural Maintenance program, the City allocated $24M in the 2019-2022 Capital Plan to complete seismic upgrades to the mainline of Granville Bridge, to improve its seismic performance, as well as structural rehabilitation including replacement of aging bearings and expansion joints. Construction began in October 2018, and is expected to continue until late spring 2021. This work is unrelated to the Granville Bridge Connector project, and will be complete prior to start of Connector and Drake St. projects.

Implications / Related Issues / Risks

Financial

Both the Granville Bridge Connector and Drake Street projects are included in the 2019-2022 Capital Plan. The majority of the funding include development contributions such as Community Amenity Contributions (CACs), City-wide Development Cost Levies (DCLs) and other developer contribution reserves. Staff are also coordinating with TransLink to pursue additional funding support and will explore opportunities for Federal and Provincial stimulus contributions should opportunities arise. The multi-year project budget and funding structure for the Granville Bridge Connector and Drake Street is outlined below:

Multi-year Capital Project Budget	Granville Bridge Connector	Drake Street
Already approved	$2.0M	$3.9M
New budget being recommended in this report for detailed design of the interim Granville Bridge Connector	$1.0M	
Estimated multi-year project budget for interim design and construction (Appendix C) that will be brought forward for consideration in future annual budgets or quarterly reports	$11.5M	$0.5M
Total recommended in 2019-2022 Capital Plan	**$14.5M**	**$4.4M**

The funding source estimated multi-year capital project budgets for Granville Bridge Connector and Drake Street projects are as shown below:

Funding Source	Granville Bridge Connector	Drake Street
Development Contributions (City-wide DCLs, CACs and other Developer Contribution Reserves)	$10.5M	$1.8M
TransLink	$4M	$2.6M
Total	**$14.5M**	**$4.4M**

Of the $18.9M multi-year project budget required for Granville Bridge Connector and Drake Street interim design and construction, approval of a multi-year capital project budget of $1.0M is recommended in this report to support the design of the Granville Bridge Connector. The funding source proposed is City-wide Transportation DCLs. Additional budget will be required for construction and this will be brought forward for consideration in 2021.

As noted previously, this project will aim to coordinate with the replacement of the Granville Loops on the north end of the bridge in accordance with the Granville Loops Policy Plan to reduce overall costs and construction disruption.

The costs to later deliver the remaining components of the long-term design would be approximately $26.5M for the Granville Bridge Connector (which could be delivered through several smaller projects), $16M for means prevention, and $7M to normalize 5th Avenue.

As part of developing a funding strategy for the long-term designs shown in Appendices A & B, the City will be seeking funding support from senior levels of government, including for the means prevention components of the long-term design.

Environmental

The actions proposed in this report are in support of the City's *Climate Emergency Response* and *Transportation 2040* objectives which, taken together, are expected to reduce emissions, increase health, and have a positive effect on the environment. This work would also directly support Vancouver's sustainability goals under the *Greenest City Action Plan* and more specifically the *Renewable City Action Plan* (RCAP). RCAP calls for a 50% reduction in greenhouse gas (GHG) emissions by 2030 and currently transportation in Vancouver accounts for 37% of the city's overall GHG emissions.

This project would significantly contribute towards a more comprehensive, accessible, and safe walking, rolling, and biking network, which is critical to meet our GHG and mode share targets as Vancouver's population grows. It is even more urgent in light of Council's unanimous support on January 16, 2019 of the motion *Ramping Up Vancouver Climate Action in Response to the Climate Emergency*.

CONCLUSION

The Granville Bridge Connector and Drake Street Improvements are critical to supporting Vancouver's climate goals and accommodating a growing number of trips in the downtown and central Broadway area. Staff recommend endorsing the long-term design as outlined in this report, subject to funding availability and prioritization in future capital plans. Staff also recommend advancing design and construction of interim improvements, which would provide essential connectivity and accessibility improvements, while laying the groundwork for future phases which would be conditional on Council approval of this priority in future capital plans.

* * * * *

Appendix

Appendix A: Long-Term Granville Bridge Connector Design Concept

Appendix B: Long-Term Drake Street Design Concept

Appendix C: Interim Design for Granville Bridge Connector and Drake Street Improvements

Appendix D: Granville Bridge Connector Engagement Summary

Appendix E: Granville Bridge Connector: Mobility Equity Engagement Report, by Jay Pitter

Appendix F: Summary of Evaluated Granville Bridge Connector Design Options

Appendix G: Drake Street Engagement Summary

Appendix H: Summary of Evaluated Drake Street Design Options

Appendix I: Stakeholder Letters and Advisory Committee Motions

Appendix J: Future Work

Appendix A

Long-term
Granville Bridge Connector
Design Concept

Key Features

West Side Main Path

- Wide, accessible sidewalk with room for furniture & special places at key locations
- Wide two-way bike path with room for passing
- Protective barrier between bike path & traffic

East Side Sidewalk & Hemlock On-Ramp Improvements

- Wide, accessible sidewalk
- Protective barrier between sidewalk & traffic

Fir Ramp Cycling Connection

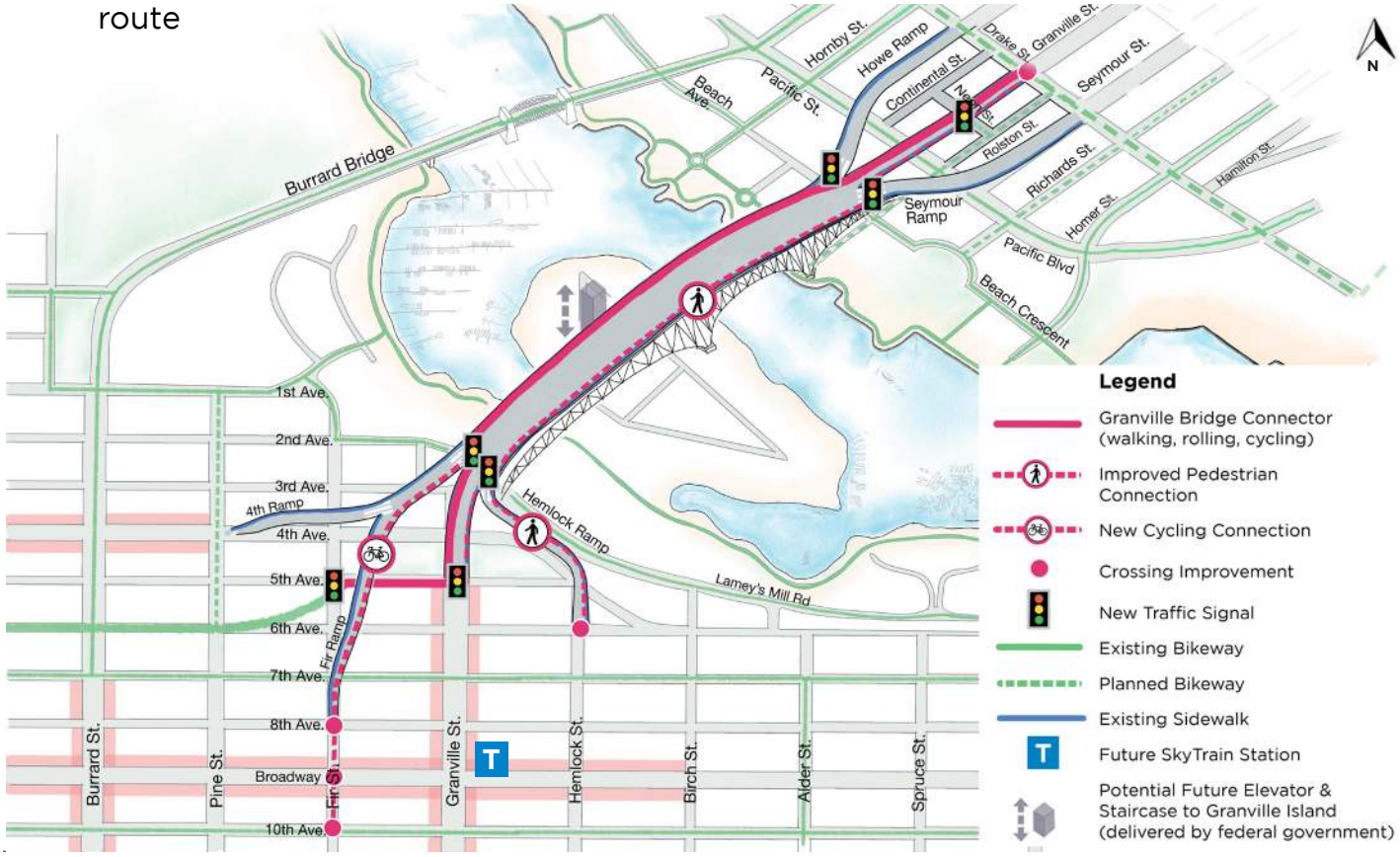
- Relatively flat two-way cycling connection with the 10th Ave bike route

Safe and Accessible Crossings at Howe, Fir, Hemlock, and Seymour On/Off-Ramps

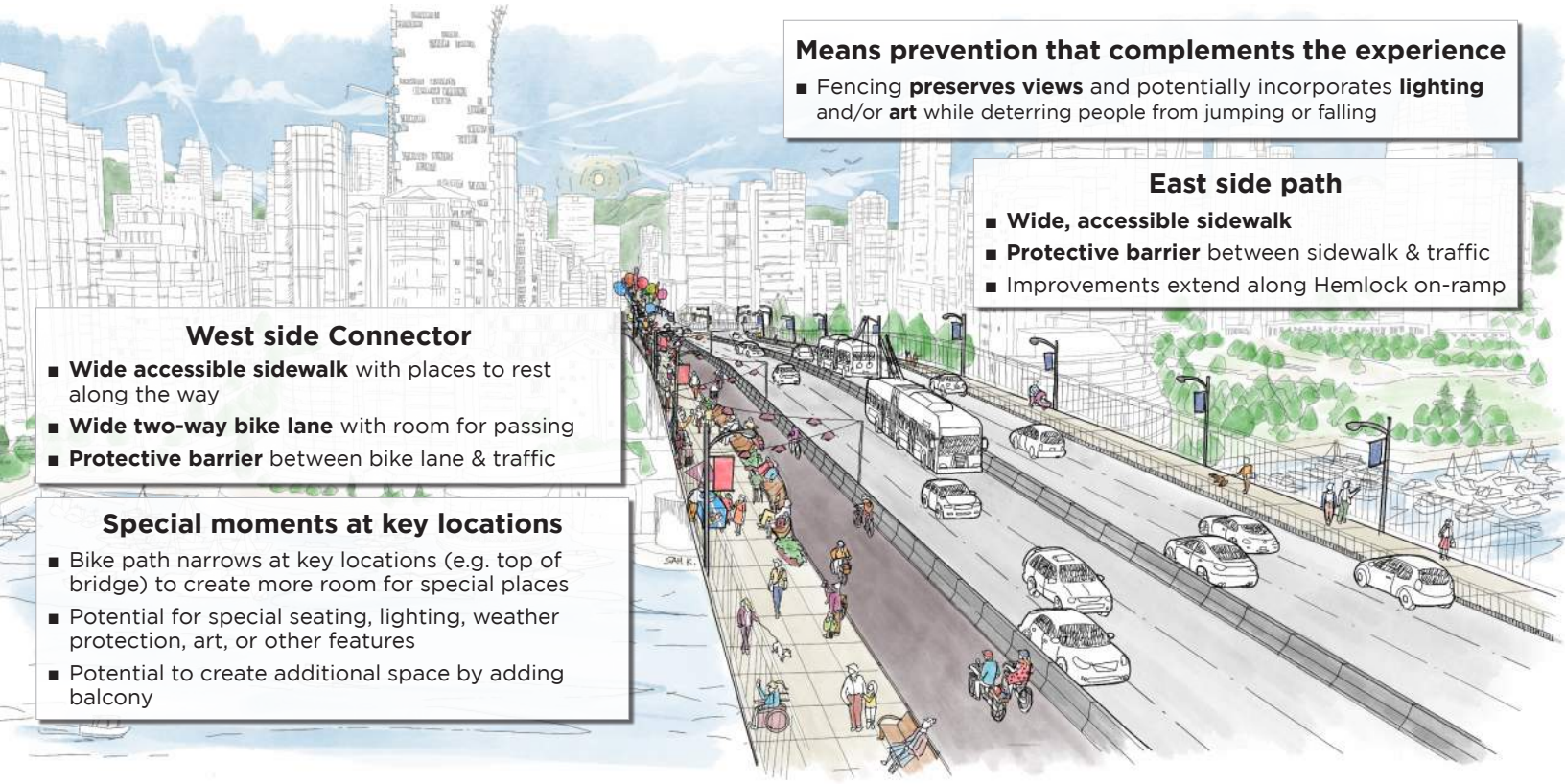
- Traffic signals for safe & comfortable crossing
- Pedestrian ramps provide access for people using mobility aids

Connections to the Network at Each End

- At south end via improved W 5th Ave linking Arbutus Greenway
- At north end via proposed Drake St bikeway
- Compatible with potential Granville Island elevator & staircase, and future improvements to Granville Island, Off-Broadway, and the Seawall



A Safe and Accessible Path with Special Places Along the Way



Means prevention that complements the experience

- Fencing **preserves views** and potentially incorporates **lighting** and/or **art** while deterring people from jumping or falling

East side path

- **Wide, accessible sidewalk**
- **Protective barrier** between sidewalk & traffic
- Improvements extend along Hemlock on-ramp

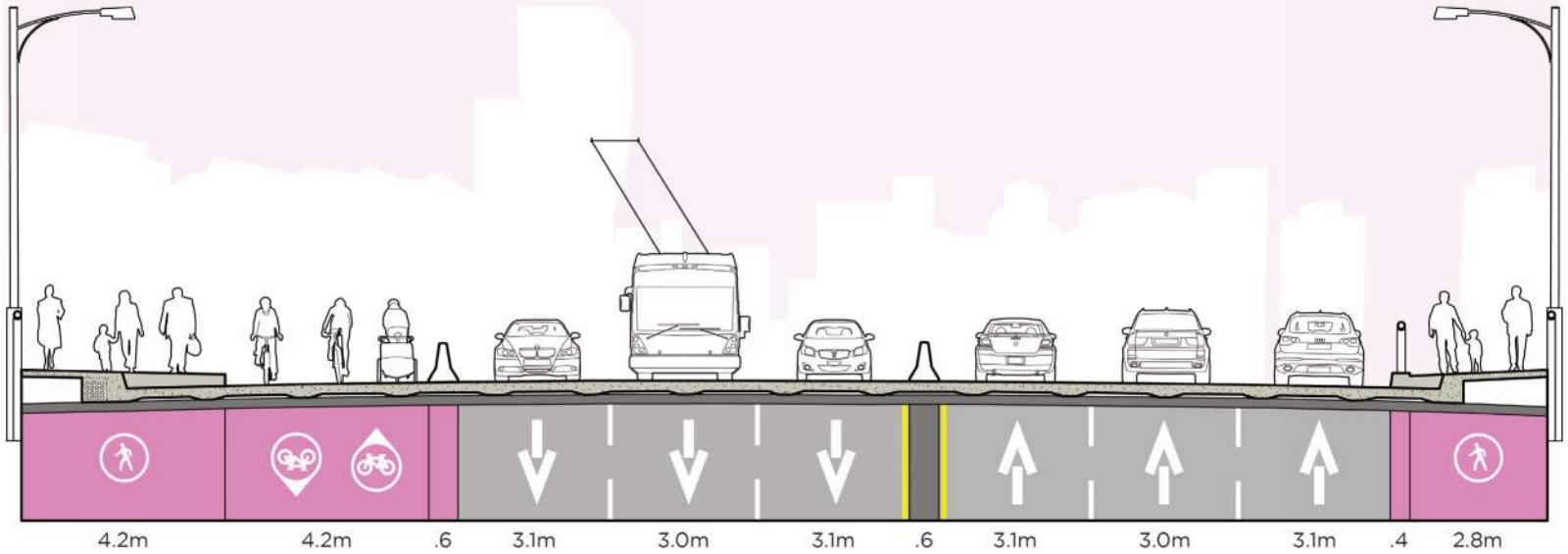
West side Connector

- **Wide accessible sidewalk** with places to rest along the way
- **Wide two-way bike lane** with room for passing
- **Protective barrier** between bike lane & traffic

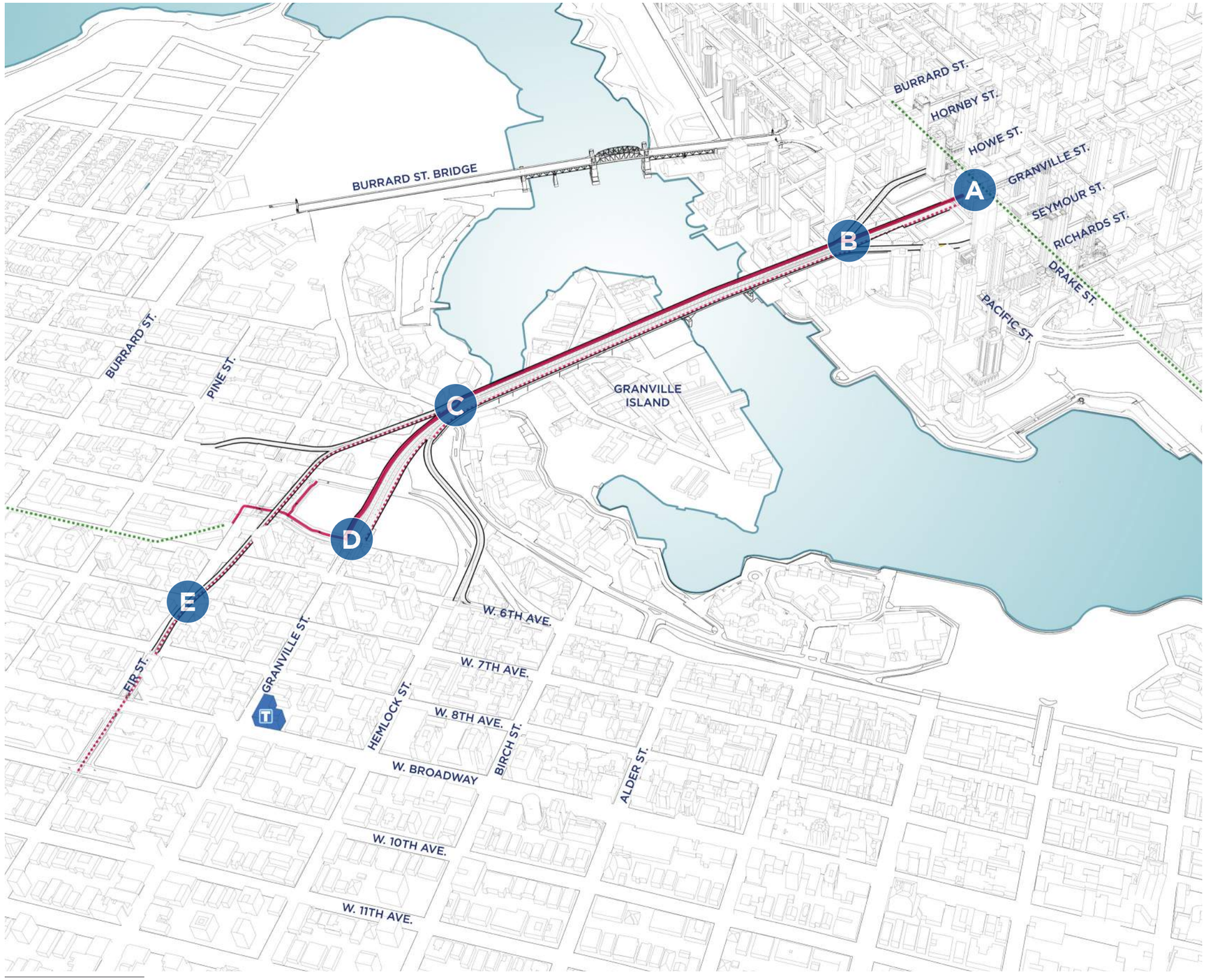
Special moments at key locations

- Bike path narrows at key locations (e.g. top of bridge) to create more room for special places
- Potential for special seating, lighting, weather protection, art, or other features
- Potential to create additional space by adding balcony

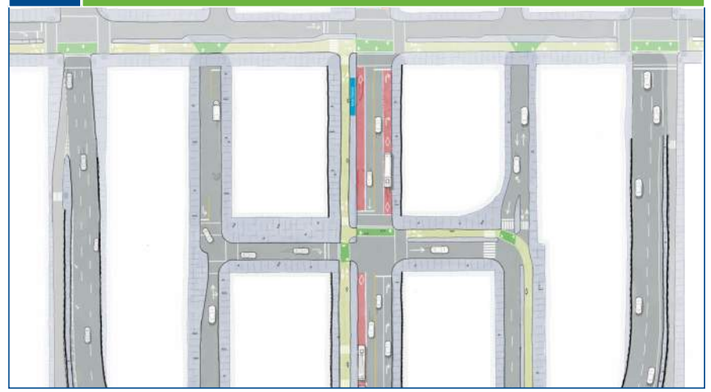
Typical Cross-Section



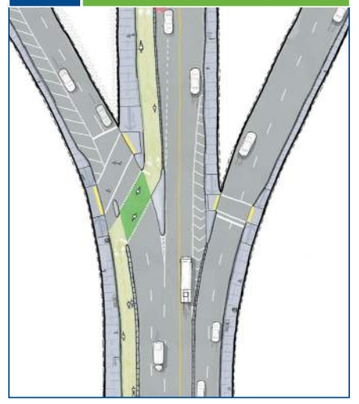
LONG-TERM GRANVILLE BRIDGE CONNECTOR DESIGN
AREAS OF FOCUS



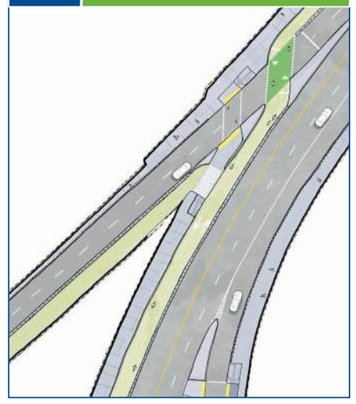
A North End - Granville at Drake and the "H"



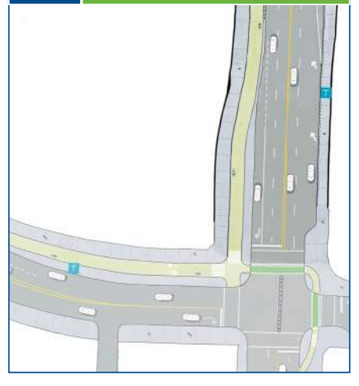
B North End - Ramp Crossings



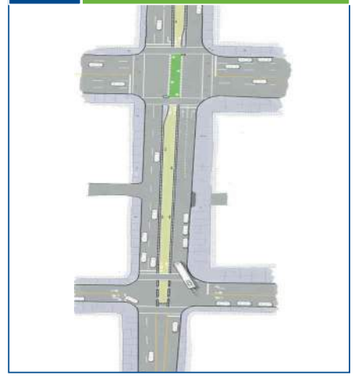
C South End - Ramp Crossings



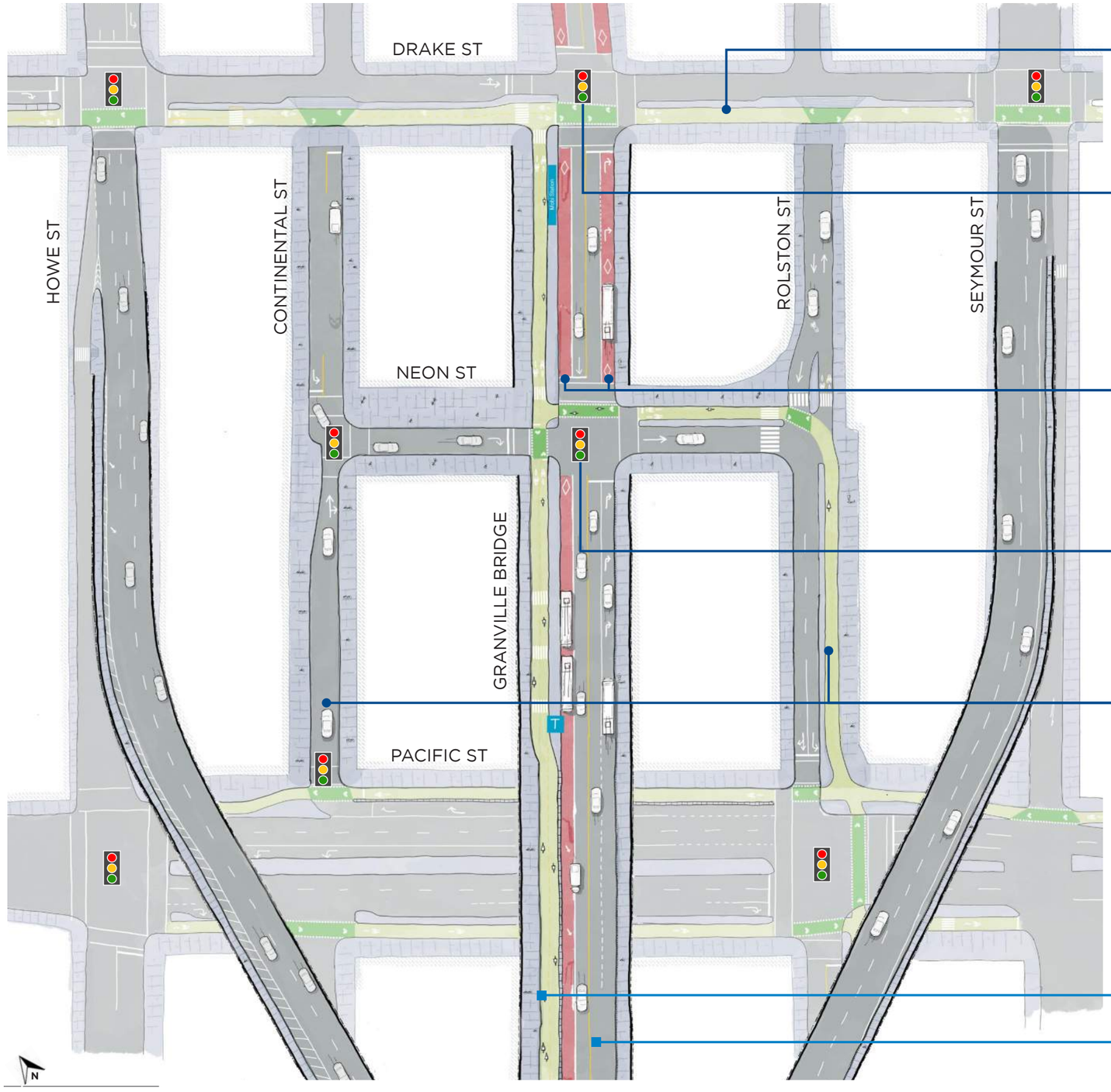
D South End - Granville at 5th Ave



E South End - Fir Ramp



A LONG-TERM GRANVILLE BRIDGE CONNECTOR DESIGN
NORTH END - GRANVILLE AT DRAKE AND THE "H"



Proposed Drake St Upgrades
- See Appendix B

Protected Intersection at Granville-Drake
- Safely link Granville & Drake bike routes
- Eliminate right-turn conflicts and add more corner space for pedestrian & bike queues by restricting right turns from eastbound Drake St to Granville St

Transit improvements
- New transit-only lanes in both directions improve reliability between Drake & Neon, created by reallocating two of four general travel lanes
- Southbound bus stop moved south of Neon to improve service & spacing

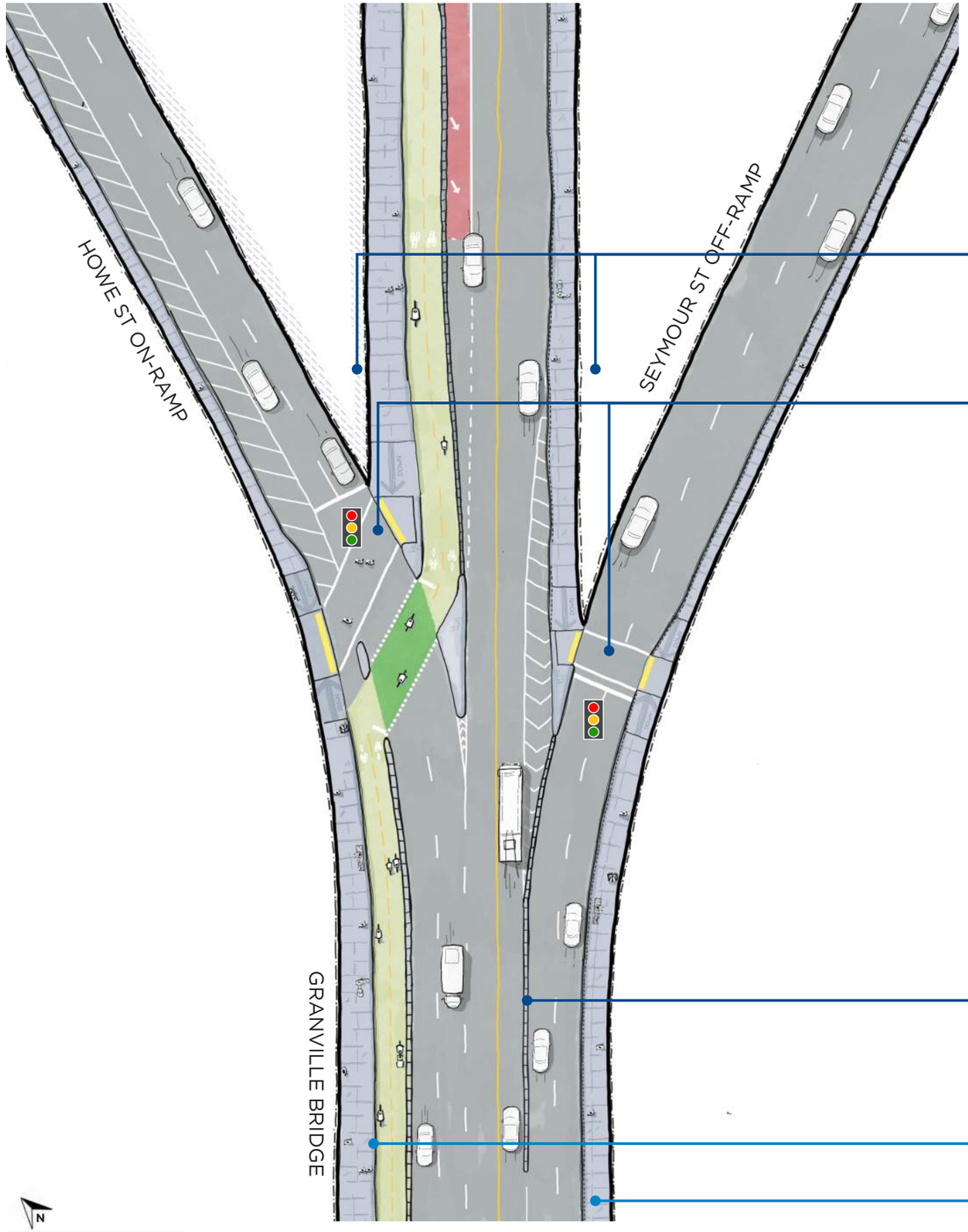
New Signalized Intersection at Granville & Neon streets
- Part of Granville Loops replacement
- Improved circulation for all travel modes

Granville Loops Replaced
- New 'H' network of streets (Continental St, Neon St, and Rolston St) to support access to new housing and community services
- Signalized intersections to enable new vehicle connections as well as safe crossings on foot or by bike
- Maintains existing vehicle movements to and from Pacific St
- Approved by Council in 2010 as part of *Granville Loops Policy Plan*

West Side Walking & Cycling Paths

East Side Improved Sidewalk

B LONG-TERM GRANVILLE BRIDGE CONNECTOR DESIGN
NORTH END - RAMP CROSSING

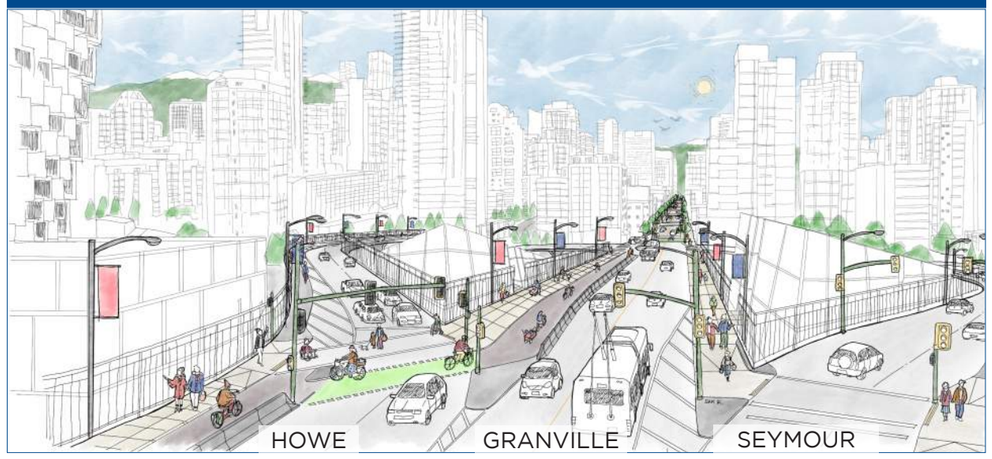


North End Elevators & Stairs

- Publicly accessible elevators & stairs on both sides of the bridge via Vancouver House development

Improved Crossings at Howe & Seymour On-/Off-Ramps

- New accessible pedestrian signals
- New pedestrian ramps for people with low mobility
- Tactile indicators to warn people with low or no vision
- Traffic signals coordinated with nearby signals to minimize traffic delays



Off-Ramp Channelization

- Barrier added between signalized off-ramp lanes & free-flow lane continuing onward to Granville St downtown to improve safety by helping prevent last-minute lane changes
- Requires removing centre median barrier for this section
- Clear signage & potential for advance flashing lights to alert people of upcoming ramp signal

West Side Walking & Cycling Paths

East Side Improved Sidewalk

C LONG-TERM GRANVILLE BRIDGE CONNECTOR DESIGN
SOUTH END - RAMP CROSSING

West Side Walking & Cycling Paths

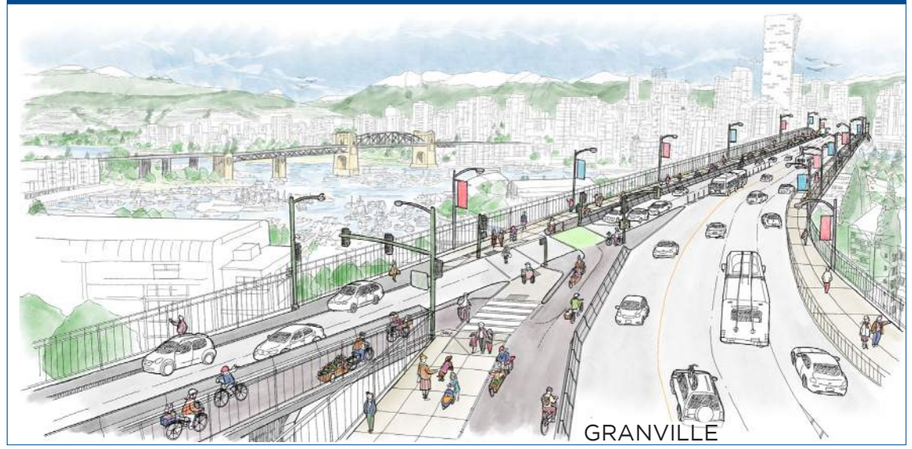
East Side Improved Sidewalk

Off-Ramp Channelization

- Barrier added between signalized off-ramp lanes & free-flow lane continuing onward to Granville St to improve safety by helping prevent last-minute lane changes
- Requires removing centre median barrier for this section
- Clear signage & potential for advance flashing lights to alert people of upcoming ramp signal

Improved Crossings at Fir & Hemlock On-/Off-Ramps

- New accessible pedestrian signals
- New pedestrian ramps for people with low mobility
- Tactile indicators to warn people with low or no vision
- Traffic signals coordinated with nearby signals to minimize traffic delays

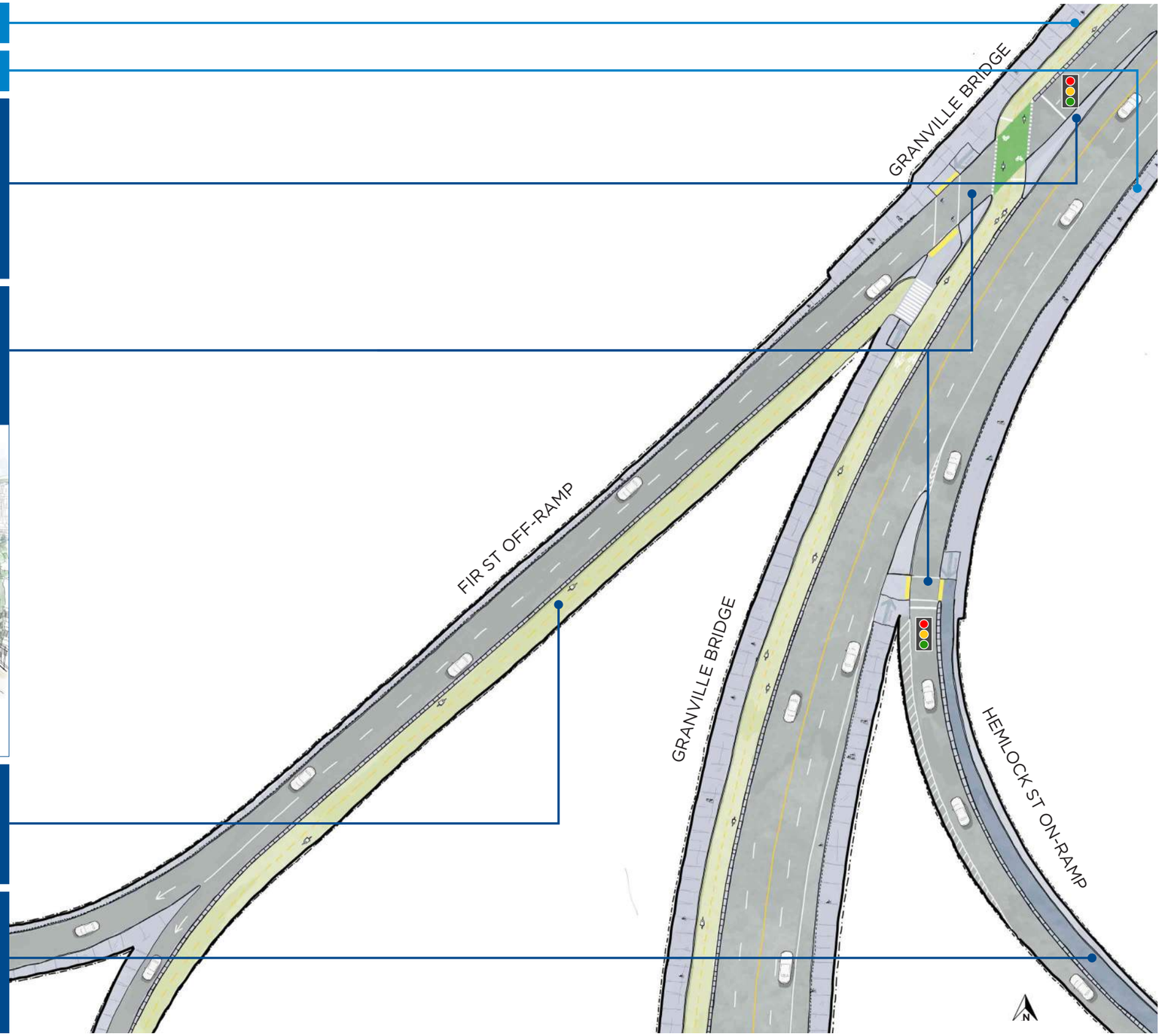


Two-way Bike Lane on Fir Ramp

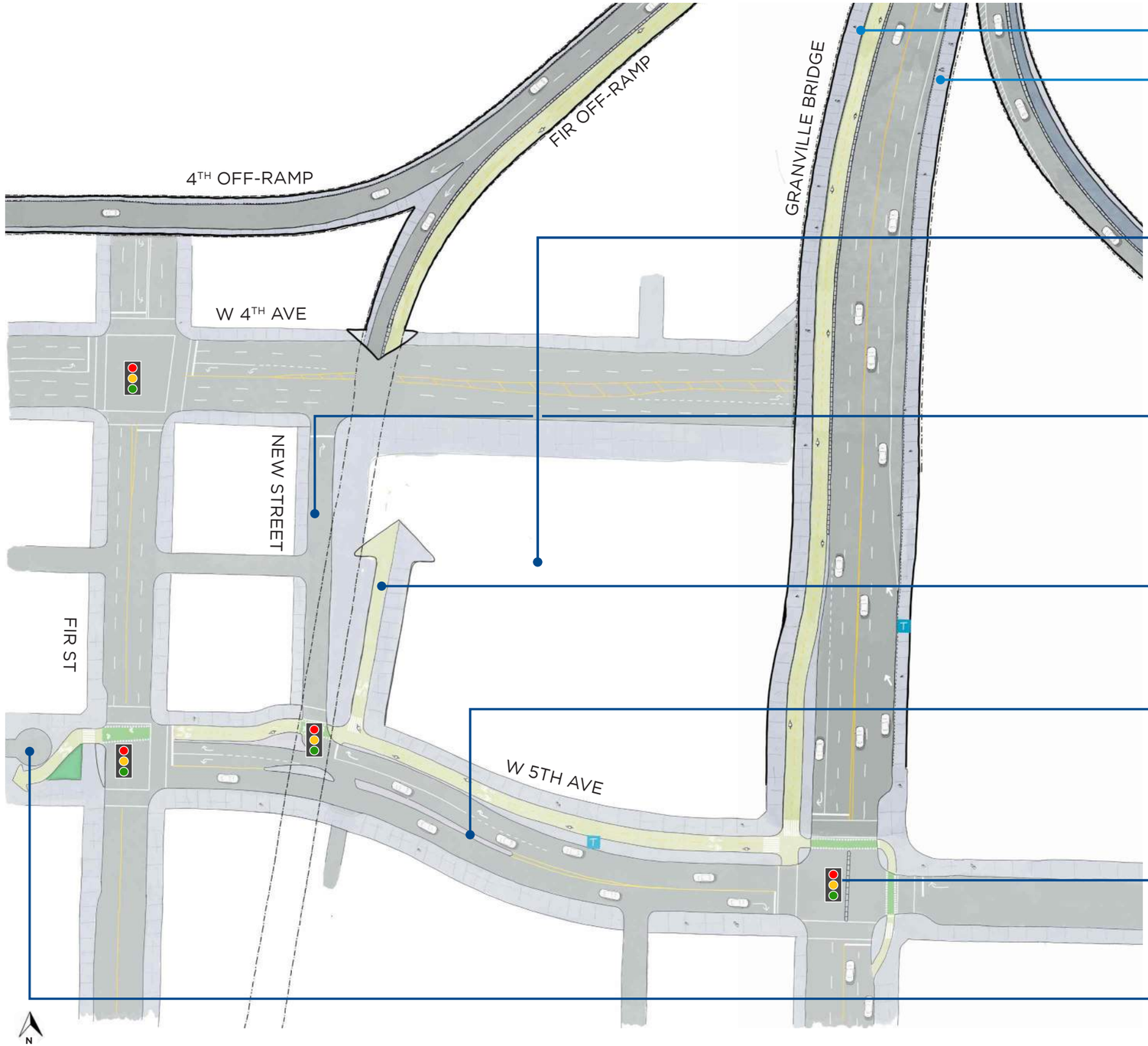
- Provides relatively flat cycling connection with 10th Ave bike route
- Two travel lanes retained on approach to Fir off-ramp
- Existing sidewalk retained

Hemlock ramp improvements

- East sidewalk improvements extend along Hemlock ramp
- Additional sidewalk width provided at deck level due to structural limitations, with a concrete barrier separating pedestrians from traffic
- Safety improvements at Hemlock & 6th Ave intersection (not shown)



D LONG-TERM GRANVILLE BRIDGE CONNECTOR DESIGN
SOUTH END - GRANVILLE AT W 5TH AVE



West Side Walking & Cycling Paths

East Side Improved Sidewalk

Replacement of South Granville Loop
- Vehicle movement replaced by rebuilt 5th Ave between Granville & Fir, and by new north-south street between 4th & 5th Ave (see box below)
- "Unlocks" area bounded by Fir St, 5th Ave, Granville St, and 4th Ave for other uses - to be considered as part of Broadway Plan
- Enables potential 'gateway' feature or plaza at northwest corner of 5th Ave & Granville St

New north-south street between 4th & 5th Ave
- Replaces the function of the loop to ensure buses using Fir St to travel westbound on 4th Ave are not hindered by the loop traffic

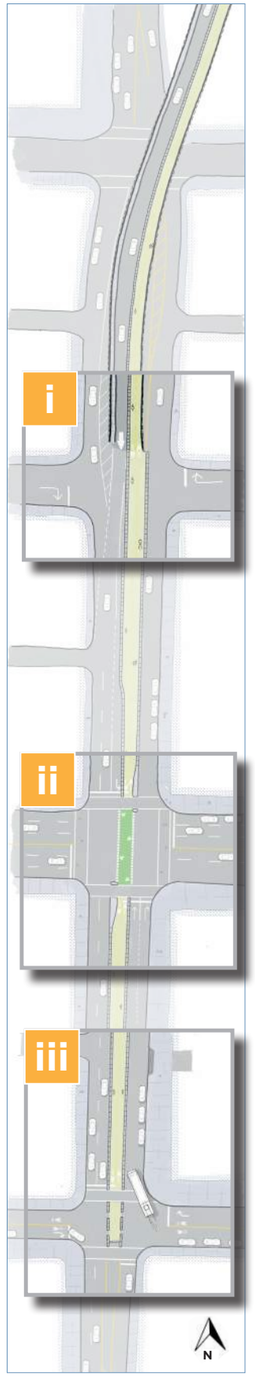
Direct Connection to Granville Island & Seawall
- City staff are working with Granville Island representatives to explore options for more direct walking, rolling, and cycling connections with Granville Island and the Seawall

Rebuilt 5th Ave between Granville & Fir St
- Provides safe walking, rolling & cycling connection to Arbutus Greenway
- Improved streetscape connects Granville Loop Park & future Pine Park
- Maintains access for transit
- Improves circulation for motor vehicles by allowing both westbound & eastbound access

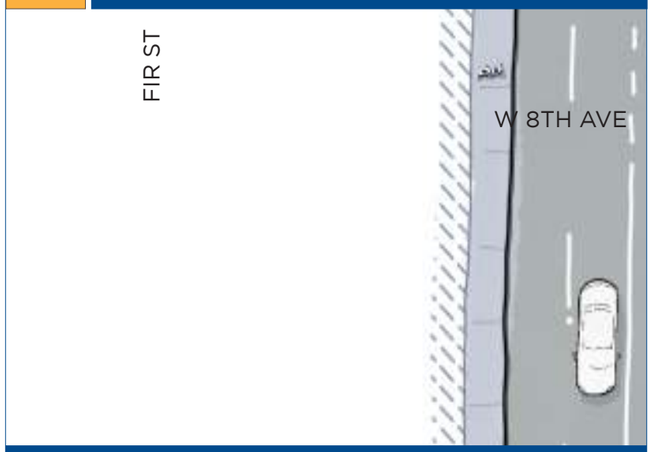
New signal & Protected Intersection at Granville-W 5th Ave
- Safely link Connector, 5th Ave, and South Granville
- New east-west crossing for pedestrians & cycling

Integration with Arbutus Greenway
- Cul-de-sac of 5th Ave west of Fir St to integrate Granville Bridge Connector with Arbutus Greenway & future Pine Park

E LONG-TERM GRANVILLE BRIDGE CONNECTOR DESIGN
SOUTH END - FIR RAMP

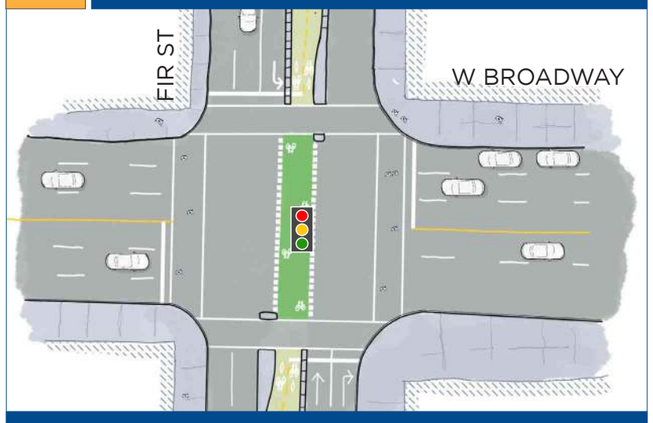


i Fir St at W 8th Ave



- Two-way bike lane on east side of Fir ramp
- Existing sidewalk maintained on west side of ramp
- Bike lane aligned through centre of intersection to minimize conflicts

ii Fir St at W Broadway



- Lanes reallocated to accommodate two-way bike lane through a centre median
- Modified signal timing provides a separate signal phase for southbound left-turning vehicles
- Northbound vehicles may not turn left at Broadway for safety & to minimize southbound traffic impacts

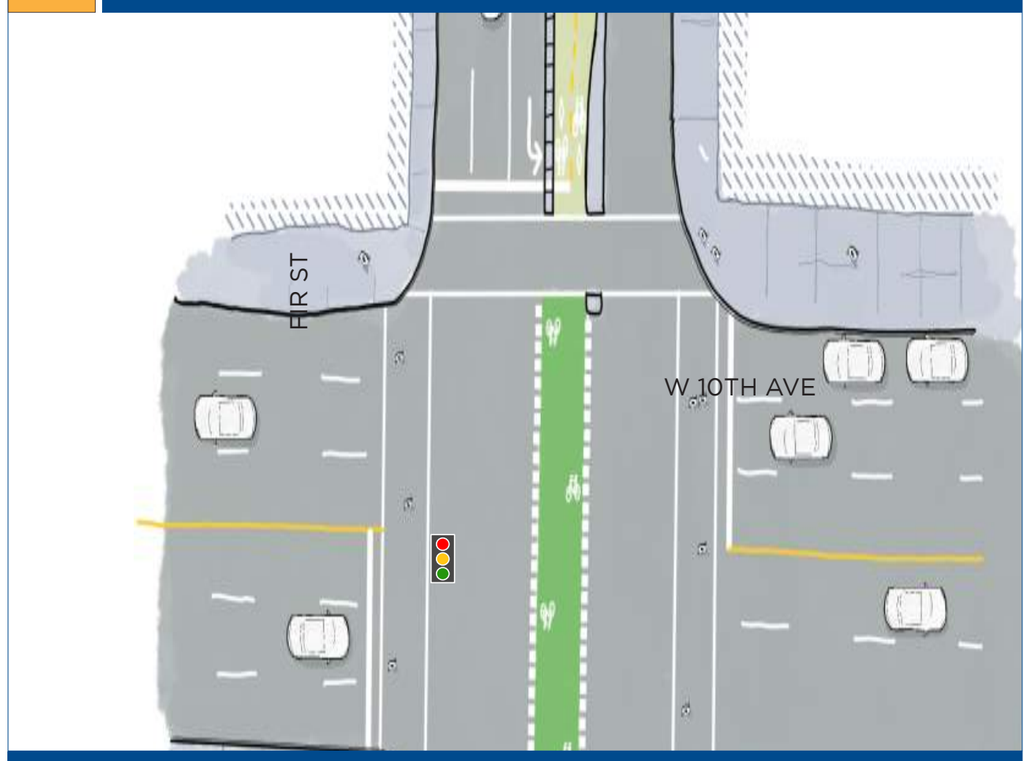
FLATTER CYCLING CONNECTION WITH 10TH AVE

The proposed design includes a new two-way cycling connection on the Fir ramp, linking the Granville Bridge with the busy 10th Ave bike route. The Fir route is much flatter than the alternatives, saving two to six stories (6m to 20m) of climbing, depending on the route.

Space for the bike lane is created by reducing the width of the existing motor vehicle lanes, and converting a southbound vehicle lane over the southern portion the ramp.

The proposed changes would maintain the existing sidewalk. They would also be able to accommodate a potential future streetcar alignment linking the proposed Downtown Streetcar with the Arbutus Greenway.

iii Fir St at W 10th Ave



Full signal upgrade with some turn restrictions to ensure safe movement for all:

- Vehicles traveling along 10th Ave must make a right turn at Fir St
- Vehicles traveling along Fir St may only go straight or turn right at 10th Ave
- Right-in/right-out access for Vancouver School Board parkade

Appendix B

Long-term Drake Street Design Concept

LONG-TERM DRAKE STREET DESIGN
OVERVIEW

The recommended long-term Drake Street design includes a two-way protected bike lane with an adjacent eastbound travel lane and on-street parking, turn lanes, and corner bulges to reduce crosswalk lengths. This is achieved by reallocating a westbound travel lane and a parking lane to create more comfortable sidewalks and a two-way protected bike lane on the south side of the street. This long-term concept is based on feedback received for the 'Preferred Option' that was presented during the public engagement process.

Key Features

Cycling Safety and Comfort

- A bi-directional (two-way) protected bike lane between Hornby and Pacific Blvd. *Between Hamilton St to Pacific Blvd:* People cycling eastbound continue on the protected bike lane. People cycling westbound from Pacific Bvld to Hamilton Street remain in mixed traffic and transition to the protected bike lane at Hamilton Street.
- Cycling connection between bike lanes on Hornby St, Homer St, Richards St, Pacific Blvd, and the future Granville Bridge Connector.
- Landscaped median between bike path & traffic.

Parking and Travel Lanes

- Single one-way eastbound vehicle traffic from Hornby St. to Hamilton St, maintains two-way traffic between Hamilton St and Pacific Blvd.
- South-side on-street parking with eastbound right turn lanes at intersections and sightline improvements at driveways.
- Net decrease of approx. 40 parking spaces along Drake St. Note, within a block of Drake St there are over 600 public parking spaces (approximately 300 on-street and 300 off-street) aside from those on Drake St.

Green Rainwater Infrastructure

- Landscaped median with integrated green rainwater infrastructure, including permeable paving materials, trees, and rainwater trenches that will help reduce road flooding during heavy or prolonged rainfall.

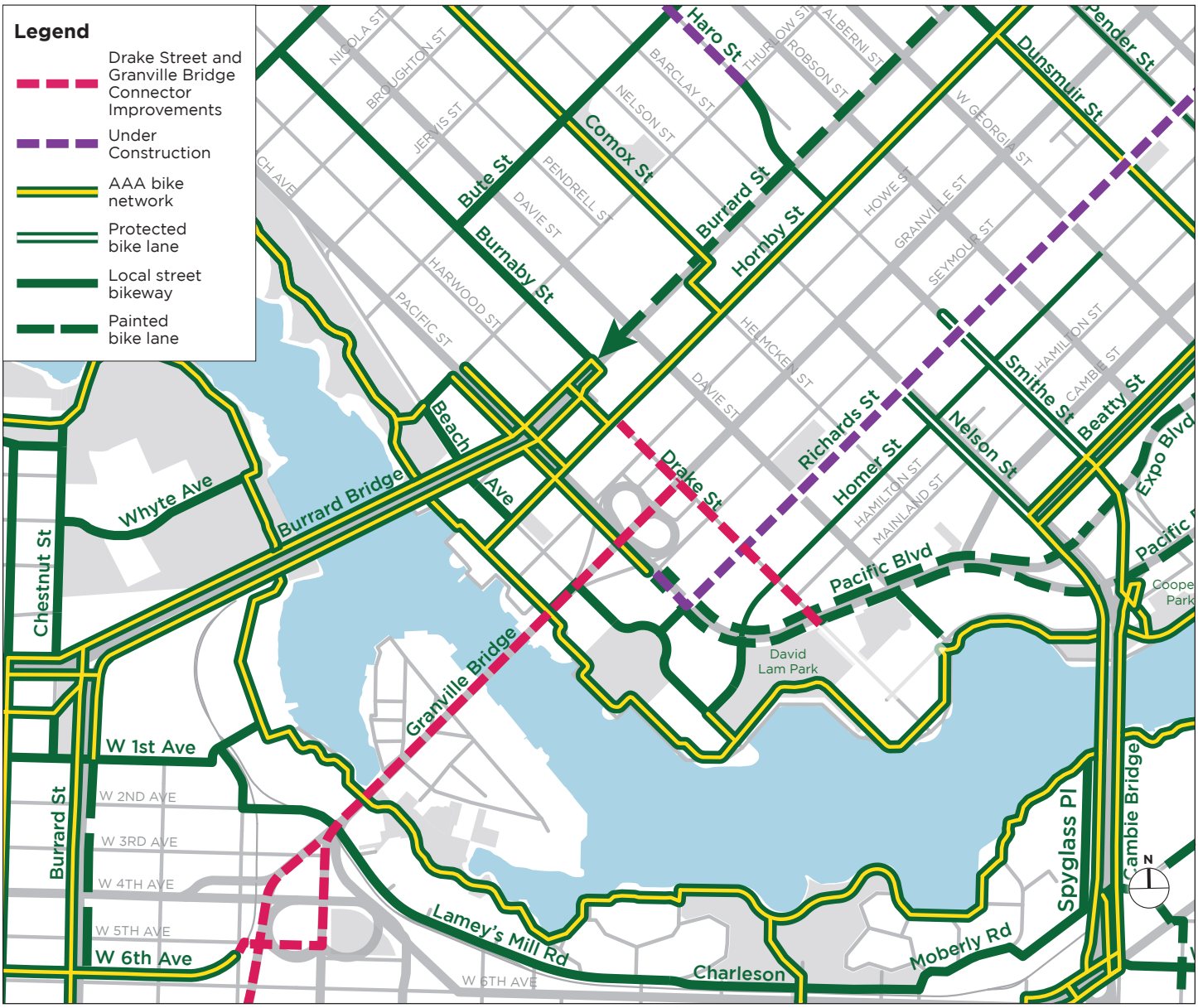
Burrard St. to Hamilton St. (Looking East)

Hamilton St. to Pacific Blvd. (Looking East)

Connections to Existing & Future Cycling Routes

Drake Street would provide a safe and accessible cycling connection to neighbourhoods including the West End and Yaletown. It would fill a major gap in the cycling network, linking a number of existing and future routes including Burnaby St., Hornby St., Richards St., and the future Granville Bridge Connector.

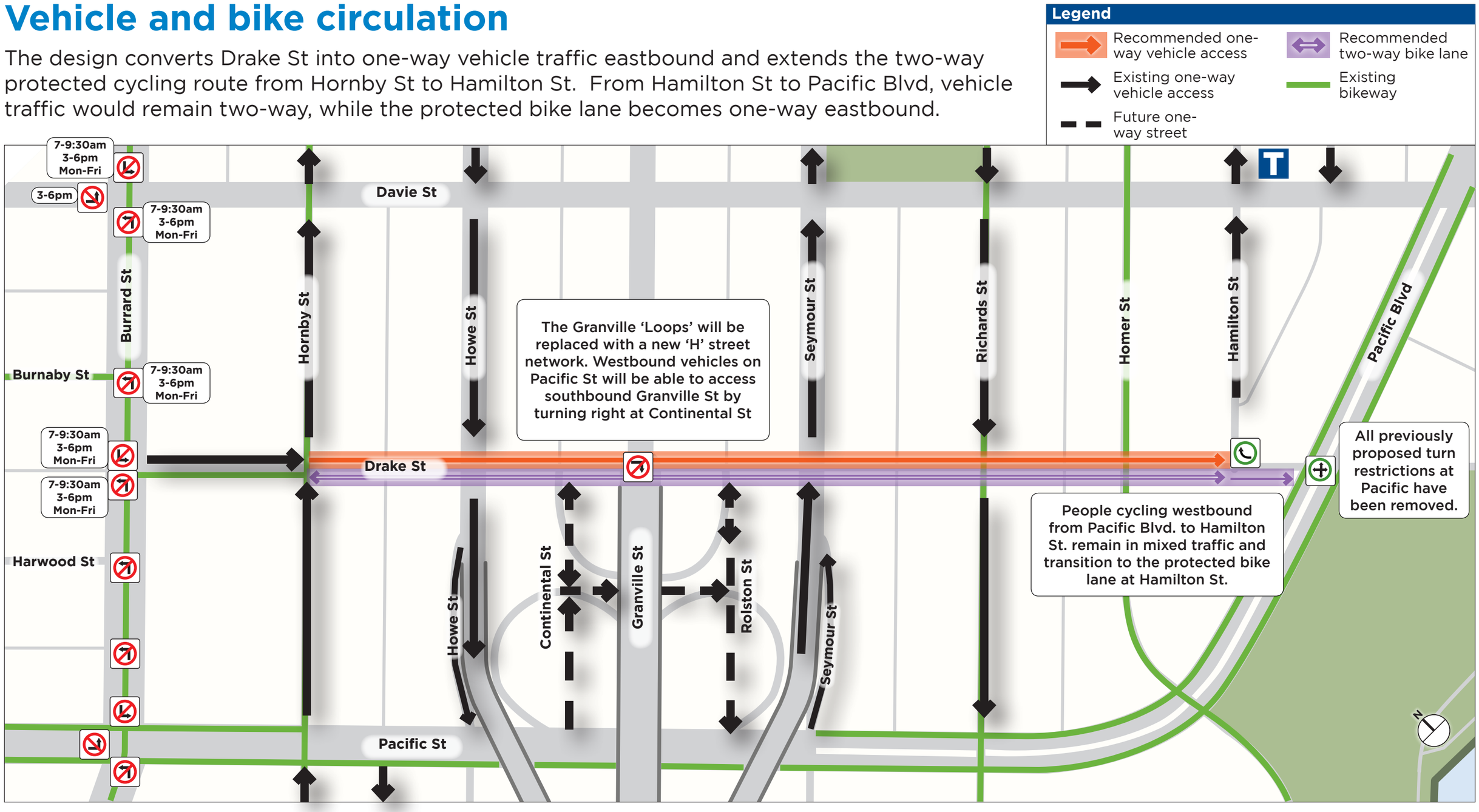
Currently, there are no viable cycling routes that connect the north end of the Granville Street Bridge to the rest of downtown. With Granville Bridge upgraded to accommodate safe and comfortable cycling, an east-west route is needed to connect cycling traffic from the bridge to other cycling routes downtown.



LONG-TERM DRAKE STREET DESIGN
OVERVIEW

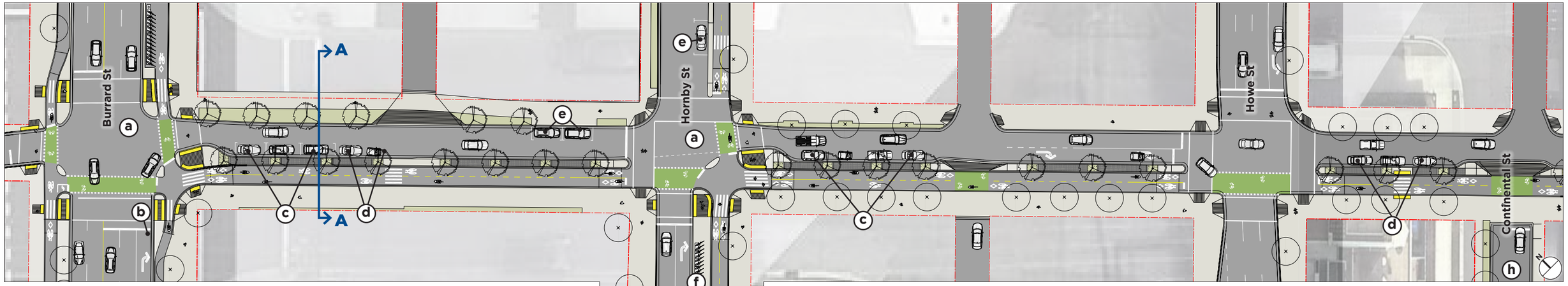
Vehicle and bike circulation

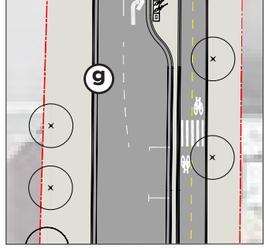
The design converts Drake St into one-way vehicle traffic eastbound and extends the two-way protected cycling route from Hornby St to Hamilton St. From Hamilton St to Pacific Blvd, vehicle traffic would remain two-way, while the protected bike lane becomes one-way eastbound.



LONG-TERM DRAKE STREET DESIGN
BURRARD ST TO CONTINENTAL ST

One-way vehicle traffic eastbound & bidirectional (two-way) bike lane on south side of street





ⓐ **Protected intersection**

ⓑ **Right turn lane for vehicles**
(remove three part-time metered parking stalls on Burrard St.)

ⓒ **Metered parking**

ⓓ **Passenger zone**

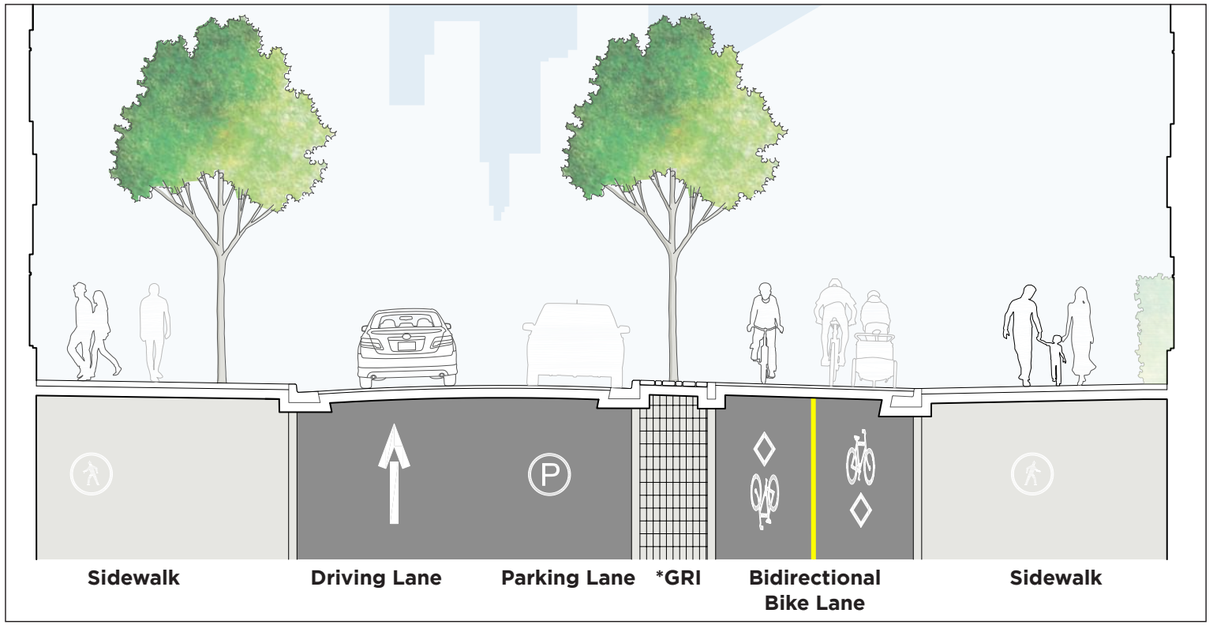
ⓔ **New Passenger zone**
(remove no-stopping zone)

ⓕ **Relocate Public Bike Share**
(transition to a right-turn lane)

ⓖ **Existing parking and loading zones moved south on Hornby St.**

ⓗ **Potential short-term parking**
(passenger or loading zone)

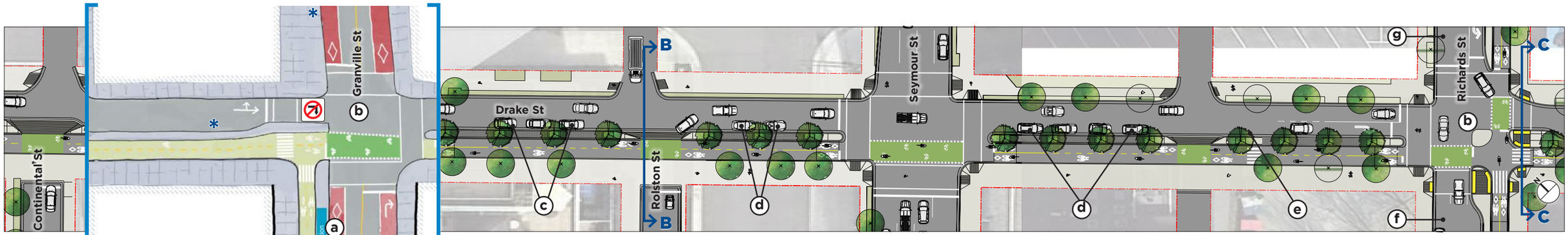
Section A-A: One-way vehicle traffic, parking, two-way cycling lane



*GRI - Green Rainwater Infrastructure

LONG-TERM DRAKE STREET DESIGN
CONTINENTAL ST TO RICHARDS ST

One-way vehicle traffic eastbound & bidirectional (two-way) bike lane on south side of street



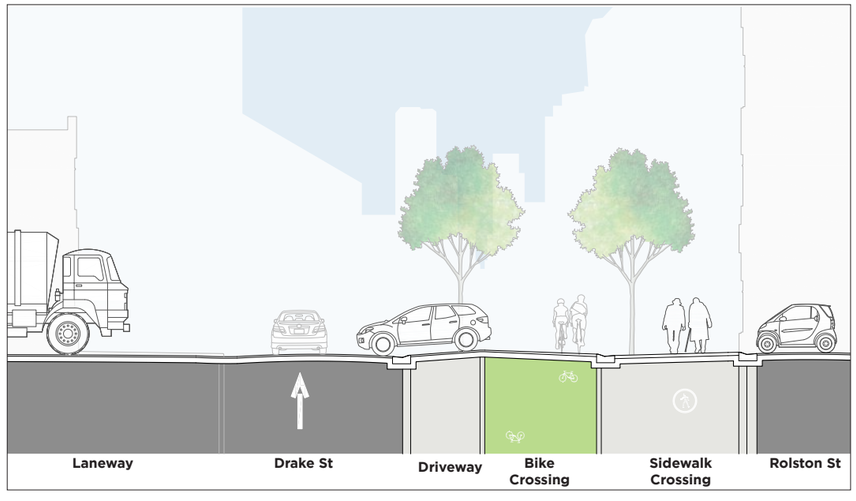
Future protected intersection at Granville St. & Drake St.

Details to be resolved through the Granville Bridge Connector work, in close consultation with the Downtown Vancouver BIA, TransLink and Coast Mountain Bus Company.

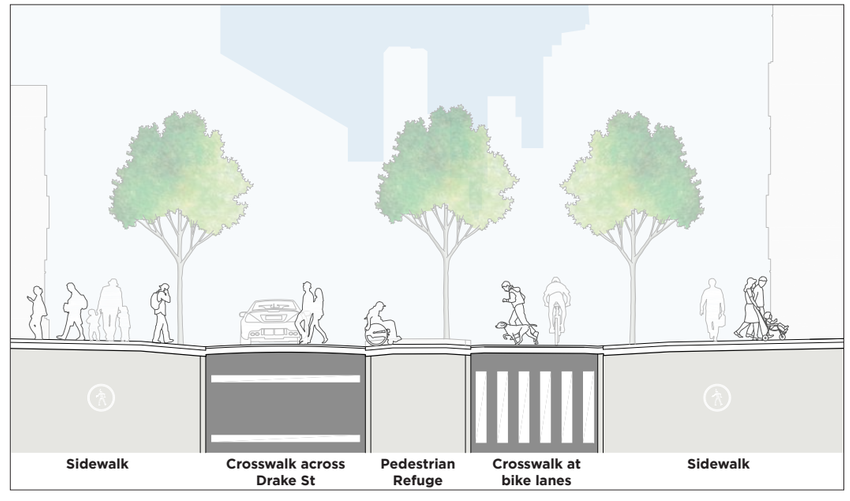
* Loading and parking details to be confirmed

- (a) **Public bike share station**
- (b) **Protected intersection**
- (c) **Loading zone**
- (d) **Metered Parking**
- (e) **Passenger zone** (6pm - 2am)
- (f) **New Passenger zone** (remove no-stopping zone)
- (g) **New Metered parking** (remove no-stopping zone)

Section B-B: Looking east on Drake St at Rolston St

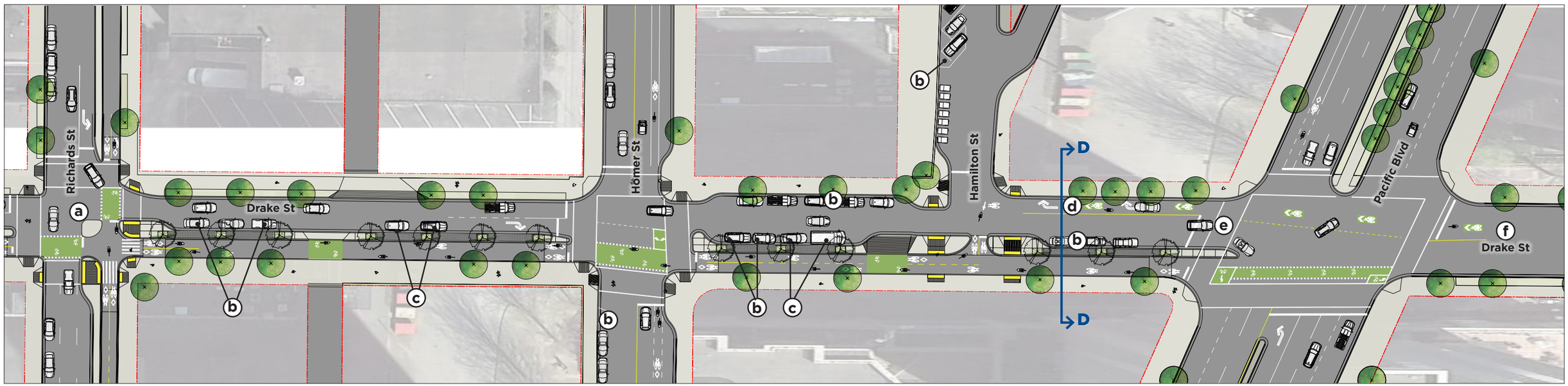


Section C-C: Looking east though protected intersection at Drake St and Richards St



LONG-TERM DRAKE STREET DESIGN
RICHARDS ST TO PACIFIC BLVD

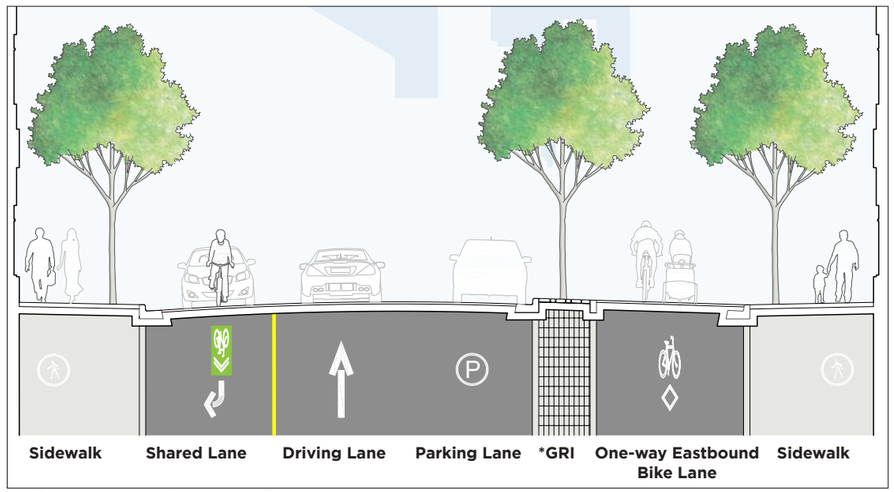
One-way vehicle traffic eastbound & bidirectional (two-way) bike lane on south side of street



ⓐ **Protected intersection** ⓑ **Metered parking** ⓒ **Passenger zone**

VEHICLE AND BICYCLE MOVEMENTS AT DRAKE ST. AND PACIFIC BLVD.	
ⓓ Westbound shared use lane	Vehicles and bikes can travel westbound on Drake St between Pacific Blvd and Hamilton St: • Vehicles must turn right onto Hamilton St • Bikes must transition to protected bike lane
ⓔ Eastbound vehicles on Drake St	Movements allowed for eastbound vehicles on Drake St at Pacific Blvd include: • Left turn onto Pacific Blvd, straight to continue along Drake St, right turn onto Pacific Blvd
ⓕ Drake St east of Pacific Blvd	Drake St east of Pacific Blvd would function the same way it does currently, where vehicles and bicycles share the road. The speed limit would be 30km/h with wayfinding to Seaside via Drake St and Marinaside Cres to Davie St (or similar)

Section D-D: Looking east on Drake St. at Hamilton St.



*GRI - Green Rainwater Infrastructure

Appendix C

Interim Design for Granville Bridge Connector & Drake Street Improvements

Key Features of Interim Design

It is recommended that the first phase of the Granville Connector and Drake Street Improvements be delivered during this 2019-2022 Capital Plan, with a focus on establishing core pedestrian and cycling connections and accessibility, while laying the groundwork for future improvements.

1. **Interim accessible walking, rolling, and cycling paths on west side of bridge deck, separated from motor traffic by a concrete barrier**
   - Reallocate two motor vehicle travel lanes to create safe and accessible paths for people walking, rolling, or cycling
   - Install temporary floating barrier (similar to Burrard Bridge) between paths and motor vehicle traffic on the west side of the bridge

   Note, the potential transit-priority measures at the north end of the bridge shown in the long-term design concept are subject to the ongoing stakeholder discussions and outcomes of recent Granville St patio and transit priority pilot initiatives.

2. **Signalized and accessible crossings at the Fir & Howe on/off-ramp**
   - Install new permanent traffic signals on the Fir and Howe ramps to provide safe and accessible crossings for people walking, rolling, or cycling

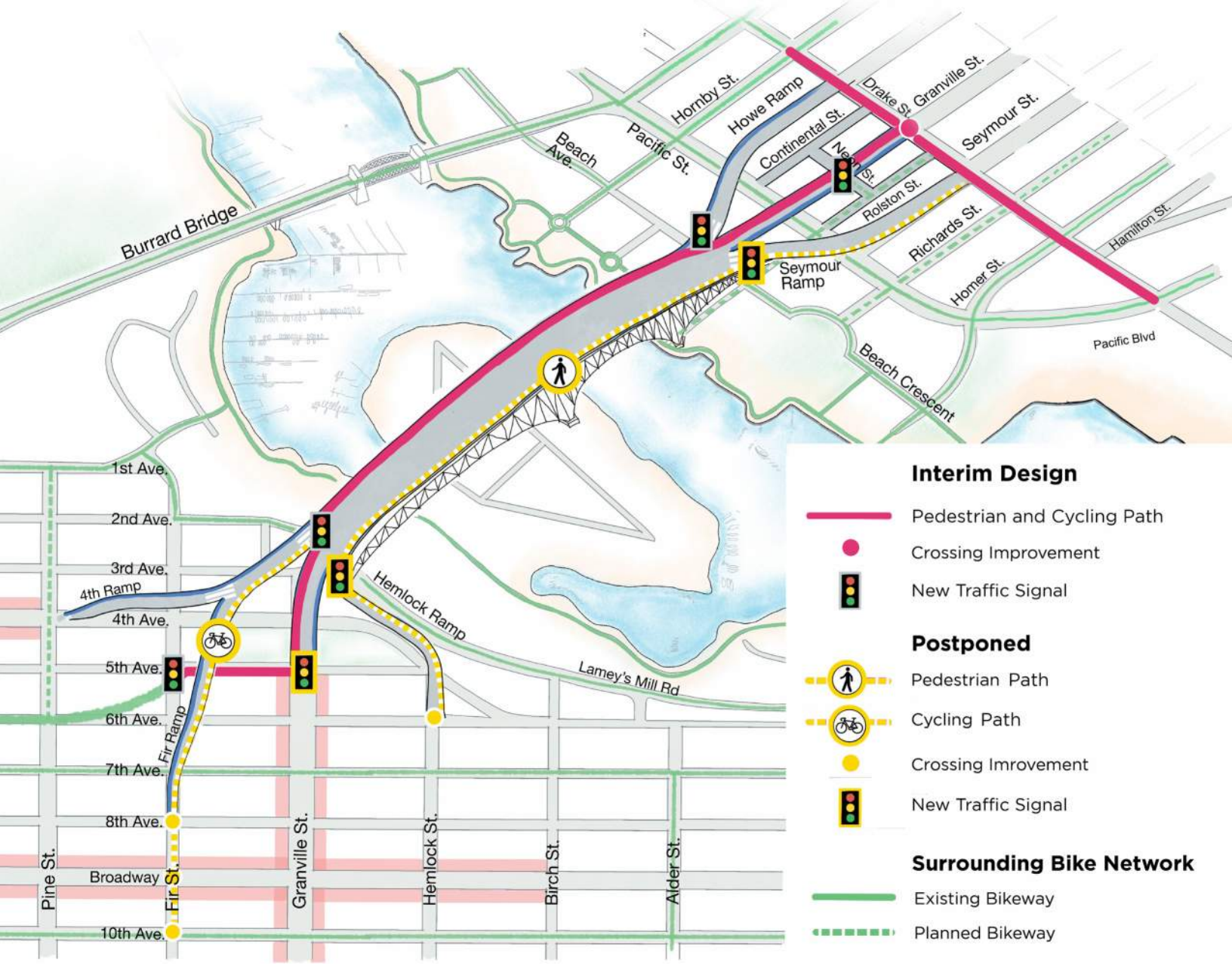
3. **Interim walking, rolling, and cycling connections between the bridge and Arbutus Corridor, and pedestrian access between the bridge and South Granville**
   - Convert the existing south loop to pedestrian- and cycling-only, with motor vehicle traffic rerouted to 5th Ave and Fir St
   - Install a new traffic signal at Fir St and 5th Ave
   - Add an unsignalized at-grade crossing at Granville St to enable pedestrian access between the bridge and the South Granville business area, without the need to use existing narrow and dark underground tunnels

4. **Interim barriers on Drake St to establish one-way motor vehicle conversion, improved pedestrian realm, and two-way protected bike lane**
   - Reallocate a westbound travel lane and parking lane to create more comfortable sidewalks and a two-way protected bike lane on the south side of the street
   - Remaining roadway would include an eastbound travel lane with on-street parking, turn lanes, and corner bulges

5. **Improved wayfinding for people walking, rolling, and cycling**
   - Improve pedestrian and cycling wayfinding signage and pavement markings, particularly on the south end of Granville Bridge.

6. **Coordinate with North Granville Loops replacement**
   - Involves building out the interim “H” street network comprising Neon St, Continental St, and Rolston St, as well as associated adjustments to Pacific St.

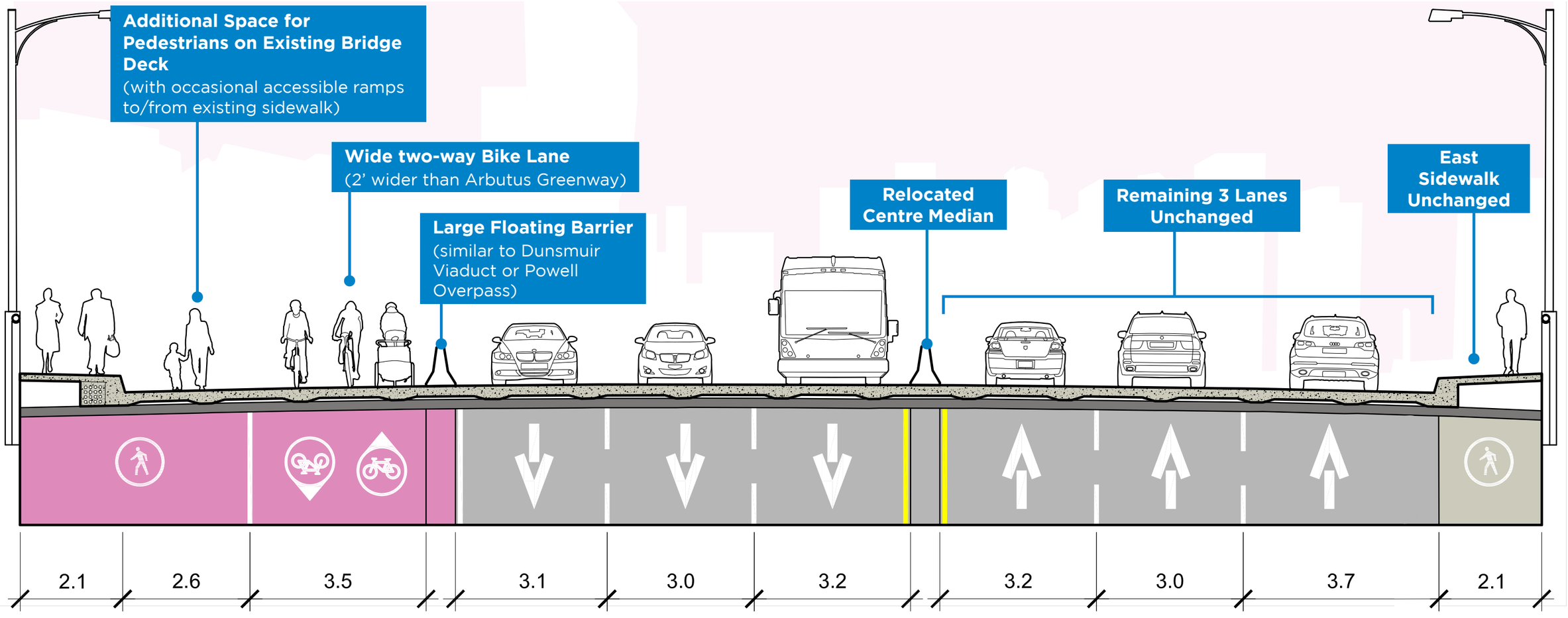
RECOMMENDED INTERIM DESIGN
OVERVIEW



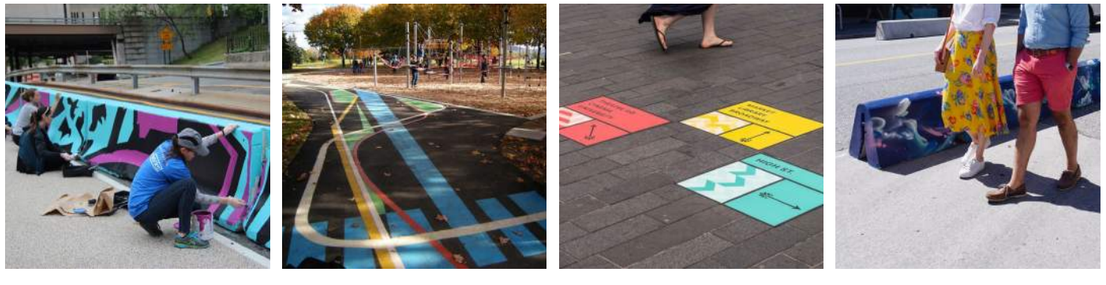
Features Deferred to Future Capital Plans

- Means prevention fencing and lighting improvements on the Granville Bridge
- Widened sidewalks on Granville Street and both sides of Granville Bridge
- Traffic signals at the Hemlock and Seymour ramp crossings
- Rebuilding 5th Ave between Fir St and Granville St
- Drake Street green infrastructure, landscaping, and raising of bike lane
- New signalized intersection at 5th Ave and Granville St
- Permanent cul-de-sac on 5th Ave, west side of Fir St
- Bi-directional bike lane on the Fir ramp linking to the 10th Avenue bike route
- Widened "lookout" at the bridge apex
- Cantilevered sidewalk widening at the Fir ramp crossing to address a pinch point
- Structural upgrades to Granville Bridge in support of the long-term design

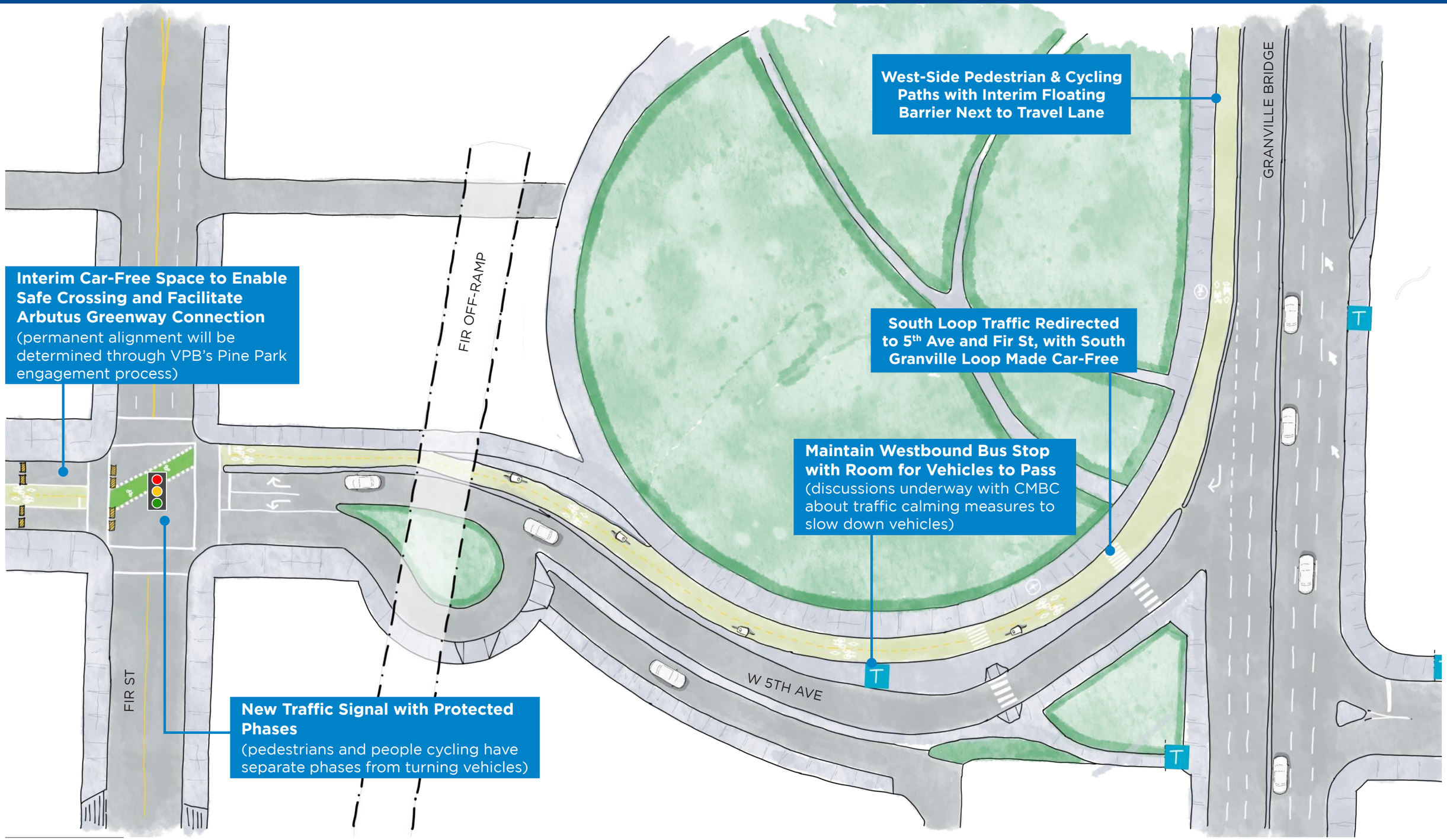
INTERIM DESIGN
GRANVILLE BRIDGE - MID-SPAN CROSS-SECTION



Opportunities for Interim Public Art or Wayfinding Improvements



INTERIM DESIGN
SOUTH END - GRANVILLE AT W 5TH AVE

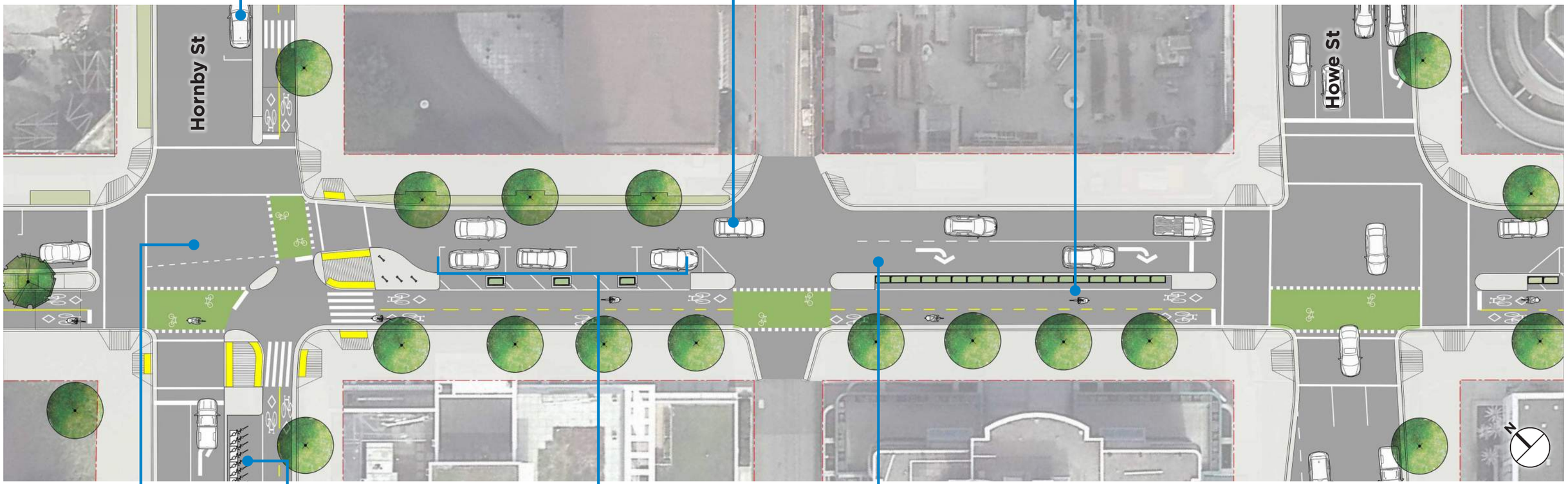


INTERIM DESIGN
DRAKE STREET - HORNBY ST TO HOWE ST

Add New Passenger/Loading Zone on Adjacent Street
(remove no stopping zone)

One-way Vehicle Traffic

Two-way Protected Cycling Path at Road Grade



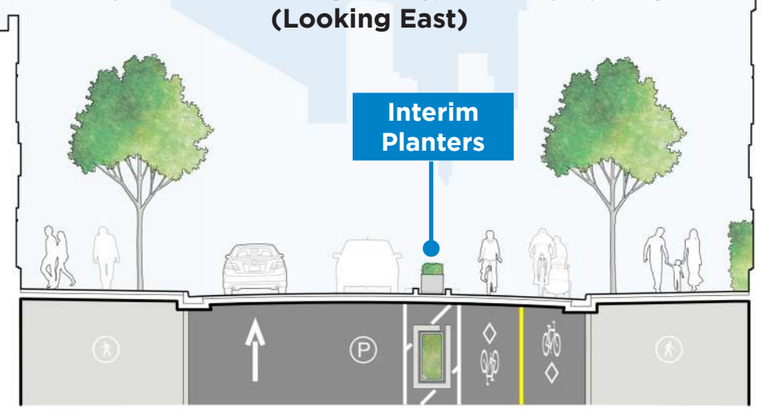
Protected Intersection
(to improve safety for all modes of transportation)

Relocate Public Bike Share

Retain Metered Parking where possible

Add Right-Turn Lane at Key Intersections

One-way vehicle traffic, parking, two-way cycling lane (Looking East)



Drake Street - Interim Design

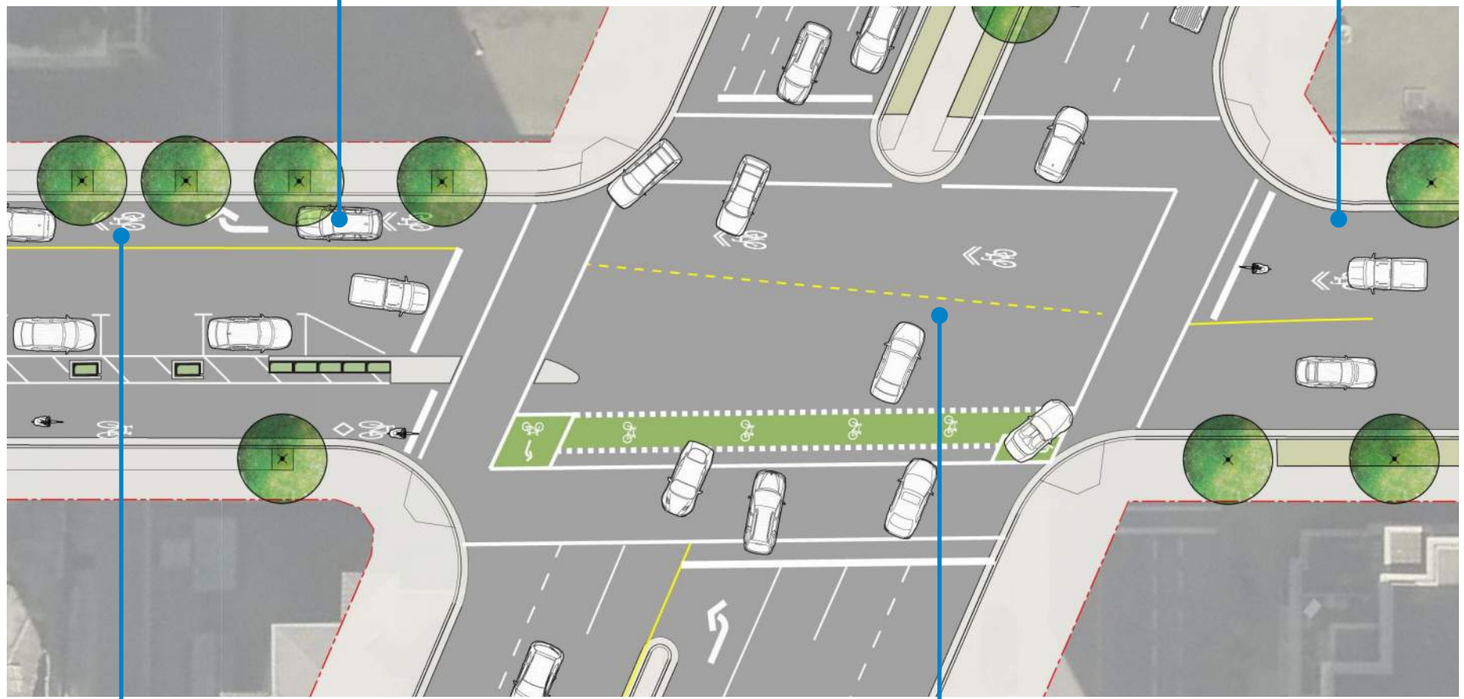
The interim design would provide a two-way protected bike lane with interim materials at road grade between key intersections, with a corresponding reduction in the length of raised bike lane, treed median, and green infrastructure.

This design would include paint, planters, and limited concrete work between key intersections similar to the approach taken on Richards St north of Dunsmuir St.

INTERIM DESIGN
DRAKE STREET - PACIFIC BLVD

Provide access to Hamilton St./Yaletown Neighbourhood
Two-way vehicle traffic between Hamilton St and Pacific Blvd.

East of Pacific Blvd.
See Appendix J



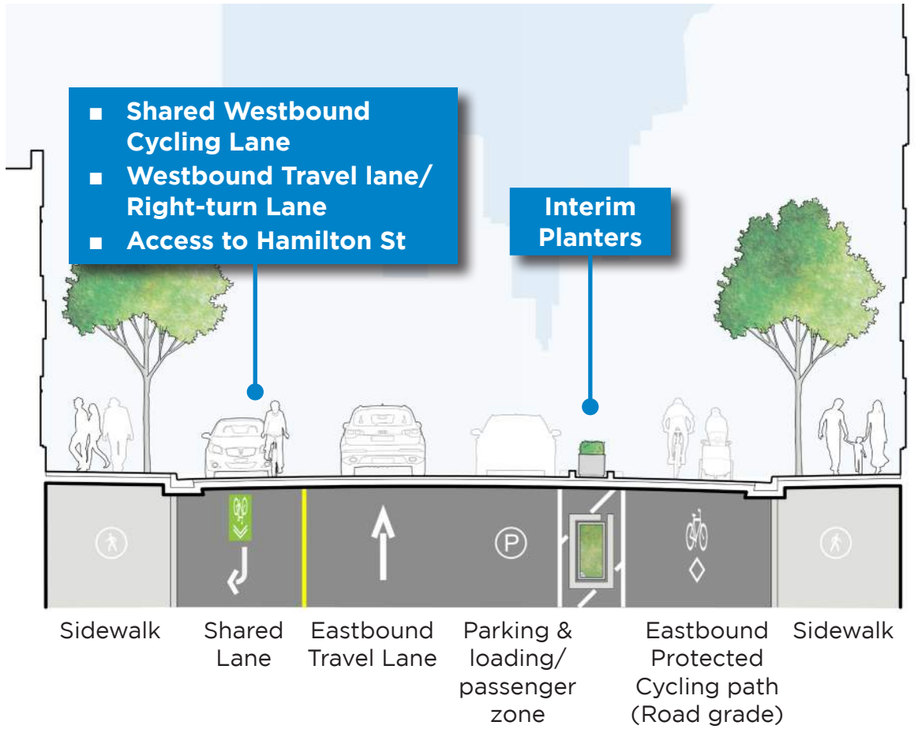
Cycling connection between Hamilton St to Pacific Blvd

People cycling westbound from Pacific Blvd. to Hamilton St. remain in mixed traffic and transition to the protected cycling path at Hamilton St. This portion of the street will be low-volume and will allow comfortable sharing of space between motor vehicles and people cycling.

Retail all turning movements on Drake-Pacific

Vehicles travelling eastbound on Drake St. can turn left, turn right and go straight at Pacific Blvd. This allows better access to the Marinaside neighbourhood, Elsie Roy School, and provides improved vehicular connections from many locations, including the Granville Bridge.

Eastbound protected cycling path + Westbound shared cycling lane and two-way vehicle traffic



Appendix D

Granville Bridge Connector Engagement Summary







GRANVILLE BRIDGE CONNECTOR

Engagement Summary Phases 1 - 3

Q3 2020

CITY OF VANCOUVER

Contents

Granville Bridge Connector
Engagement Summary

The City of Vancouver conducted a three-phase engagement process on the *Granville Bridge Connector* to provide new walking, rolling, and cycling connections across the Granville Bridge, as directed by Council in January 2019. This report summarizes feedback from all phases of engagement.

Summaries for individual phases of engagement are online at *vancouver.ca/granvilleconnector*.

Overall Engagement Approach

Public and stakeholder engagement took place throughout 2019 and early 2020. This work informed ongoing design efforts and included:

- Targeted discussions, walking tours, and workshops with key user groups and stakeholders that are most directly affected
- A three-phase public engagement process including open houses, workshops, walking tours, and surveys for the broader public to share their ideas and concerns

The three phases of public engagement are described below.

1. In **Phase 1 (April 2019)**, staff sought input on the draft project goals and invited the public to share how they currently use the bridge, along with specific ideas and concerns. Based on this engagement, staff refined the goals and explored over 20 options for the Connector.

2. In **Phase 2 (September 2019)**, staff provided the public with an opportunity to review and comment on six shortlisted design options, and shared information on other options which were explored but eliminated. Based on this engagement and further analysis, staff advanced the *West Side Plus* option, making refinements informed by public and stakeholder feedback.

3. In **Phase 3 (January & February 2020)**, staff presented a recommended design (a refined version of the *West Side Plus* option), and provided opportunities for the public to share opinions and provide further comments. In this phase, staff heard strong support for the recommended design, along with suggestions to consider as the design is developed in more detail.

The engagement will culminate with a report to Council on a recommended design in 2020.

What We Did

Stakeholder Engagement

Throughout the conceptual design process, City staff engaged with a wide range of stakeholders representing diverse interests. Outreach frequency and tactics varied depending on group availability and interest, and included phone conversations, in-person presentations and discussions, walking tours, and workshops.

Targeted groups represented local resident and business associations; transportation, seniors, accessibility, and placemaking organizations; citizen advisory bodies; equity seeking groups; emergency, health, and social services; and Granville Island. The full list of stakeholders consulted with is highlighted in *Table 1* below.

Staff also reached out to Musqueam, Squamish, and Tsleil-waututh First Nations through the City liaison, presenting at 2019 intergovernmental meetings and offering additional engagement opportunities should there be interest.

From project launch in early 2019 through March 2020, staff held over 80 stakeholder sessions with more than 830 participants. Additional meetings are taking place as staff finalize recommendations to Council.

Table 1: Stakeholder groups engaged

Stakeholder Group	Phase 1	Phase 2	Phase 3
CITY OF VANCOUVER ADVISORY COMMITTEES			
Children, Youth and Families Advisory Committee		✔	✔
Persons with Disabilities Advisory Committee		✔	✔
Seniors' Advisory Committee		✔	✔
Transportation Advisory Committee		✔	✔
Women's Advisory Committee			✔
Members of the former People with Disabilities and Seniors' Advisory Committees	✔		
EMERGENCY SERVICES & ENFORCEMENT			
BC Emergency Health Services		✔	✔
Vancouver Fire & Rescue Services	✔	✔	✔
Vancouver Police Department	✔	✔	✔
HEALTH SERVICES			
Canadian National Institute for the Blind	✔		✔
Rick Hansen Foundation			✔
Vancouver Coastal Health	✔	✔	✔
Vision Loss Rehabilitation Canada			✔
RESIDENT & BUSINESS ASSOCIATIONS			

Stakeholder Group	Phase 1	Phase 2	Phase 3
Burrard Slopes Stakeholder Association	✔		
Canada Mortgage Housing Corporation (CMHC) - Granville Island	✔	✔	✔
Downtown Vancouver Business Improvement Association	✔	✔	✔
False Creek South Neighbourhood Association	✔		
Granville Island Business & Community Association	✔	✔	
Granville Island Head Lease Tenants		✔	
South Granville Business Improvement Association	✔	✔	✔
West 4th Avenue Business Improvement Association		✔	
West End Seniors' Network	✔	✔	✔
West End Seniors' Community Planning Table		✔	
SOCIAL SERVICES & CIVIC ENGAGEMENT			
Youth Walkshop (co-hosted with CityHive)			✔
Covenant House Vancouver			✔
Force of Nature	✔	✔	✔
Gathering Place Community Centre			✔
Jane's Walk (co-hosted with Vancouver Park Board)	✔		
SFU City Conversations (public event)		✔	
Vancouver Design Nerds	✔		
TRADE & TOURISM			
Greater Vancouver Board of Trade	✔	✔	✔
Tourism Vancouver		✔	
Tour Bus Working Group		✔	
Vancouver Economic Commission	✔		✔
TRANSPORTATION & PUBLIC SPACE			
Better Environmentally Sound Transportation (B.E.S.T.)	✔	✔	✔
Cycling Without Age	✔		
HUB Cycling - Vancouver-UBC Local Committee	✔	✔	✔
TransLink & Coast Mountain Bus Company (CMBC)		✔	✔
Vancouver Public Space Network (VPSN)	✔	✔	✔
OTHER GOVERNING AGENCIES			
Musqueam, Squamish and Tsleil-waututh First Nations	✔	✔	
Vancouver Park Board	✔	✔	✔

Intersectional Work

This project aligns with citywide efforts to ensure an inclusive city that is safe and welcoming for all people. An intersectional lens is being applied, recognizing the complexity of personal identity, and the overlapping and interdependent systems of discrimination that people face.

From the outset, the project goals included directions that the Connector should feel safe to use for people of all ages and abilities, support all modes of transportation and connect places people want to go, and create inclusive spaces that feel comfortable at all hours of the day and times of the year. Engagement and promotional tactics strived to reach a broad and diverse audience, and allow people to provide input at different levels and ways that reflect their level of interest.

Beginning in Phase 2, the City has been working with intersectionality expert Jay Pitter to further enhance this approach. Her initial contribution included a workshop in November 2019 with a focus on groups that often have less of a voice in traditional engagement methods. This was followed by a Women's Storytelling Walk on January 29, 2020.

This work will continue in 2020, providing for continued dialogue and further informing the detailed design should the project be approved by Council.

Public Engagement

Outreach Tactics

A communications outreach plan was developed at the project outset to support the engagement process by ensuring diverse public awareness of the scope, timeline, and opportunities for input. The plan included an extensive print, digital, and radio campaign to ensure a broad, multilingual, and regional reach across all modes of transportation. .

Specific tactics are highlighted below and were employed for each phase unless otherwise noted.

- **Media technical briefings:** Media briefings took place approximately one week prior to each engagement phase to generate earned media, raise awareness of the project, support accurate reporting, and help promote public engagement.
- **Notification letters:** Letters were sent to over 25,000 residents and businesses near the Granville Bridge prior to each phase.
- **Electronic signage:** For the first two phases, changeable message boards were installed at each bridge access point, targeting people driving or taking transit across the bridge. This was not possible for Phase 3 due to construction taking place on the bridge where the signs would otherwise have gone.
- **Poster signage:** Prior to each phase, eye-level signs were installed at each end and along the span of the bridge, as well as nearby bike network intersections, targeting people walking or cycling in the area.
- **Transit Shelters:** During Phases 2 and 3, three transit shelter advertisements were displayed in the vicinity of Granville Bridge, with an estimated total of over 2,780,000 impressions.[1]
- **Print:** Advertisements were printed in 14 papers in Phase 1 and 16 papers in Phases 2 and 3, across Vancouver and the Lower Mainland including Chinese-language media, with a total circulation of over 1 million people.
- **Radio:** 220 spots aired across 14 stations during the three phases of engagement, with over 1.4 million impressions.[2]
- **Social Media:** Organic and paid posts were published during each phase across the City's Instagram, Facebook and Twitter platforms. The paid campaign reached over 164,000 people

[1] Including over 970,000 impressions in Phase 2 and 1,810,000 in Phase 3.

[2] Including 115 spots during Phase 1 (over 920,000 impressions), 36 during Phase 2 (over 216,000 impressions), and 69 during Phase 3 (over 307,800 impressions). *Impressions* refers to the number of times an ad or message was seen or heard.

with the organic posts acquiring over 425,000 impressions. An organic campaign also ran across the Chinese-language social media platforms of Weibo and WeChat.[3]

- **Digital Ads:** During each phase, digital advertisements were shown in Metro Vancouver on the Weather Network and their network of publishers, with over 530,000 impressions.[4]
- **Earned media:** A combined total of 69 unique pieces of coverage were identified across all media formats (print, web, TV and radio) during active engagement periods.[5]
- **Partner networks:** Stakeholders were encouraged to share engagement opportunities with their membership.
- **E-Newsletter:** Over 3,000 people had subscribed to the email newsletter as of March 2020.

Engagement Events and Surveys

A variety of methods were used to solicit public feedback, including open houses, workshops, and surveys *(see)*. **In total through all phases of engagement, there were over 3,000 attendees at 9 open houses and 12 workshops, and over 9,300 surveys received.** More detail on specific events is provided in *Table 2* below.

Table 2: Summary of engagement events and surveys

Engagement Events & Feedback Tools	Purpose	Participants
PHASE 1		
Pop-up Workshop (x1) co-hosted by community partner Vancouver Design Nerds • Date: April 6, 2019 • Location: 800 Robson	• Provide opportunity for public to learn about the project, and share ideas on how the bridge could be used via drawing activity • Promote future engagement opportunities	~ 50
Phase 1 Open Houses (x3) • Dates: April 12, 13, and 16, 2019 • Locations: CityLab x2 (511 W Broadway), Central Library	• Provide opportunity for public to learn about the project, discuss draft goals, issues & opportunities through dialogue and mapping exercises, and complete survey in person or online	1000+
Phase 1 Workshops (x4) Three hour sessions • Dates: April 27 and 30, 2019 • Locations: CityLab x2 (511 W Broadway), Central Library x2	• Provide opportunity for public to discuss and brainstorm project hopes, fears, and ideas in greater depth, in facilitated small groups	~60

[3] Including over 58,000 people and 68,000 impressions in Phase 1, over 7,200 people and 102,500 impressions in Phase 2, and over 99,000 people and 255,000 impressions in Phase 3.
[4] Including over 100,000 impressions in Phase 1, and over 215,000 impressions each in Phases 2 and 3.
[5] Including 24 pieces for Phase 1 (April 4 – May 10), 30 for Phase 2 (September 1 – 30), and 15 for Phase 3 (January 20 – February 20).

Engagement Events & Feedback Tools	Purpose	Participants
Walking Tour (x1) Two-hour Jane's Walk • Dates: May 3, 2019 • Location: Walk across bridge	• Provide opportunity for public to learn more about the project, experience challenges first-hand, and share ideas and concerns on-site	23
Intercept Survey On-location survey of people walking across the bridge, conducted by Mustel Group • Dates: April 2019 (multiple days) • Location: on bridge	• Better understand who uses the bridge and why, perceptions of safety • Establish baseline data for potential post-construction evaluation	615
Phase 1 Survey • Dates: April 4 to May 10, 2019	• Provide opportunity for public to share how they use the bridge today, discuss challenges, comment on draft goals, and share specific ideas and concerns	4870 (Online) 170 (Paper)
Other Submissions • Dates: April 4 to May 24, 2019 • Format: Letters, 3-1-1, Emails	• Provide opportunity for individuals and organizations to share additional comments	57
PHASE 2		
Phase 2 Open Houses (x3) • Dates: September 13, 14, and 17, 2019 • Locations: CityLab x2 (511 W Broadway), Central Library	Provide opportunity for public to learn about Phase 1 feedback, review six shortlisted options and eliminated options through dialogue and mapping exercises, and complete survey in person or online	1150+
Phase 2 Workshops (x3) Three hour sessions • Dates: September 19 and 21, 2019 • Location: CityLab (511 W Broadway)	Provide opportunity for public to discuss in detail the six shortlisted options and review other eliminated options	64
Phase 2 Survey • Dates: September 13 to 30, 2019	Provide opportunity for public to share how they use the bridge today, discuss challenges, comment on draft goals, and share specific ideas and concerns	2513 (Online) 73 (Paper)
Other Submissions • Dates: September 1 to Dec 31 2019	Provide opportunity for individuals and organizations to share additional comments	100

Engagement Events & Feedback Tools	Purpose	Participants
PHASE 3		
Phase 3 Open Houses (x3) • Dates: January 24, 25 & 28, 2020 • Locations: CityLab x2 (511 W Broadway), Central Library	Provide opportunity for public to review and comment on recommended option	725
Phase 3 Workshops (x3) Three hour sessions • Dates: February 1 & 4, 2020 Location: CityLab (511 W Broadway)	Provide opportunity for public to discuss in detail the recommended option, with themes around transportation, overall experience, and special places	77
Phase 3 Survey • Dates: January 24 to February 10, 2020	Provide opportunity for public to share how they use the bridge today, discuss challenges, comment on draft goals, and share specific ideas and concerns	1682
Other Submissions • Dates: January 1 – March 1	Provide opportunity for individuals and organizations to share additional comments	43

Who We Heard From

The demographic information below reflects information respondents provided in over 9,300 surveys received through three phases of engagement. Demographic information was not collected at open houses or workshops.

Responses by Area of Residence

Self-reported postal code data indicated responses from across the city and region, with higher representation from people living closer to the bridge *(see Table 3)*:

Table 3. Survey responses by area of residence

Where do you live?	Downtown Peninsula	Elsewhere in the City of Vancouver	Elsewhere in Metro Vancouver	Outside Metro Vancouver
Phase 1 (5044 responses)	28%	61%	6%	5%
Phase 2 (2608 responses)	27%	65%	4%	4%
Phase 3 (1682 responses)	28%	65%	4%	3%

Responses by Age and Gender

A diverse range of ages was represented at each phase of engagement, with the exception of people 19 and under *(see Table 4)*. To address this under-representation, staff conducted complementary efforts such as a youth walkshop in partnership with CityHive, and engagement with the City's Children, Youth, and Families Advisory Committee.

Table 4. Survey responses by age

How old are you?	0-19	20-29	30-39	40-49	50-59	60-69	70+
Phase 1 (5044 responses)	<1%	13%	25%	18%	17%	16%	10%
Phase 2 (2608 responses)	<1%	10%	23%	18%	19%	18%	12%
Phase 3 (1682 responses)	<1%	9%	19%	16%	19%	21%	15%

Respondents were more likely to identify as male, although those identifying as female were also well-represented *(see Table 5)*. Complementary engagement efforts included a Women's Storytelling Walk

conducted by intersectionality expert Jay Pitter, as well as engagement with the City's Women's Advisory Committee.

Table 5. Survey responses by gender

Do you identify as…	Male	Female	Other or prefer not to say
Phase 1 (5044 responses)	54%	41%	5%
Phase 2 (2608 responses)	52%	43%	4%
Phase 3 (1682 responses)	51%	45%	4%

Responses by Mode of Travel

Respondents reported broad experience in crossing the bridge using a wide variety of travel modes *(see Table 6).*

Table 6. Survey respondent' experience using various modes of travel across the bridge

% of respondents who have…	Walked across the bridge	Cycled across the bridge	Taken transit across the bridge	Travelled by car across the bridge
Phase 1 (5044 responses)	**53%** (15% ≥ once / week)	**23%** (5% ≥ once / week)	**69%** (30% ≥ once / week)	**84%** (47% ≥ once / week)
Phase 2 (2608 responses)	**59%** (20% ≥ once / week)	**31%** (9% ≥ once / week)	**72%** (33% ≥ once / week)	**82%** (43% ≥ once / week)
Phase 3 (1682 responses)	**63%** (19% ≥ once / week)	**34%** (10% ≥ once / week)	**80%** (36% ≥ once / week)	**84%** (44% ≥ once / week)

When asked about their main mode(s) of travel, respondents reported a broad mix *(see Table 7)*.

Table 7. Survey respondents' preferred modes of travel in everyday life

Main mode(s) of travel in everyday life	Walk (including using a mobility aid)	Cycle	Transit	Drive	Other
Phase 1[6] (5044 responses)	24%	18%	24%	31%	3%
Phase 2 (2608 responses)	50%	32%	41%	41%	4%
Phase 3 (1682 responses)	56%	34%	44%	41%	2%

[6] For Phase 1, respondents were only allowed to choose one mode; for Phases 2 and 3, respondents could choose up to two modes. The question was revised to reflect Vancouver's multi-modal nature, where many people use a variety of ways to get around.

What We Heard in Phase 1

In Phase 1 (April 2019), staff sought input on the draft project goals and invited the public to share how they currently use the bridge, along with specific ideas and concerns. This section highlights key findings and themes from stakeholders and the general public.

Key Findings

- Most people **currently do not feel comfortable walking or cycling across the bridge**
- Many people avoid walking or biking across the bridge even when it would be the most direct route, indicating a **latent demand** for using the bridge
- **People with mobility challenges and people who cycle find it especially challenging** to use the bridge today, due to unsignalized crossings with steps and a lack of cycling facilities
- There was **strong support for the project in general** from stakeholders and the general public
- There was **general support for each of the draft goals**, with many ideas for how the goals could be delivered
- There were **limited suggestions for new or strengthened goals**, particularly relating to climate emergency, means prevention, and environmental considerations (e.g. rainwater management, habitat preservation)
- There were **diverse opinions on the level of investment required**, with many people interested in a once-in-a-lifetime placemaking opportunity, and others more concerned with safety and transportation function
- There were **many ideas for particular alignments** to explore, including centre, west side, east side, bilateral (both sides), and underside options

These findings are discussed in more detail below.

Most People Feel Uncomfortable Using the Bridge Today

The Phase 1 Survey results confirm that most people feel the bridge is currently uncomfortable for both walking and cycling:

- More than half of respondents indicated they would feel uncomfortable walking across the Granville Bridge on their own, and **almost 80% would be uncomfortable walking across the bridge with a person who needed assistance**, such as a child or senior (see *Figure 1*).
- Almost 80% of respondents indicated they would feel uncomfortable cycling across the bridge on their own, and **almost 90% would be uncomfortable cycling across the bridge with someone who is less confident biking** (see *Figure 2*)

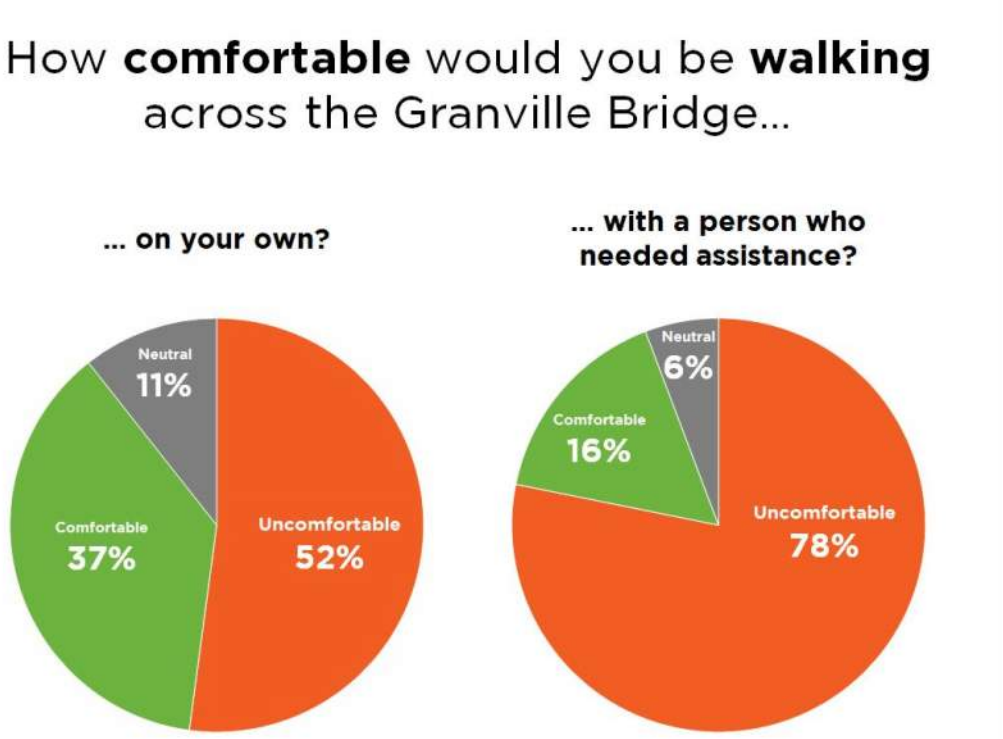


Figure 1: Level of comfort walking across the Granville Bridge, from people who reported they sometimes travel by walking (96% of respondents)

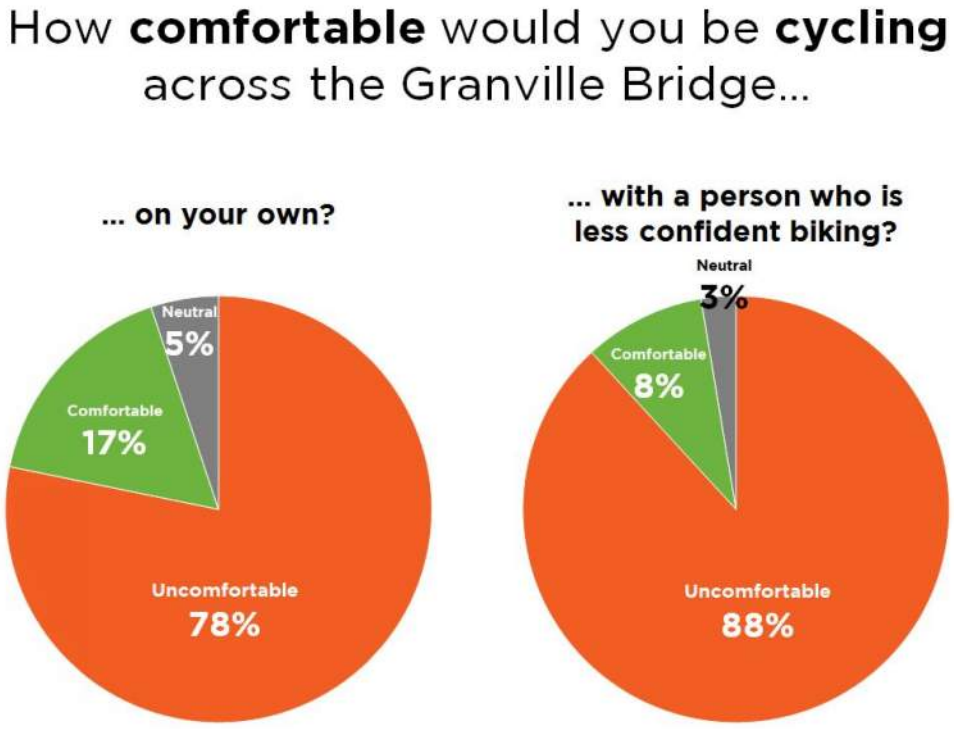


Figure 2: Level of comfort cycling across the Granville Bridge, from people who reported they sometimes travel by bicycle (80% of respondents)

These results are echoed by 615 intercept interviews conducted by Mustel with people walking across the bridge:

- Fewer than a third of people who currently walk across the bridge would be comfortable doing so with a child or elderly person needing assistance
- Only 3% of people who regularly cycle would be comfortable cycling across the bridge with a child or someone new to cycling
- Of the 62% of interviewees who sometimes cycle to get around, only 11% of them had biked across the Granville Bridge
- Of those that had cycled across the Granville Bridge, almost two-thirds indicated they (64%) ride on the sidewalk rather than mix with motor traffic[7]

The most-often cited reasons people feel uncomfortable walking across the bridge include the lack of a barrier between the sidewalk and traffic (85%), narrow sidewalks (81%), high-speed motor traffic (78%), and confusing connections at bridge ends (50%) (see *Figure 3*).

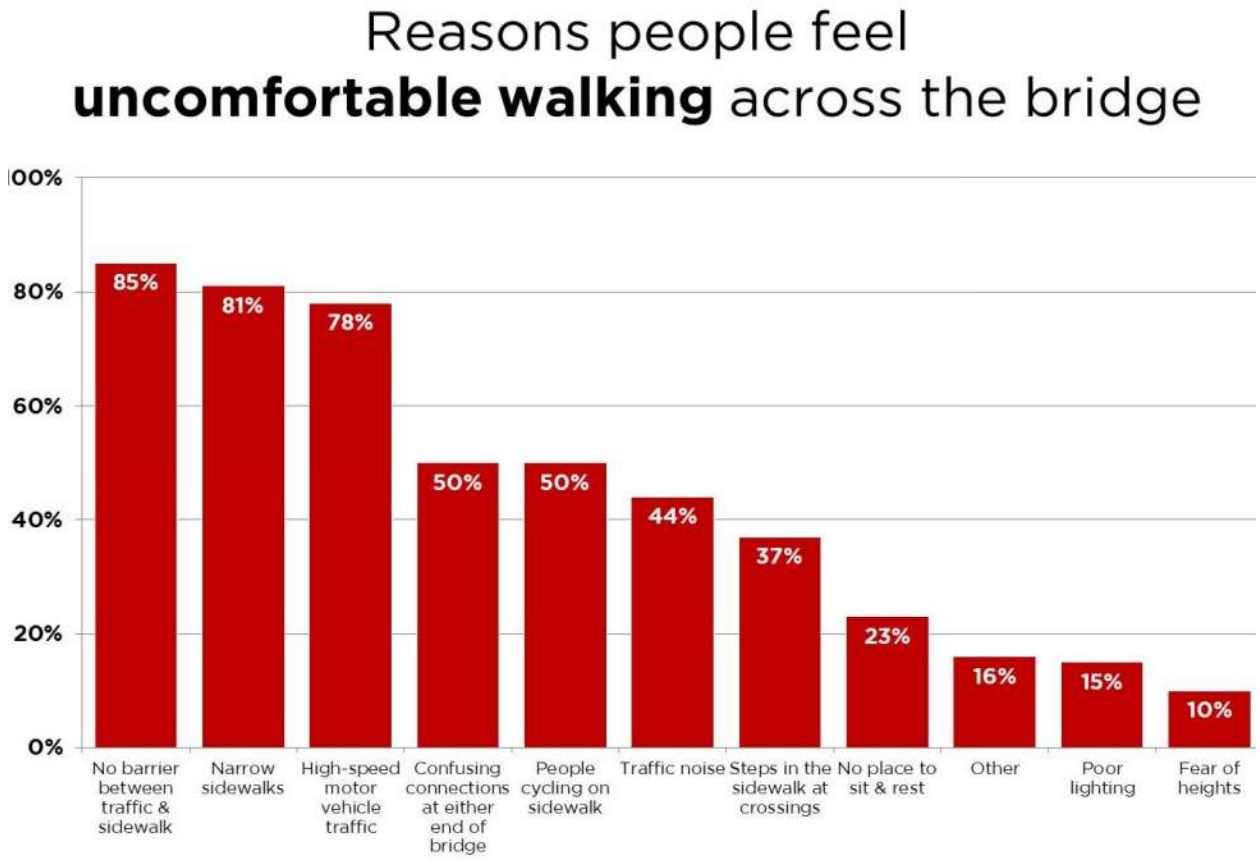


Figure 3: Reasons people feel uncomfortable walking across the Granville Bridge[8]

[7] In comparison, only 0.4% of people cycling on the Burrard Bridge use the sidewalk, with 99.6% using the designated protected path. The large discrepancy between the two bridges is because the Burrard Bridge has a safe connected path for people cycling, whereas the Granville Bridge lacks such facilities; when people ride on the sidewalk, it is usually because they don't feel they have a safe and/or convenient alternative.

[8] Based on 3,669 responses.

For cycling, the top reasons were discomfort sharing a lane with motor traffic (87%), the lack of a bike lane (85%), discomfort changing lanes at the on- or off-ramps (70%), discomfort mixing with pedestrians of the sidewalk (68%), and confusing connections at bridge ends (50%) *(see Figure 4)*.

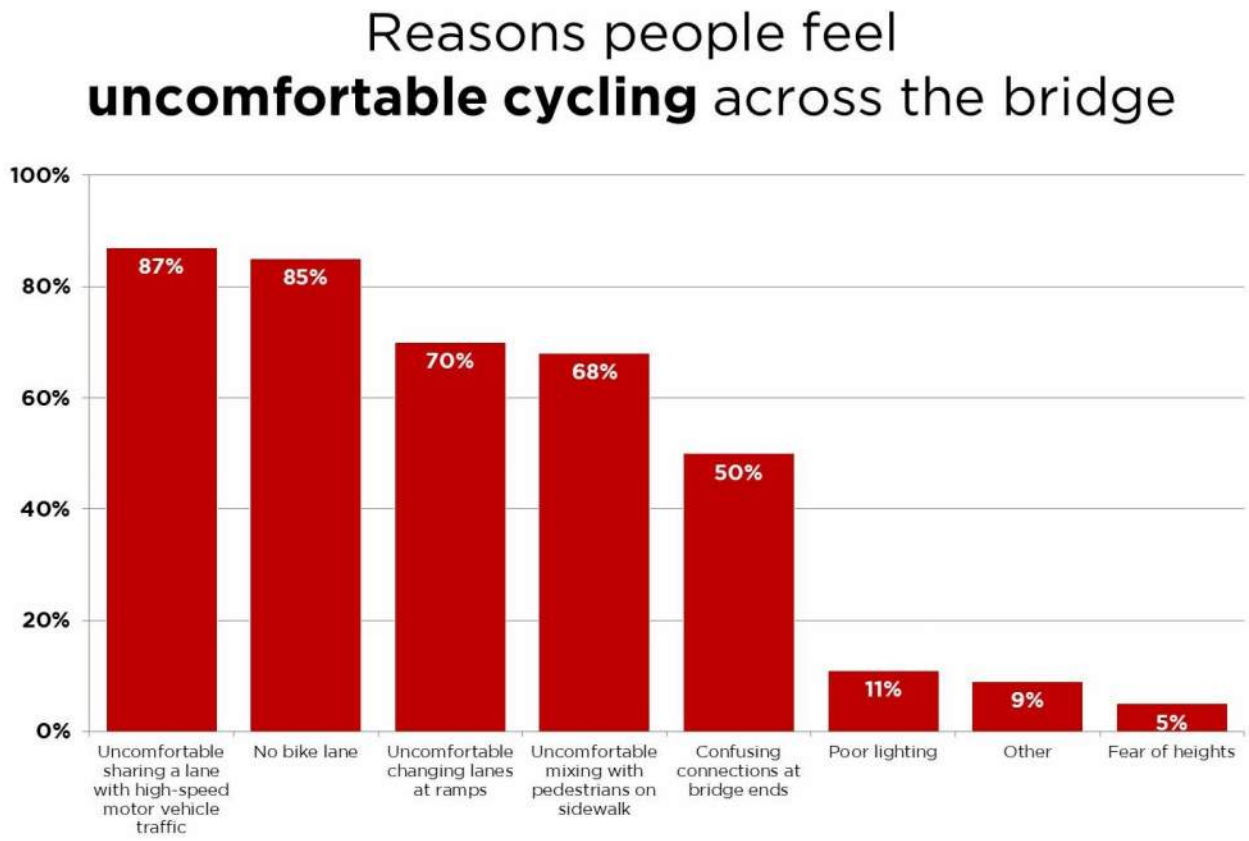


Figure 4: Reasons people feel uncomfortable cycling across the Granville Bridge[9]

A Strong Latent Demand for Using the Bridge

Many people commented that they avoid walking (41%) or biking (69%) across the bridge, even when it would be the most direct route *(see Figure 5)*. This suggests there is a strong latent demand for using the bridge to walk or cycle.

According to recent census data, in 2016 there were about 18,000 residents and 17,000 jobs within a 5-minute walk of the bridge, and about 90,000 residents and 125,000 jobs within a 5-minute bike ride. The large numbers of people and jobs in close proximity to the bridge, coupled with the high percentages of people reporting that they actively avoid using the bridge today, suggest the bridge would be well-used by people living within this catchment area if it felt safer, more comfortable, and more convenient to walk or bike across.

[9] Based on 3,555 responses.

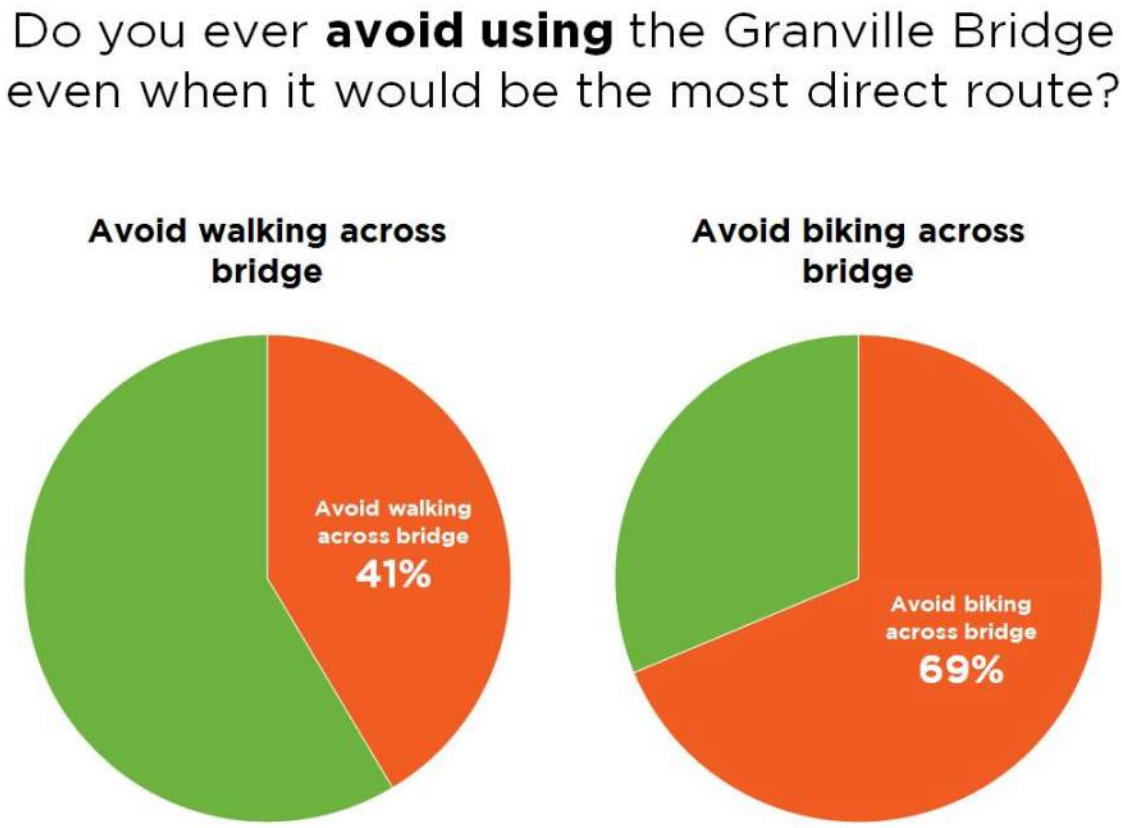


Figure 5: Proportion of people who avoid walking or biking across the Granville Bridge, even when it is the most direct route[10]

Strong Support for Draft Goals Overall

In the first phase of engagement, the public was encouraged to review the draft goals of the project:

1. Make **walking**, **rolling**, and **cycling** across the bridge **accessible**, **safe**, and **comfortable** for all ages and abilities
2. Provide **direct** and **intuitive** walking, rolling, and cycling **connections** to key destinations and the network
3. Create a **special place** that provides an enjoyable experience for all
4. Accommodate **motor vehicles**, considering the needs of transit, emergency services, and people driving
5. Design with the **future** in mind, considering related project and opportunities to coordinate work

Each of the draft goals has a large measure of public support based on the 5044 responses to the survey *(see Figure 6)*:

- Over **80%** feel it is somewhat or very important to **improve walking** on the bridge (9% not important)

[10] Based on 4,912 responses from people who reported they sometimes walk to get around, and 4,106 responses from people who sometimes bike to get around, respectively.

- Almost **70%** feel it is somewhat or very important to **improve cycling** on the bridge (20% not important)
- About **75%** feel it is somewhat or very important to **improve connections** to destinations (13% not important)
- About **65%** feel it is somewhat or very important to **create a special place** (21% not important)
- About **70%** feel it is somewhat or very important to **accommodate current traffic volumes** (12% not important)
- About **95%** feel it is somewhat or very important to **maintain reliable transit** (1% not important)
- Over **75%** feel it is somewhat or very important to **design with the future in mind**, considering potential related projects such as an elevator to Granville Island (11% not important)

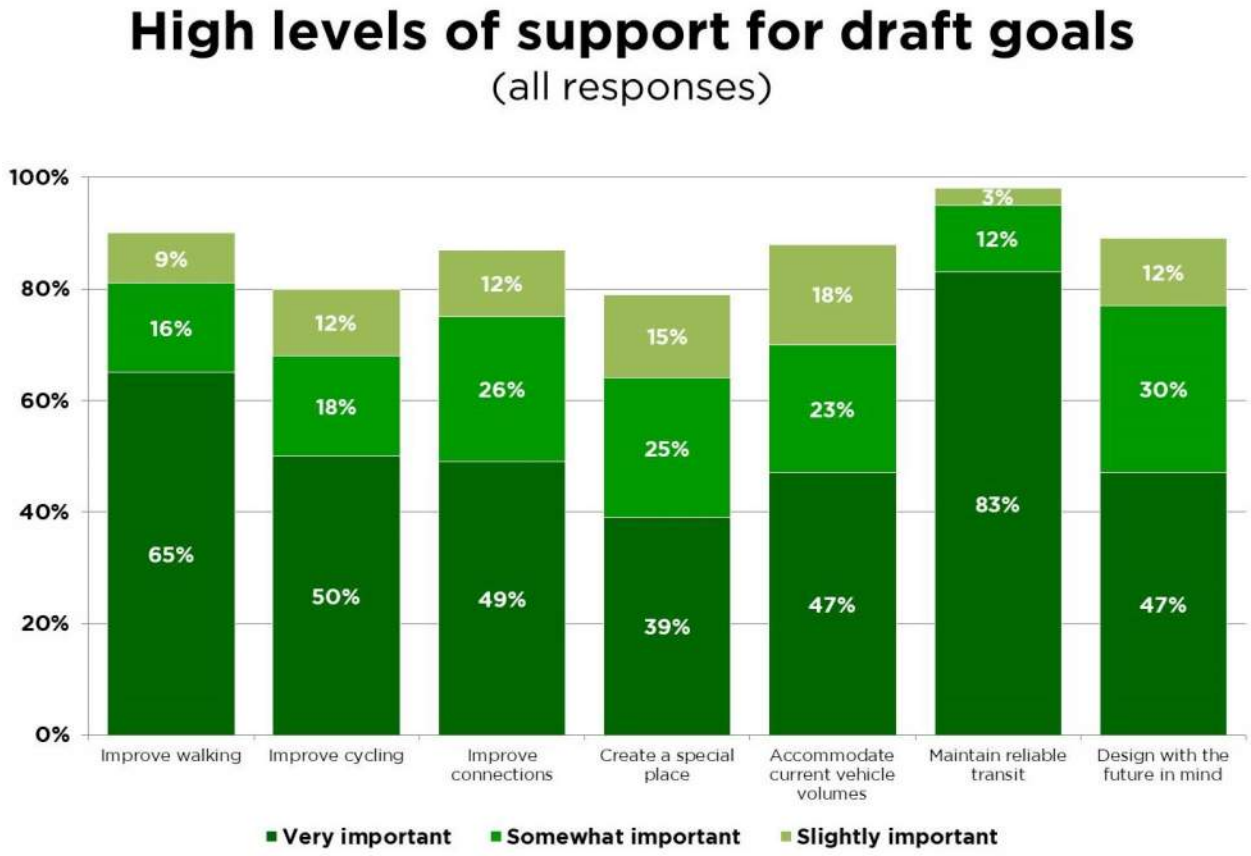


Figure 6: Survey responses indicate that each of the draft goals are somewhat to very important[11]

[11] Based on all 5,044 responses.

Detailed Comments and Ideas Relating to Particular Goals

The highlights below reflect comments and ideas heard in Phase 1 through surveys, public events, and stakeholder discussions.

Draft Goal #1: Make walking, rolling, and cycling accessible, safe, and comfortable for all ages and abilities

There was strong support for improved accessibility, walking, and cycling across the bridge, with many respondents underscoring the following specific aspects:

- Separating road users by travel mode and speed (e.g. separate space for walking, slow cycling/rolling, faster cycling, and driving)
- Using easy grades, smooth surfaces, and pedestrian ramps to ensure accessibility for everyone
- Providing safe crosswalks at the bridge's on- / off-ramps and at either end of the bridge
- Minimizing the number of pedestrian and bike crossings required to navigate the bridge

A relatively small percentage of people commented that they feel the project is unnecessary because they felt the other False Creek bridges have adequate facilities, because they do not support walking or cycling investment in general, or because they feel the resources should be diverted to housing.

Draft Goal #2: Provide direct and intuitive walking, rolling, and cycling connections to key destinations and the network

There was a high level of interest in the improved walking, rolling, and cycling connections the project could provide, with many respondents specifically mentioning:

- Connections between South Granville and Downtown Granville that would benefit local businesses and help revitalize the street at each end of the bridge
- Using the bridge's on- and/or off-ramps to serve connections to different parts of the city and expand the bridge's walking or cycling catchment areas by minimizing grade transitions, particularly the Fir Street, W 4th Avenue, and/or Hemlock Street on- / off-ramps
- Excitement regarding potential elevator and staircase connections between the bridge and Granville Island, the Seawall, and Vancouver House
- Potential to expand transit capacity and reliability as the city becomes less car-dependent
- Improved wayfinding, particularly on the south end of the bridge and surrounding vicinity where the on- and off-ramps result in confusing connections

There was concern about how people would safely get to and from the bridge. For cycling, the need for new routes and connections was raised, including to the Arbutus Greenway, Drake Street, Broadway/10th Avenue corridor, and Seawall on both sides of False Creek.

Some respondents expressed interest in alternative ways to improve connectivity across False Creek, for example:

- Adding the existing small ferry services to the Compass Card program or making them free
- Building a separate walking and/or cycling bridge somewhere along False Creek, possibly a low-level bridge or one incorporated into future sea level rise protection

There was interest in how the Granville St / Drake St and Granville St / W 5th Ave intersections would operate if rebuilt to connect people to and from the *Granville Bridge Connector*.

Draft Goal #3: Create a special place that provides an enjoyable experience for all

There were strong feelings by many that the bridge needs to be a special public space that is enjoyable to pass through and perhaps be a destination in its own right. Although this goal of place-making on the bridge was less supported relative to other goals, those who are interested in it feel very strongly. Specific ideas people mentioned included:

- Providing benches and places to rest along the path
- Celebrating views, e.g. with lookout balconies at strategic locations
- Creating public space 'moments', urban 'rooms', or gathering spaces at strategic locations along the path (e.g. lookout balconies, pocket parks, pocket plazas)
- Interactive or dynamic lighting, rain-activated art, or other artistic elements
- Creating an art or story walk to celebrate local artists and/or tell important stories or histories, e.g. history of False Creek, story of (de)colonialization, Indigenous art
- Providing opportunities for small retail or active transportation-powered food carts
- Providing for both fast and slow cycling, and ensuring people cycling can slow down or stop to engage in the public space elements
- Creating green space on the bridge, e.g. through trees, landscaping, planters, and/or green infrastructure
- Repurposing or rebuilding the Fir Street or 4th Ave off-ramp to create a car-light or car-free "High Line experience" (inspired by New York City's High Line), that would also provide relatively flat active transportation connections to and from Central Broadway and Kitsilano respectively
- Making the bridge an iconic landmark from a distance, e.g. through lit or sculptural elements along the path, an iconic elevator or observation tower, and/or transforming the bridge into a green park
- Creating gateways at either end of the bridge to announce the Downtown Granville entertainment district and South Granville shopping district
- Installing whimsical elements or attractions, e.g. bungee jumping, Ferris wheel, slide, "Granville Grind" staircase hike
- Amenities such as recycling stations, washrooms, and safety phones

There was interest in slowing motor vehicle traffic, e.g. through regulation, enforcement, and design (e.g. narrower lanes, new crossings with signals, chicanes or curves in lanes).

Some people who were less supportive of this goal noted that the city has many great public spaces already, suggesting that the focus of the bridge should be transportation. Others voiced concerns that creating a special place would be challenging given motor vehicle noise and emissions.

Some made the point that the majority of people crossing the bridge will still be in transit or private vehicles, and their experience is important too.

Draft Goal #4: Accommodate motor vehicles, considering the needs of transit, emergency services, and people driving.

There was almost universal support for maintaining or improving transit, with ideas including:

- Improving reliability with dedicated bus lanes or “queue jumpers” at strategic locations, if traffic data suggests this is needed
- Considering whether the future Arbutus LRT or other light rail could be extended across the bridge
- Providing good walking and cycling connections to the future rapid transit station at Granville-Broadway
- Being able to accommodate a transit stop on the bridge, should a Granville Island elevator proceed
- Improving ferry service across False Creek, e.g. by incorporating it into the Compass Card system

There was a diversity of opinions regarding general motor traffic, with:

- A recognition that the bridge provides for important regional movement between the North Shore and Richmond, including the YVR international airport
- Some people concerned about maintaining car-movement capacity through the intersections
- Some people concerned about maintaining particular movements, e.g. noting that the Fir off-ramp is currently the only way for southbound car traffic to turn east onto Broadway
- Others hoping the project could support a more car-free or “car-light” future on the bridge and in the downtown, particularly in the long term

Draft Goal #5: Design with the future in mind, considering related project and opportunities to coordinate work.

This goal was intended to raise awareness about on-going and potential nearby projects. Staff specifically referenced:

- The future replacement of the Granville loops to and from Pacific Street with a street grid
- A potential elevator and staircase to Granville Island (which would be delivered by the federal government which controls Granville Island)l, served by an intersection and bus stops on the bridge deck
- A future park at W 6 Ave and Fir Street
- A future SkyTrain Station at Granville and Broadway
- Bridge rehabilitation and seismic upgrades to keep the structure safe and in good condition

There was a very high level of excitement for a future elevator and staircase to Granville Island, and also some interest in the other projects that were noted.

Additional items brought up by the public included:

- Future land use and how the project might respond to or influence development and design in the area
- Possible replacement of the southbound to eastbound off-ramp to W 4th Ave combined with a reconfiguration of W 5th Avenue, with nearby residents discussing whether the adjacent green space could become a park or developed into a northward extension of the South Granville retail district
- Potential to repurpose or remove portions of on- or off-ramps to improve active transportation connections or to free up space for other city objectives

- Potential to further transform the bridge in the future as public interests and opportunities evolve, e.g. by reallocating additional general-purpose travel lanes to provide dedicated bus lanes or light rail service across the bridge

Some suggested that bolder moves are needed in the face of a climate emergency, and that the City should build on this project, perhaps by making the bridge, Downtown Granville Street, and/or the entire downtown car-free.

Other Emergent Themes

Level of Investment

There was a diversity of opinions regarding the level of investment required:

- Many people were excited by the potential to transform the bridge into a unique and iconic place, with some noting this should be considered an investment rather than an expense as it could increase tourism and boost local businesses
- Other respondents wanted to only spend as much as necessary to meet core transportation, accessibility, and safety objectives
- Some people wondered whether portions of on- or off-ramps could be removed to free up space which could then be developed to fund this project and support other city objectives
- Some suggested that the project could be phased, with basic and more functional elements introduced first, leaving room for enhancements for later

Means Prevention

The public generally recognized that means prevention features that help deter people from self-harm will be an essential component of the project, and there was a desire to understand how it would impact views and the quality of the experience for different design concepts.

Missing Goals

When prompted as to whether any goals were missing or required special attention, approximately 75% of respondents did not have anything to add.

Approximately 20% of survey respondents provided comments relating to:

- Specific details as to *how* the City should go about achieving a goal, e.g. how to improve safety or accessibility
- Divergent opinions on what extent to accommodate motor vehicles, ranging from ‘build a freeway to connect to the bridge’ to ‘make the downtown car-free’
- Divergent opinions regarding the importance of placemaking and an appropriate level of investment
- General feelings of support or non-support for the project

Approximately 5% of comments reflected issues not covered in the draft goals. Key themes centred around:

- Supporting climate emergency targets and using the project as a catalyst towards a more car-free future

- Protecting for potential future additions, (e.g. relating to enhanced sustainable transportation or placemaking)
- Environmental concerns (e.g. considering rainwater management, protecting nesting cormorant habitat)
- Considering ways to mitigate traffic impacts on neighbouring residents (e.g. reducing traffic noise)
- Incorporating means prevention (i.e. deterring self-harm) while retaining views

Big Ideas

As part of the first phase of public engagement, people were encouraged to share their ideas for the project. Through this, staff received a wide range of ideas to explore as a part of the second phase of engagement.

Ideas for a Granville Bridge Connector Aligned Down the Centre of the Bridge Deck

Many people were familiar with the idea of a raised centre path aligned down the middle of the bridge given material previously communicated in the Transportation 2040 Plan and City staff's January 2019 Council report on the project.

People commenting on this design approach felt it could be a comfortable and enjoyable experience by elevating the path to provide views and a sense of separation from traffic. Many people raised questions about where and how pedestrians and people biking would get on and off the bridge, either at intersections or using elevators or staircases. While many people expressed excitement about the idea, some expressed nervousness that this approach would make the experience of walking, rolling or cycling across the bridge unpleasant due to traffic on both sides of the path. Others were concerned that a centre path might leave safety issues at the on- / off-ramp crosswalks unaddressed, and/or that the City would prohibit access to the existing sidewalks.

Some members of the public had ideas on how to enhance this concept:

- Elevate the *Connector* as much as possible to maximize the views and further buffer people walking, rolling, and cycling from traffic, without making it too steep
- Elevate the *Connector* enough to widen it out such that it spans above traffic to create additional public space for public amenities and improved views
- Widen the *Connector* such that it occupies more than two travel lanes to create more public space
- Use the space occupied by the existing sidewalks for general purpose travel lanes to create more room for a wider *Connector* down the middle of the bridge deck

Ideas for a Granville Bridge Connector on One Side of the Bridge

Many people indicated that a *Connector* on one side of the bridge deck was an exciting concept for them since it would mean vehicle traffic is only passing on one side of the path, with some adding that a one-sided path could be made wider than a centre option by taking advantage of using the space currently occupied by the existing sidewalk. Many people were particularly excited about the west side for the excellent views it would offer toward the mountains, English Bay, and Burrard Bridge.

A number of people commented on the possibility of a *Connector* on the side of the bridge being better able to connect to new staircases or elevators to key locations below the bridge (e.g. south Seawall or

Vancouver House), or the possibility of providing additional walking and/or cycling connections on the W 4th and/or Fir off-ramps. Many people highlighted that using the Fir off-ramp to connect Central Broadway / W 10th Ave would be particularly attractive for cycling due to the relatively flat grades. Some went further, expressing ideas to repurpose or rebuild some or all of the on- / off-ramps to create better public spaces, while also enhancing connections, or even freeing up space for redevelopment. Some who were in favour of installing a *Connector* on the east side of the bridge similarly mentioned interest in providing a better pedestrian or cycling environment on the Hemlock on-ramp.

Ideas that Include a Granville Bridge Connector on Both Sides of the Bridge

Some people brought up alignment ideas with paths on both sides of the bridge, similar to the Burrard Bridge. People interested in these ideas frequently cited the Burrard Bridge design and the potential for people to enjoy the views on both sides of the bridge, or the possibility of using each of the south on- / off-ramps (i.e. Fir and Hemlock ramps) for additional connectivity.

In promoting this concept, some people brought up the idea of using this design approach to avoid on- / off-ramp crosswalks altogether by running the *Connector* down the on- / off-ramps instead of crossing the ramps to connect South Granville St to Downtown Granville St.

Ideas that Involve Building a New Structure for the Granville Bridge Connector

Many people expressed interest in a Granville Bridge *Connector* that does not use the bridge deck at all, but would instead be suspended underneath, perhaps hanging off the existing structure. Those interested in this idea felt it could create a unique experience that is fully weather-protected and separated from motor vehicles without impacting motor vehicle capacity or flow and offering flatter grades. Somewhat related, some suggested they would like to see a completely separate walking and/or biking bridge (i.e. not attached to the Granville Bridge), expressing that it might offer a more direct Seawall-to-Seawall connection.

Other Granville Bridge Connector Ideas

A range of other ideas were also brought up, including:

- Combining some of the above ideas by installing pedestrian space down the centre of the bridge to establish a pedestrian link between Downtown Granville to South Granville, while creating space for cycling on the side of the bridge, or vice versa
- Building a separate pedestrian-only bridge while reallocating space on the bridge deck for cycling;
- Pedestrian space on one side of the bridge and cycling space on the other
- Improving local ferry service as an attractive and cost-effective option connecting the north False Creek to south False Creek Seawall
- Clear tubeways or tunnels underneath False Creek

Staff carefully considered these ideas as they developed a shortlist of options for Phase 2 engagement.

Concerns

Survey respondents were invited to share any concerns they had about the project. While the majority of respondents expressed support for the project, some expressed concerns related to:

- Potential increased congestion
- Potential impacts to emergency access
- Costs to taxpayers
- Construction impacts

Others who supported the project were concerned that the project may:

- Fail to move forward or be delayed
- Not be aesthetically pleasing
- Hinder views
- Remove pedestrian access to ramps (if sidewalks were closed)
- Not meet project goals, e.g. separating different travel modes and speeds, connecting to the broader cycling network (noting that improvements beyond the bridge deck itself are needed), or addressing safety concerns at ramp crossings

What We Heard in Phase 2

In Phase 2 (September 2019), staff shared updated project goals that had been revised based on Phase 1 public and stakeholder input.

1. Support our **climate emergency** efforts by enabling more trips via sustainable transportation
2. Make **walking**, **rolling**, and **cycling** across the bridge **accessible**, **safe**, and **comfortable** for all ages and abilities
3. Provide **direct** and **intuitive** walking, rolling, and cycling **connections** to key destinations and the sustainable transportation network
4. Create a **special place** that provides an enjoyable experience for all
5. Enable **reliable transit** and continued access for emergency vehicles
6. Accommodate **motor vehicles**, considering the bridge's role in the regional transportation network
7. Integrate **means prevention** to deter self-harm
8. Incorporate **environmental features**, including provisions for rainwater management and wildlife habitat
9. **Design for the future**, considering compatibility with related projects and flexibility to adapt as the city grows
10. Provide **value for money** and maximize coordination opportunities

Staff also provided the public with an opportunity to review and comment on six shortlisted design options, and shared information on other options which were explored but eliminated. This section highlights key findings and themes from stakeholders and the general public.

Six shortlisted options

In the lead up to Phase 2, staff explored dozens of options for the Granville Bridge Connector, with the design concepts informed by staff expertise, public and stakeholder feedback, and consultant input. The long list was shortlisted to six options based on overall feasibility and their ability to meet core project objectives.

In Phase 2, the six shortlisted options were shared with stakeholders and the public for detailed comment and review:

1. **West Side**: a wide sidewalk and two-way bike lane on the west side of the bridge
2. **West Side Plus**: a slightly narrower version of the West Side option, with additional sidewalk improvements on the east side of the bridge and Hemlock on-ramp, plus an additional two-way cycling connection on the Fir off-ramp to 10th Avenue
3. **East Side**: a wide sidewalk and two-way bike lane on the east side of the bridge
4. **East Side Plus**: a slightly narrower version of the East Side option, with additional sidewalk improvements on the west side of the bridge and 4th Ave off-ramp, plus an additional two-way cycling connection on the Hemlock on-ramp to 7th Avenue
5. **Raised Centre**: a wide sidewalk and two-way cycling lane down the centre of the bridge, with the path elevated about 1m above the bridge deck
6. **Both Sides**: similar to the Burrard Bridge design, slightly widening the existing sidewalks on both sides of the bridge, with one-way bike lanes on each side between the widened sidewalk and the general traffic lane

Staff also shared material on options that were considered but did not make the shortlist due to critical flaws, including an 'underside option' and design options that used the on-/off-ramps in different ways.

More detail on both shortlisted and eliminated options is available online in the Phase 2 Supplemental Design Guide at *vancouver.ca/granvilleconnector*.

Key Findings

- **The 'West Side Plus' option emerged as the consensus preferred** option among stakeholders and the general public
- At workshops, there was also interest in the idea of an enhanced 'Both Sides' option if additional connections could be added similar to the 'West Side Plus' and 'East Side Plus' options
- **The 'Raised Centre' was the least preferred option**
- General preferences tended toward:
  - Sidewalks and bike lanes on the sides of the bridge rather than the middle
  - West side views over east side views
  - Options that improve walking on both sides of the bridge
  - Options that provide additional cycling connections using the on-/off-ramps
  - Options which are more flexible to allow for a phased implementation or design adaptations in the future
- **Many ideas were shared on how to refine and improve the design**, including:
  - Ensuring bike lanes are wide enough to support safe passing
  - Balancing movement and placemaking by focusing on specific locations, including at the bridge apex
  - Providing additional connectivity, in particular to Granville Island, the South False Creek Seawall, 10th Avenue, and Off-Broadway
  - Ensuring means prevention fencing contributes to the experience by maintaining views and incorporating lighting
  - Creating more space for the Connector by removing the centre median between northbound and southbound traffic
- **About 10% of survey respondents indicated that they did not like any option**. Concerns included:
  - Potential for increased congestion by reallocating travel lanes
  - Potential for increased congestion by adding new signals at the north and south end of the bridge
  - How municipal capital funding is allocated and spent

These findings are discussed in more detail below.

'West Side Plus' emerged as the consensus preferred option

The 'West Side Plus' emerged as the consensus preferred option at public open houses and workshops, and in the public survey.

This preference is reflected in survey responses shown in *Figure 7* and *Figure 8* below, which ask (a) 'what do you think of each option' and (b) 'what is your favourite option' respectively. The West Side Plus option was the top-ranked option for each question. The general rationale expressed behind these preferences is summarized in *Table 8*.

A number of stakeholders also expressed their preference for the 'West Side Plus' option, including the Downtown Vancouver Business Improvement Association, the South Granville Business Improvement Association, HUB Cycling, and Vancouver Public Space Network.

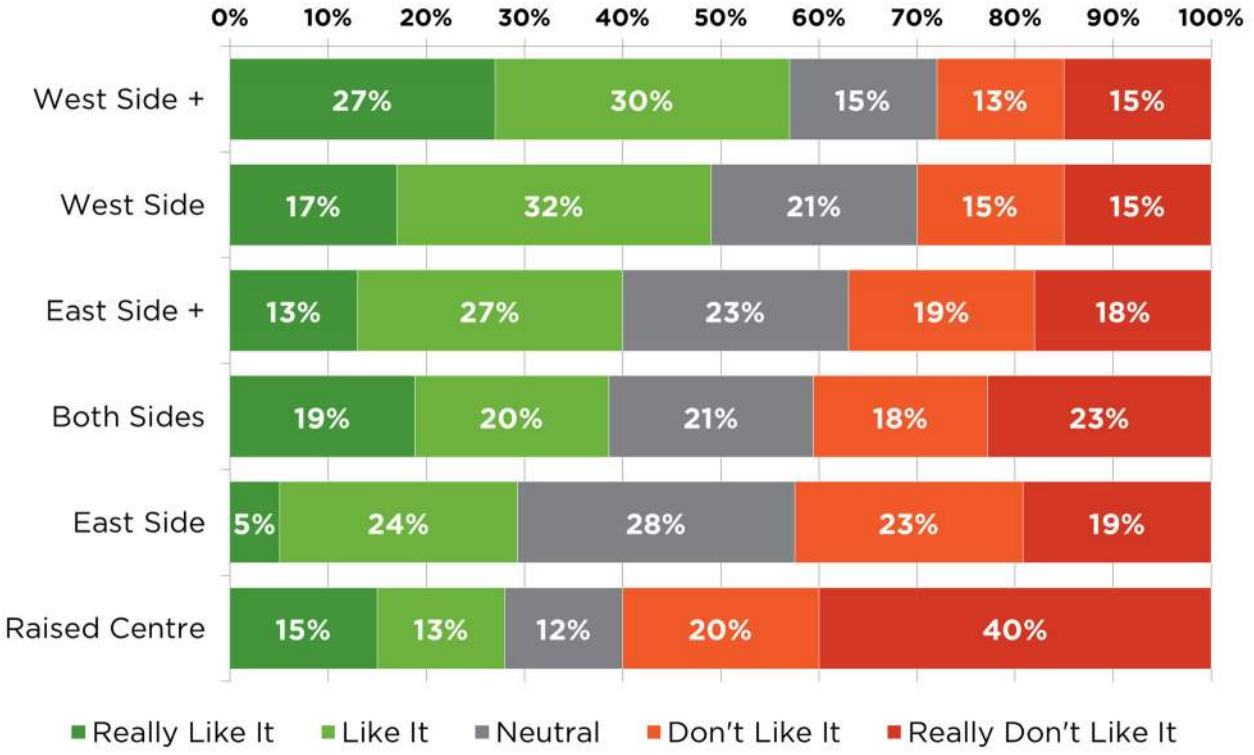


Figure 7. **Overall, what do you think of each option?** Based on 2602 survey responses.

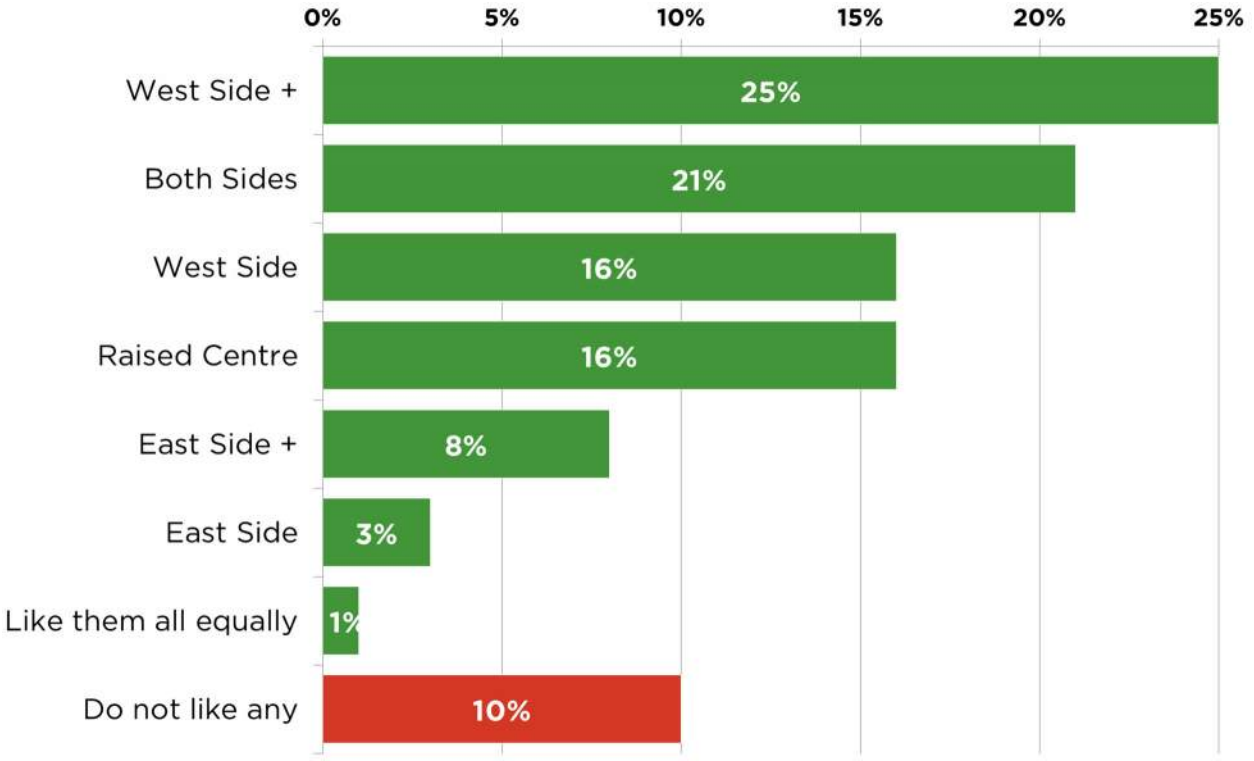


Figure 8. **What is your favourite option?** Based on 2602 survey responses.

Table 8. General preferences expressed by stakeholders and public in Phase 2 engagement.

Public Preference	Reasoning	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Side path(s) over centre path	• Unobstructed water views • Additional space from motor vehicle traffic • Potential to access path from on- and off-ramps • General concern that centre path might feel uncomfortable with traffic on both sides	✓	✓	✓	✓		✓
West side views over east side views	• Preference for westerly views toward Burrard Bridge, English Bay, and mountains • West Side and West Side + options allow for more placemaking on west side	✓	✓		✓		✓
Improving sidewalks on both sides	• Many people noted sidewalks on both sides will continue to be used, because of different connections offered by south end on- and off-ramps		✓		✓		✓
Additional bike network connections	• Additional cycling connections on south end on- and off-ramps provide significant benefit by providing relatively flat connections to rest of bike network • Fir ramp connection with 10th Ave generally considered more valuable than Hemlock connection		✓		✓		
Options which are more adaptable to all future enhancements	• Side options more adaptable than raised centre option due to use of floating barriers rather than raised structure • West Side and West Side + options have highest compatibility with future transit improvements, and for enabling additional ramp enhancements	✓	✓	✓	✓		✓

Interest in other options

Although less popular than the 'West Side Plus' option, there was considerable interest in an enhanced version of the '**Both Sides'** option, particularly at the public workshops. Specifically, many people were interested in pursuing this alignment further if enhanced walking and cycling connections could be added to the Fir and/or Hemlock on-/off-ramps (as featured in the 'West Side Plus' and 'East Side Plus' options). Those recommending pursuing the 'Both Sides' design concept cited symmetry of the design and predictability for road users as key considerations, and suggested that one-way bike paths allow for safer passing. They also noted that while the 'Both Sides' option did not allow much space for placemaking or special 'moments', the bike lanes would equitably buffer the sidewalk from traffic on both sides of the bridge.

During and subsequent to the workshops, staff further explored the feasibility of a 'Both Sides' option with additional pedestrian and/or bike connections on the on-/off-ramps, however, it was determined this would be challenging due to:

- Expanding the 'Both Sides' option by adding a southbound Fir off-ramp connection to 10th Ave (as featured in the 'West Side Plus' option) would likely lead to significant wrong-way cycling on the bridge deck, unless a corresponding northbound cycling connection was also added to Hemlock Street. However, adding the latter would preclude pedestrian improvements to the Hemlock Ramp, and require removing most parking from Hemlock St, converting it to one-way, and adding right-turn bays in order to manage conflicts between right-turning vehicles and people biking northbound downhill.

- The motor vehicle restrictions necessary to ensure safe operation of the additional cycling connections on Hemlock Street would likely have significant local traffic impacts.

The raised centre option was the least preferred option by the public and stakeholders given that it does not meet the five criteria cited in *Table 8*, and because it was estimated to be the most expensive of the shortlisted options. Those who did prefer this option often cited concerns that signalizing one or more on-/off-ramps on the bridge could adversely impact traffic or pose safety concerns.

Ideas for improving and refining the preferred option

Staff heard many ideas for refining and improving the design. These included:

- **Ensuring that two-way bike lanes are wide enough to accommodate safe passing.** The rapid growth in e-bikes, cyclelogistics which includes the use of cargo cycles, and other new mobility devices was often cited as a reason for needing wider paths that can comfortably accommodate a greater speed differential between the two directions of cycling. Suggestions included wider bike lanes throughout, or a variable path width with long passing zones.

- **Balancing the need for safe, comfortable, and accessible movement with opportunities for special places.** Suggestions included focusing primarily on a path that provides comfortable and safe movement with excellent views and places to rest along the way, while considering opportunities to create special places at key locations. Oft-cited key locations on the bridge deck included the bridge apex and the potential future interface with an elevator to Granville Island. Local business improvement associations suggested 'gateways' at each end of the bridge,

which could simultaneously provide wayfinding to announce both the path and the retail districts.

- **Ensuring means prevention fencing contributes to the experience and does not detract from it**. Suggestions included designs that preserve views and integrating colourful lighting to provide ambiance while improving safety.

- **Ensuring the on- and off-ramp crossings are safe while managing impacts to transit and traffic.** There was a desire to see more detail as to how signalized ramp crossings could work, to ensure they are safe for people walking, cycling, and driving. Some drivers expressed concern that signalizing the ramps could cause safety issues if people speeding over the crest of the bridge unexpectedly came across a queue waiting for a signal change, or that people might change lanes erratically.

- **Improving walking and cycling connections between the Granville Bridge and Granville Island/South False Creek Seawall**. Suggestions included elevators and/or staircases at Granville Island and/or the Seawall, more direct walking and cycling paths, and improved wayfinding. There were specific suggestions on possible alignments, including consideration for how a walking and cycling path could link with a redesigned Anderson Street leading into Granville Island.

- **Addressing a cycling network gap to/from the Off-Broadway bike route in the east.** Suggestions included connecting to 7th via Granville Street or via 5th Ave/Hemlock, or shifting the Off-Broadway route from 7th to 8th Ave, so that a connection could be made at the Fir off-ramp.

- **Considering how people will connect to the future Granville-Broadway SkyTrain station.**

- **Removing the centre median currently separating north- and southbound motor traffic.** It was suggested that removing the median would encourage safer motor vehicle speeds, allow more space to be allocated for walking, cycling, and public space, and improve emergency response by allowing emergency vehicles to travel in the counterflow direction when necessary.

- **Prioritizing transit over general traffic**. Some people suggested dedicated transit lanes and/or transit priority measures at either end of the bridge to ensure reliable transit travel times. Others expressed concerns about potential traffic impacts of such measures.

- **Considering how the project could adapt over time**. Suggestions included reallocating additional road space to provide additional amenities and connectivity as the city continues to become less car-dependent, adding measures to further prioritize transit, and adding additional features such as public art or staircases as the budget allows.

What We Heard in Phase 3

In Phase 3 (January & February 2020), staff presented a recommended design (a refined version of the West Side Plus option), and provided opportunities for the public to share opinions and provide further comments. This section highlights key Phase 3 findings and themes from stakeholders and the general public.

Key Findings

- **High levels of public support for the recommended design**, with nearly 75% of survey respondents 'liking' or 'really liking' the design, and under 20% expressing a negative sentiment
- **Strong support for the recommended design from stakeholder groups representing broad interests**, including transportation, local businesses, people with disabilities, seniors, women, children and families, and public space, among others
- **Support for the recommended design across all gender and age categories**, **and all modes of travel**
- Relative to overall percentages, levels of support were:
  - Higher among people who walk or bike less than once a week across the bridge, with comments suggesting strong latent demand from people who are currently concerned about safety, accessibility, and comfort issues
  - Lower among people who frequently drive and people who never take transit across the bridge, with comments suggesting generalized concerns of road space reallocation projects on motor vehicle traffic
- **Preserving views is a high priority** to ensure a great experience for people using the path
- Interest in enhanced placemaking and design features is mixed, with:
  - Strong overall support for maintaining views and creating safe, comfortable paths with good separation between people walking, cycling, and driving, and places to rest along the way
  - Lighting identified as an important element for safety, personal security, and ambiance, as well as an opportunity for public art
  - Some interest in creating special moments along the way, with traffic noise and wind cited as factors that would discourage people from lingering in one place for extended periods
  - Many people excited about the opportunity to create a unique and special experience worthy of additional investment, with others concerned about overall costs
- Excitement over a potential elevator and staircase connection with Granville Island, and providing more direct connections to the Seawall
- Those opposed to the project expressed:
  - General concerns about City projects that reallocate road space away from motor vehicle traffic
  - Concern about potential traffic congestion and/or neighbourhood shortcutting
  - Concern about spending tax dollars
  - A belief that the project is unnecessary, and that safety and accessibility concerns for people using other modes besides driving are overstated or non-existent
- **Overall high levels of satisfaction with the engagement process**, with many stakeholders and public event participants expressing gratitude at the different ways people could contribute and share ideas and concerns, and how the iterative design process genuinely reflected input

More detail on previous rounds of engagement, including other design options, is available at *vancouver.ca/granvilleconnector*.

High Level of Support for the Recommended Design

The recommended design received high levels of support from the public, with nearly 75% of survey respondents 'liking' or 'really liking' it, and less than 20% expressing a negative opinion *(see Figure 9)*.

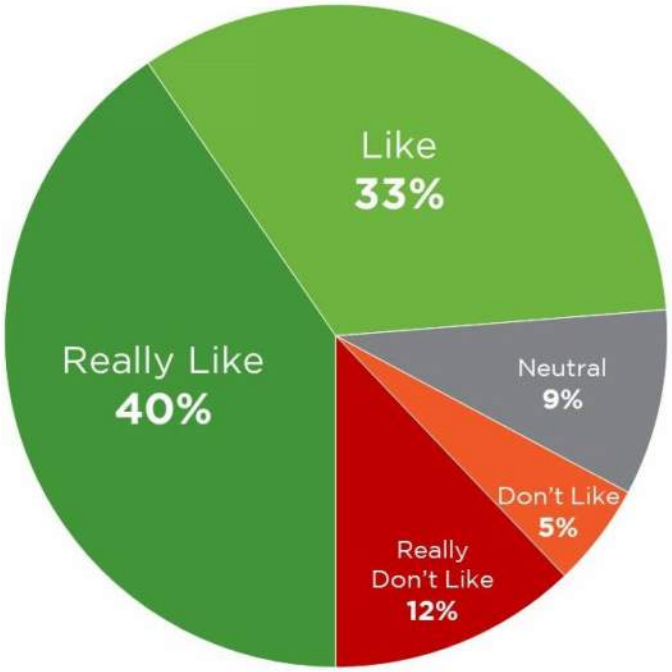


Figure 9: Overall, what do you think of the proposed design?[12]

The design also received support from stakeholder groups, including:

- Citizen advisory bodies, including committees representing Transportation, Persons with Disabilities, Seniors, Children and Families, and Women
- Business groups including the Downtown Vancouver and South Granville business improvement associations
- Transportation advocacy groups including HUB Cycling and Better Environmentally Sound Transportation (BEST)
- Public space advocacy groups including the Vancouver Public Space Network
- Health services agencies and persons with disabilities advocacy groups, including Vancouver Coastal Health, the Canadian National Institute for the Blind, Rick Hansen Foundation, and Vision Loss Rehabilitation Canada
- Stakeholders representing marginalized groups, including Covenant House and Gathering Place Community Centre

[12] Based on all 1682 Phase 3 survey responses.

Levels of Support Based on Age and Gender

Support for the design was consistent across gender and age groups *(see Figure 10)*.

Relative to general results, support was:

- Highest among younger respondents, with some comments reflecting desire for more radical responses to the climate emergency and a general openness to change
- Slightly higher from respondents identifying as female, which may reflect increased concerns relating to physical safety and personal security

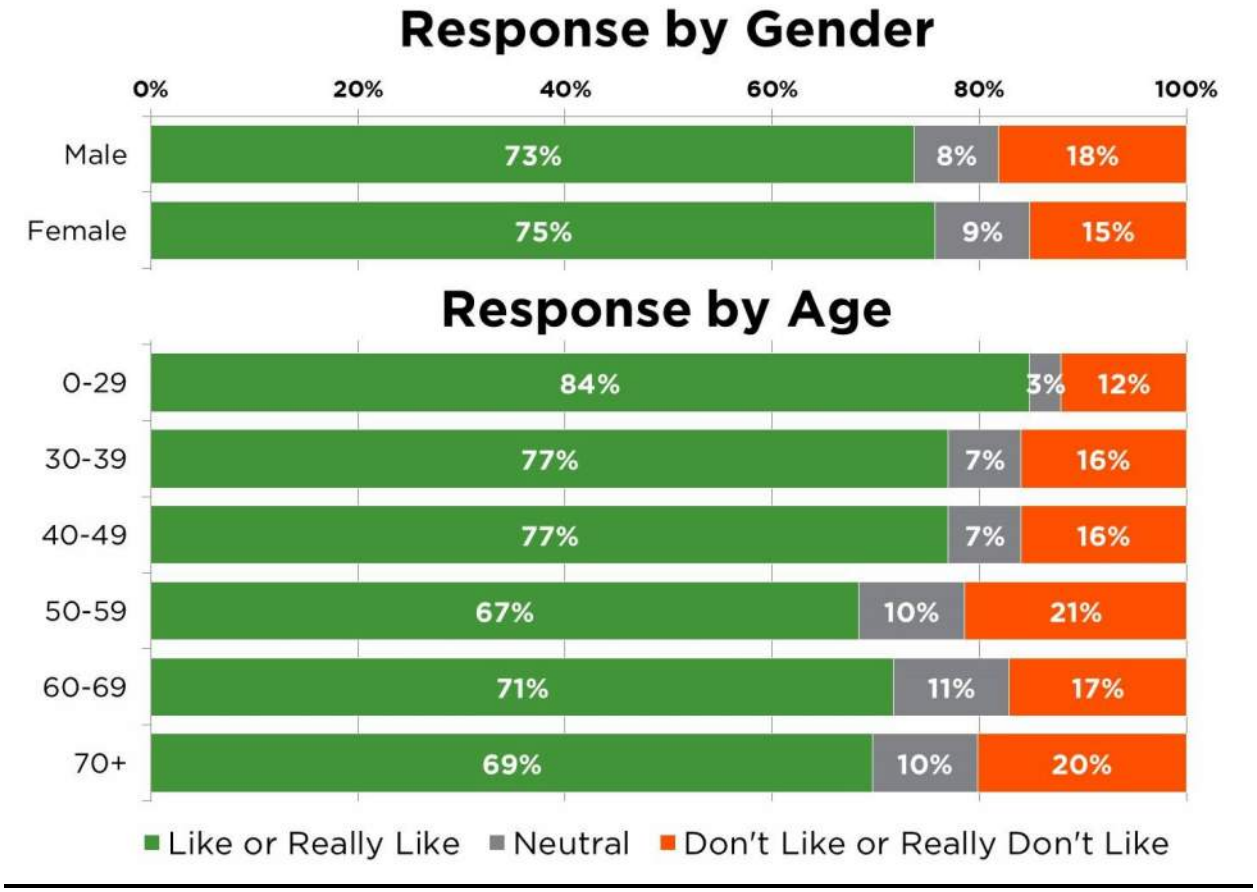


Figure 10: Overall, what do you think of the proposed design?[13]

[13] Response counts per category: male = 859, female = 755, 0 to 29 = 163, 30 to 39 = 322, 40 to 49 = 267, 50 to 59 = 323, 60 to 69 = 354, 70+ = 251.

Levels of Support Based on Travel Mode and Travel Frequency Across Bridge

In general, respondents supported the recommended design regardless of frequency and travel modes used to cross the bridge *(see Figure 11)*.

Relative to general results, support was:

- Higher among respondents who rarely or never walk or cycle across the bridge, and from those who take transit across the bridge, suggesting a strong latent demand from these groups
- Slightly lower for people who walk and cycle frequently across the bridge, who by their actions demonstrate they are somewhat more comfortable with existing conditions than those who avoid the bridge
- Lower for respondents who frequently drive across the bridge, likely since this group is more concerned about potential traffic impacts from the project
- Highest for respondents who rarely or never drive

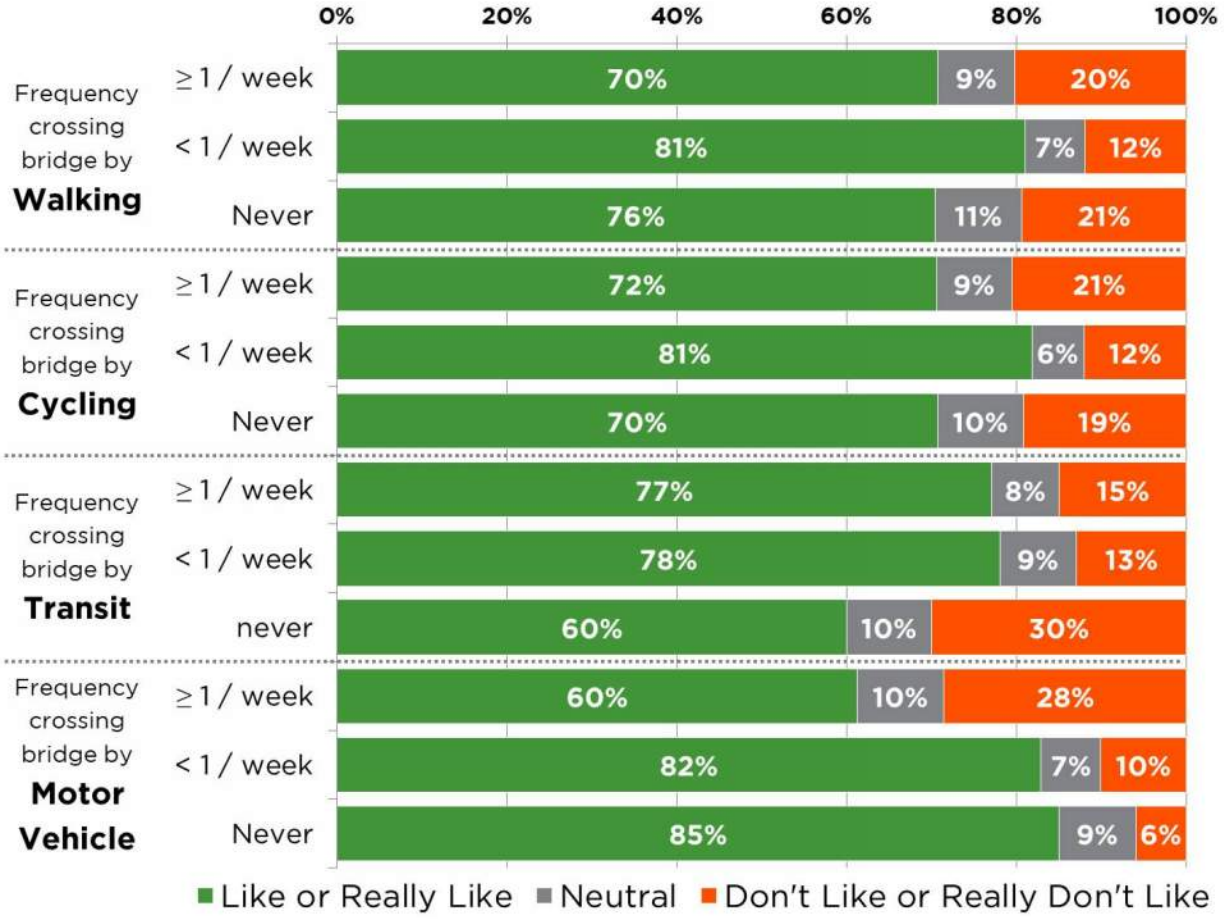


Figure 11: Overall, what do you think of the proposed design? Results based on frequency and mode of transportation respondents use to travel across the Granville Bridge.[14]

[14] Response counts per category: Walking ≥ 1/week = 315, < 1/week = 725, never = 613; Cycling ≥ 1/week = 161, < 1/week = 396, never = 1092; Transit ≥ 1/week = 598, < 1/week = 713, never = 334; Driving ≥ 1/week = 712, < 1/week = 671, never = 258.

Feedback on Specific Design Features

Staff received comments on specific features as well as the overall design approach, through:

- Survey questions inviting comments on specific aspects of the proposed design (see *Table 9*)
- Conversations with participants at open houses and deep-dive workshops
- Discussions with stakeholders, including phone conversations, email correspondence, in person presentations and discussions, and walkshops

Table 9: Number of Phase 3 survey comments received on specific design features.

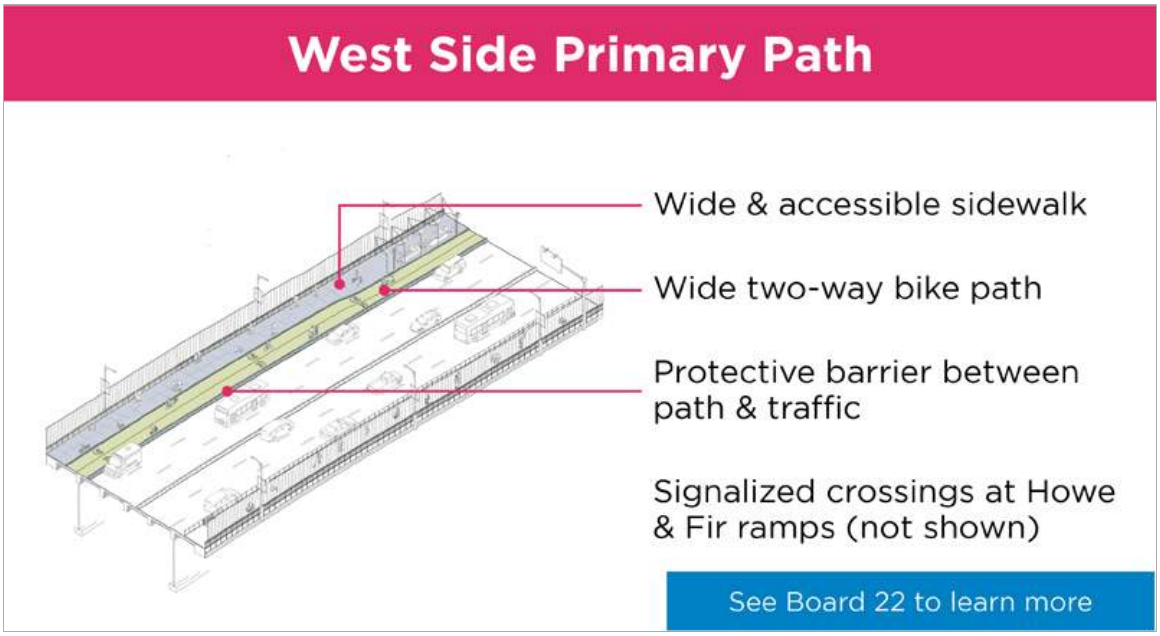
		Number of survey comments from people who…		
	Topic	**… like or really like the design**	**… are neutral or unsure about the design**	**… don't like or really don't like the design**
A	**West Side Main Path**	546	56	156
B	**East Side Path & Hemlock Ramp Sidewalk Improvements**	308	40	106
C	**Fir Ramp Cycling Connection**	351	31	104
D	**Crossings at On- & Off-ramps**	362	55	121
E	**Bridge Ends & Connections**			
	… North End	212	31	86
	… South End	244	26	84
	… Other Connections	355	48	89
F	**Urban Design & Special Places**			
	… Overall Experience	391	49	123
	… Special Moments	276	34	89
G	**Means Prevention**	473	35	99
H	**Overall Reasons for Liking or Disliking the Design**	973	133	272

The sections on the following pages highlight key themes that emerged through all stakeholder and public engagement efforts, arranged by the topics noted in the above table.

A. West Side Main Path Comments

The proposed primary path on the west side of the bridge includes:

- A wide and accessible sidewalk (typical 4.2m), with room for some street furniture
- A wide two-way bike path (typical 4.2m) between the sidewalk and motor vehicle lanes, with room for passing in each direction
- A protective barrier separating the bike path from the motor vehicle lanes, and a curb separating the bike path from the sidewalk
- Redesigned crosswalks with traffic signals at the Howe and Fir on- and off-ramps, to make them safe, accessible, and comfortable to cross



There were 541 comments on this topic from people who liked the overall design, 56 comments from people neutral or unsure about it, and 156 comments from people who didn't like it.

As this component was felt by many to be the 'core' element of the Connector, and since it was the first opportunity in the survey to provide open-ended comments, many comments were general in nature:

- Strong support for the proposed design and enthusiasm for the project in general
- Sentiments that the design looks safe and comfortable, and that the respondents were likely to use it on their own as well as with their families and visitors
- A feeling that the design is an improvement over the earlier 'centre path' concept
- Stressing the importance of providing enough space for safe passing by bike given the downhill grades and social cycling
- Reiterating a need to provide separate spaces for walking, cycling, and driving, with curbs or some other barrier to ensure compliance
- A few expressed concerns around the potential for conflicts between people walking and cycling at the Fir ramp

Many comments offered specific ideas as to how the design could further develop to ensure a safe, comfortable and enjoyable experience, e.g. through lighting, public seating, view preservation,

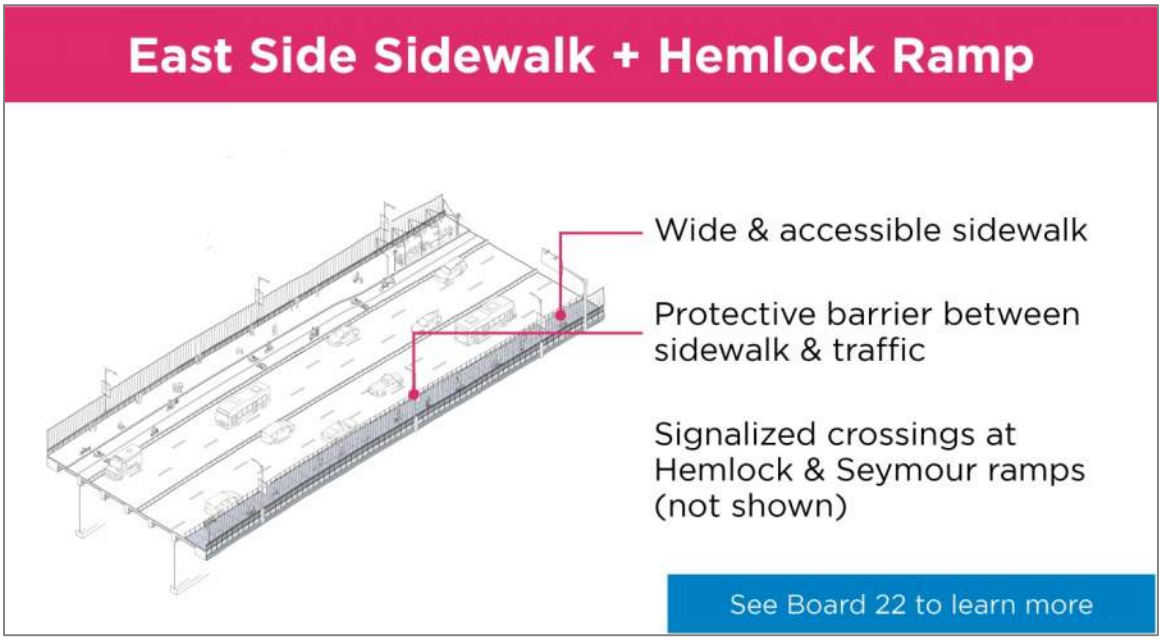
separation between user groups, landscaping, sound mitigation, weather protection, etc. These ideas are captured in detail later in this document in sub-section *F. Urban Design and Special Places.*

Negative comments were limited and tended to be general in nature, primarily relating to general traffic concerns and/or general opposition to investment in walking, cycling, and accessibility improvements.

B. East Side Path and Hemlock Ramp Sidewalk Improvements

The proposed design includes improvements for pedestrians on the east side of the bridge and Hemlock on-ramp, including:

- A wider and accessible sidewalk
- A protective barrier between the sidewalk and motor vehicle lanes
- Redesigned crosswalks with traffic signals at the Seymour and Hemlock on- and off-ramp to make them safe, accessible, and comfortable to cross
- Sidewalk improvements extending along the Hemlock on-ramp



There were 308 comments on this topic from people who liked the overall design, 40 comments from people neutral or unsure about it, and 106 comments from people who didn't like it.

Comments tended to focus on general support for the design approach on the east side, with many noting the protective barrier from motor traffic was much needed.

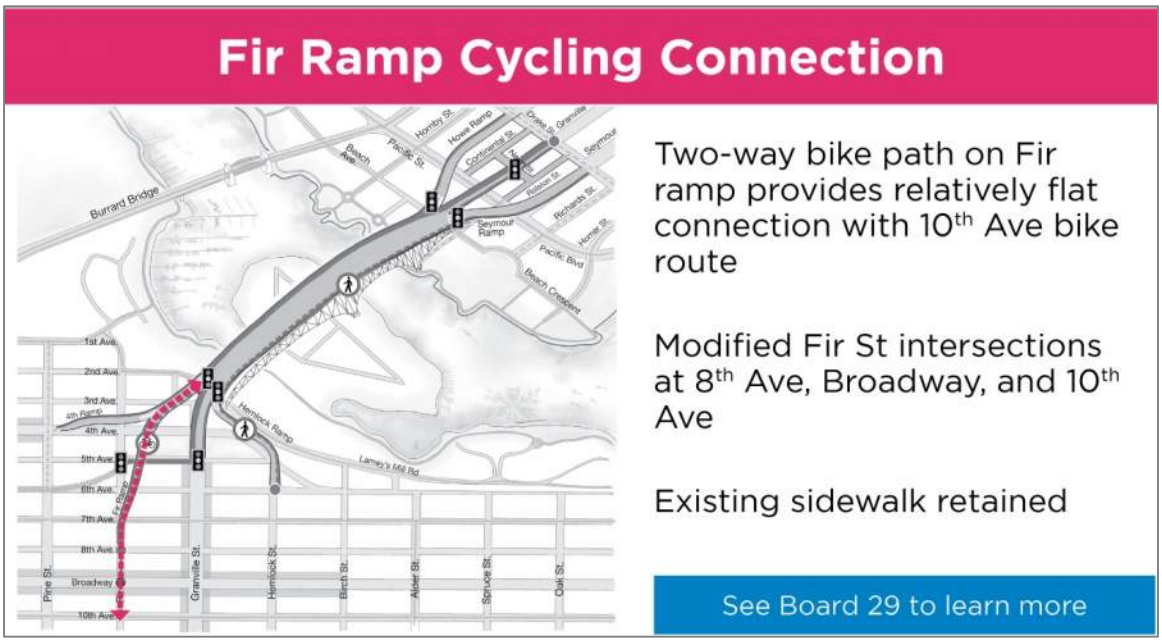
Some comments related to cycling on the east side of the bridge:

- Desire to also include cycling facilities on the east side of the bridge
- Consider upgrading the east side design to more closely mirror the west side
- A few expressed concern that the design would result in some people choosing to cycle on the east sidewalk rather than use the proposed two-way path on the west side

C. Fir Ramp Cycling Connection

The proposed design includes changes to the Fir ramp, including:

- Converting a motor vehicle lane on the east side of the ramp to provide a two-way bike lane for a safe and relatively flat connection with the 10th Ave bike route
- Enhancements at the 8th Ave, Broadway, and 10th Ave intersections to safely accommodate a two-way bike lane in the centre median
- Retention of existing sidewalks



In the Phase 3 survey, there were 351 comments on this topic from people who liked the overall design, 31 comments from people neutral or unsure about it, and 104 comments from people who didn't like it.

This component was well-received, with people who cycle noting:

- It would significantly improve the cycling network by providing a direct and relatively flat cycling connection with 10th Ave, which is one of the city's busiest east-west cycling routes
- It would significantly change travel patterns for people cycling
- It should be a high priority for implementation given the potential to encourage more cycling and support climate emergency targets

Concerns were fairly limited, focusing on whether:

- A protected centre path at the Broadway and 10th Ave intersections would feel safe, given the unusual design
- Proposed motor vehicle restrictions at the Fir-Broadway and Fir-10th Ave intersections would create traffic or vehicle circulation issues
- The crossing design at the Fir ramp signal would create conflicts between people walking and cycling

Particular suggestions or questions around design refinement included:

- Ensuring the intersection with W 10th Ave allows for cycles with larger turn radii (e.g. tandems or cargo bikes)
- Considering how people might be able continue cycling on the 4th Ave ramp to and from Kitsilano
- Exploring whether the bike lane could be on west side of ramp, so that it might buffer existing sidewalk and providing access to W 4th Ave
- Considering how people cycling would access the future SkyTrain station
- Highlighting that some people may choose to walk in the bike lane
- Considering how to minimize conflicts between people walking and cycling, particularly at the signalized Fir off-ramp crossing
- Considering whether the Fir St-8th Ave intersection could be further modified to improve pedestrian access to and from the existing ramp sidewalk

D. Crossings at On- and Off-Ramps

The proposed design includes changes to the existing crosswalks at the Howe, Fir, Hemlock and Seymour on- and off-ramps to make them safe and accessible. These changes include:

- Accessible traffic signals to allow for safe crossing
- Curb ramps to provide access for people using mobility aids

In the Phase 3 survey, there were 362 comments on this topic from people who liked the overall design, 35 comments from people neutral or unsure about it, and 121 comments from people who didn't like it.

The vast majority of comments were strongly supportive of the proposed changes to the on- and off-ramp crossings, with people particularly excited about:

- Improved safety for people walking, cycling, and driving
- Improved accessibility to allow access for people with disabilities
- The potential for the new signals to discourage speeding
- Coordinating signal timing if needed to mitigate potential traffic impacts

Concerns were limited, with some people particularly worried about:

- Cumulative traffic impacts of signalized ramps
- Traffic having to slow down
- Risk of traffic backing up over the crest of the bridge and causing unsafe conditions
- Whether the vehicle lane distribution between Granville Street and the on- and off-ramps was ideal given traffic flows
- How to minimize conflicts between people walking and cycling, particularly at the Fir off-ramp signal

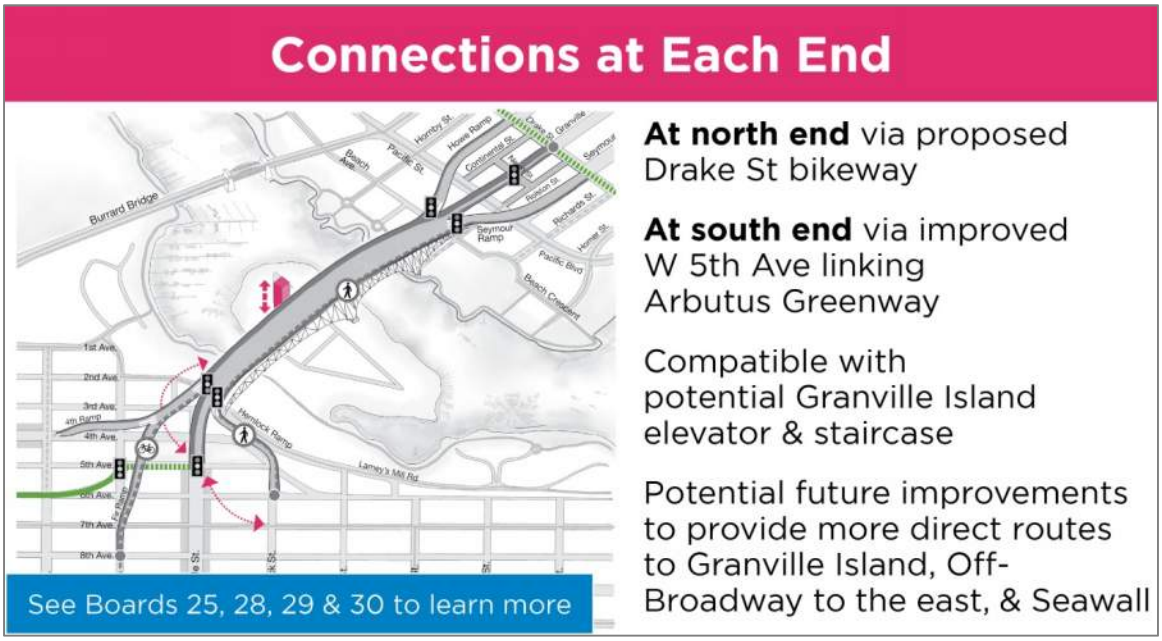
Particular suggestions for design refinement included:

- Providing people driving with 'warning' signals about upcoming red lights
- Ensuring sufficient holding areas at the intersections for people on bikes, and providing a foot rest if possible
- Desire for traffic signals across the bridge to allow people to safely cross not just the ramps, but the entire bridge from east to west (or vice versa) provided it could be done safely and traffic impacts are manageable
- Considering an east-west underpasses or overpasses for people walking and cycling, rather than signals

E. Bridge Ends and Connections

The proposed design includes changes at the bridge ends to make it easy and comfortable to get on and off the bridge. These changes include:

- North End – a rebuilt Granville-Drake intersection connecting to the proposed Drake St upgrades
- South End – a new signal at Granville St and 5th Ave, and improved W 5th Ave connection to the Arbutus Greenway
- Other connection enhancements, including future proofing to allow for a Granville Island elevator and staircase



North End Proposed Changes

In the Phase 3 survey, there were 212 comments on this topic from people who liked the overall design, 31 comments from people neutral or unsure about it, and 86 comments from people who didn't like it. This was also a major topic area at workshops.

Cycling connectivity was a strong theme for the north end, with comments highlighting:

- The importance of protected bike infrastructure on Drake Street to connect Granville Bridge with the rest of the downtown cycling network
- That the design should allow for safe turns at the Granville-Drake intersection, anticipating high "Seawall level" volumes of people walking and cycling
- How a bi-directional bike route on the west side of the path might allow people to continue cycling north on Granville Street downtown (i.e. how a safe transition could work)

Some people noted the walking improvements proposed for the Hemlock ramp and the cycling improvements proposed for the Fir ramp, and wondered whether similar walking or cycling improvements could also be made on the Howe and/or Seymour ramps.

There were comments regarding the replacement of the Granville Loops with a more people-friendly 'H' network of streets (a project approved by Council in 2010):

- Support for making the area feel safer and less confusing for people walking and cycling
- Excitement about the potential to invigorate what is perceived to be a tired or forgotten part of downtown
- Questions as to whether and how the new configuration would provide the same level of access and circulation currently provided by the loops, with people referencing their existing travel routes

While the boundary of the Granville Connector project only extends as far north as Drake Street, there were some comments regarding Granville Street downtown, particularly at workshops and in-person discussions:

- Excitement regarding the potential of the Connector to be a major attraction, drawing increased pedestrian traffic and vitality along Granville Street, and helping to reinvigorate local businesses
- Comments that the portion of Granville Street immediately north of Drake is currently a poor experience for people walking, primarily due to on-sidewalk 'flex' parking, associated bollards, and other sidewalk clutter
- Suggestions to improve the sidewalk experience north of Drake by removing the flex-parking on the sidewalk, along with associated bollards
- General support for measures that prioritize transit
- Questions as to how cycling connections might continue on Granville north of Drake
- Interest from the Downtown Vancouver Business Improvement Association in:
  - Conducting pilots to improve the streetscape, e.g. by moving parking from sidewalk to street and testing the impacts on transit
  - A 'gateway' feature to support wayfinding and announce the entertainment district

South End Proposed Changes

In the Phase 3 survey, there were 244 comments on this topic from people who liked the overall design, 26 comments from people neutral or unsure about it, and 84 comments from people who didn't like it.

There was also strong interest in this area from the South Granville Business Association, and from local residents in the area.

Comments focusing on the proposed rebuild of W 5th Avenue and replacing the South Loop generally reflected:

- Excitement about the Granville Bridge Connector connecting with the Arbutus Greenway
- Support for more intuitive connections between the bridge and surrounding community
- The new W 5th Ave should feel like an extension of the Arbutus Greenway, a landscaped green link with safe walking and cycling connections
- The new street network should take into consideration transit needs and traffic implications of future development (e.g. the future Squamish Nation Seȟáḵw development and potential increased development along the Broadway Corridor)
- Concern from local residents about street network changes resulting in potential shortcutting and speeding, particularly along 6th Avenue, and desire for mitigation measures such as turn restrictions (e.g. right-in-right-out measures) and/or speed tables at side streets

There was strong interest in the future development of the City-owned site currently contained within the South Loop, particularly from nearby residents and businesses:

- Desire for a plaza and potential gateway feature at the northwest corner of W 5th Ave and Granville St, with the South Granville BIA in particular noting the lack of public spaces along Granville St
- Desire for the site to accommodate for more direct walking and cycling connections between Granville St - 5th Ave and Granville Island / South False Creek Seawall
- Diverse ideas about potential land uses on the site, with suggestions including a social housing, park space, or a mix of development and public space
- Concerns from local residents about potential loss of green space and/or large buildings obscuring views

This feedback is being forwarded to the City's Broadway Corridor Planning team, which is considering potential land use changes in the area, as well as the City's Real Estate Services group.

Feedback was also received regarding Granville Street south of W 5th Ave. The South Granville Business Improvement Association noted in particular:

- Strong support for the project overall as a way to bring more vitality and foot traffic to the area
- Desire to improve the public realm and pedestrian experience, particularly along Granville St between the bridge and future SkyTrain station at Granville-Broadway
- A request to identify Granville Street as a gap for future work, with specific suggestions to:
    - Improve the pedestrian experience by slowing or reducing motor vehicle traffic on Granville, and exploring the potential to divert more through traffic to Fir and Hemlock streets
    - Remove peak hour parking restrictions to allow for full-time parking, and add corner bulges at intersections to create more space for people walking
    - Create more public spaces along Granville Street to allow for social gathering and support local business, including at the northwest corner of Granville and W 5th Ave and outside the future SkyTrain Station at Granville and Broadway

Some comments highlighted a cycling network gap between the south end of the Connector at Granville-5th Ave and the Off-Broadway cycling route on 7th Ave to the east, with suggestions to:

- Extend protected cycling facilities further south on Granville St to at least W 7th Ave

- Consider how to provide more direct cycling connections between Granville Bridge and the future SkyTrain station at Granville-Broadway

Other Potential Connection Improvements

In the Phase 3 survey, there were 355 comments on this topic from people who liked the overall design, 48 comments from people neutral or unsure about it, and 89 comments from people who didn't like it.

There is overwhelming support for an elevator and staircase connection with Granville Island, which would be a separate structure connected to the side of the bridge. People noted:

- It would significantly reduce walking distances between Granville Island and downtown, thereby drawing large volumes of pedestrians, supporting tourism, and becoming a major attraction for residents and visitors
- Suggestions to ensure the accompanying sidewalk platform at the bridge deck level be wide enough to accommodate large volumes of people using it
- Some concerns around ensuring people of all ages and abilities feel safe using it, and that it would be well-maintained
- Suggestions to create something iconic, with the potential for lookouts and other features
- Strong interest in a complementary transit connection with the elevator on the bridge deck, with excitement that it could further support a car-light or car-free Granville Island, tempered by some concerns that the accompanying signal across the entire bridge would have adverse traffic impacts
- Suggestions that the elevator and staircase be a high priority, given the positive impact it would have on walking mode share and the benefit it would have to the tourism economy

These and other Granville Island-related comments will be shared with the Canadian Mortgage and Housing Corporation (CMHC), the federal entity that controls Granville Island.

There was also support for additional staircases elsewhere along the Connector, especially if an elevator to Granville Island cannot be achieved in the near future. In particular, people expressed support for:

- A staircase at the South False Creek Seawall, with the area near Pacific Culinary Institute cited as one possible location
- Interest in promoting staircases at either end as a 'Granville Grind', encouraging outdoor exercise
- Designing staircases so that people using them feel safe and secure (e.g. with good lighting and visibility), with the Cambie Bridge south end staircase cited as a reference

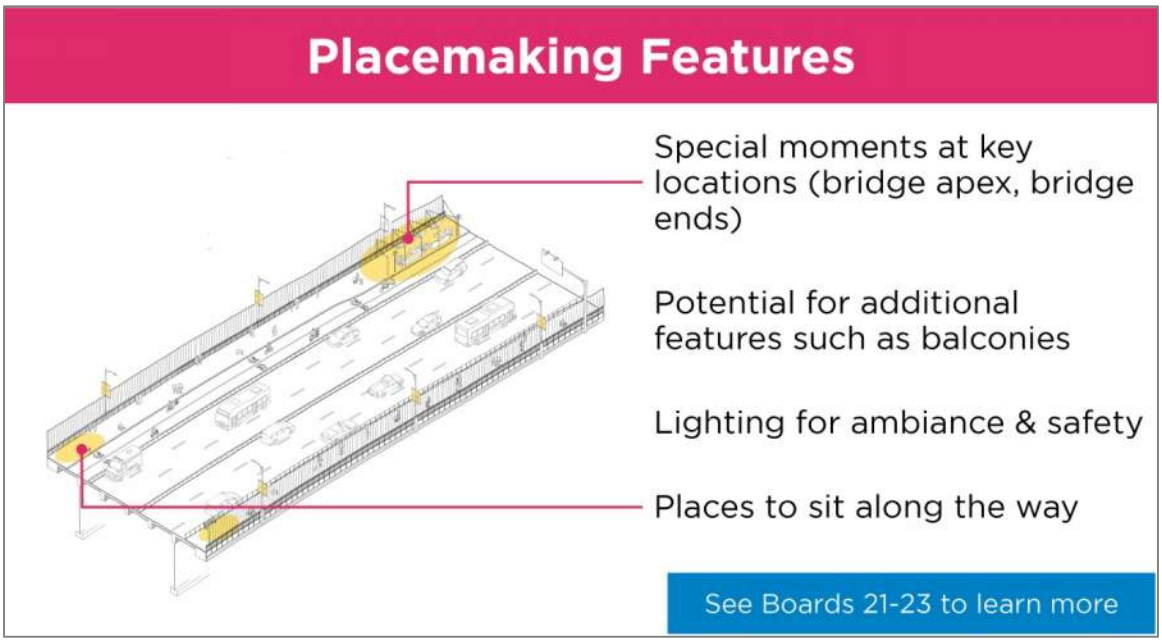
Some comments relating to connectivity reflected network deficiencies and gaps at either end of the bridge. These are captured in more detail in the previous subsections on north end and south end connections, but include desire for:

- A cycling connection between the Connector and the Off-Broadway route on W 7th Avenue to the east
- More direct connections between Granville-5th and the South False Creek Seawall / Granville Island
- Improved walking conditions on Granville Street, north of Drake Street, and south of W 5th Avenue
- Considerations for how people might safely cycle on Granville Street north of Drake and south of 5th Ave

F. Urban Design and Special Places

The proposed urban design approach is based on project goals and reflects themes heard through earlier phases of engagement, and includes:

- A path that is safe and delightful to move through for people of all ages and abilities, with views, lighting, and places to rest along the way
- Special places at key locations, including the bridge apex, at the future elevator to Granville Island, and potential gateway features at each end



The Overall Experience

In the Phase 3 survey, there were 391 means prevention comments on this topic from people who liked the overall design, 49 comments from people neutral or unsure about it, and 123 comments from people who didn't like it. This was also a major topic area at workshops.

Comments fell into different sub-themes, including views, lighting, furniture, public art, materials, landscaping, and barrier design. Major themes and ideas are highlighted below. Fencing was also identified as a key defining design feature influencing overall experience – see sub-section *G. Means Prevention Fencing* for comments on that topic.

General comments relating to overall experience

- Preserving views is paramount
- Lighting provides significant opportunities to enhance safety, personal security, and ambiance
- Providing places to rest along the way is important from an accessibility perspective
- Mixed sentiments on level of investment:
  - Some people feel the Connector is a once-in-a-lifetime opportunity to create something special for the city, and that an enhanced design would draw tourists and locals, help enliven business districts at either end, and make the path feel safer for a wider range of people
  - Others feel focus should be on transportation safety and basic comfort

Views

- Maintaining views is essential to overall experience and should be a top priority
- Fencing design should allow people to enjoy views while seated or standing
- Generally views are valued across the entire length of the bridge, with some comments noting in particular:
  - Views westward and northwestward towards English Bay and the mountains
  - Views north and northwestward towards the downtown skyline
  - Views toward Granville Island, particularly from the Fir off-ramp and Hemlock on-ramp
- See subsection *G. Means Prevention Fencing* in this report for more comments

Lighting

- Pedestrian-scale lighting is important for traffic safety and feelings of personal security
- Lighting is important for ambiance, contributing to the experience of path users
- Lighting offers a significant opportunity to contribute to the city skyline, and is something that can be appreciated even for people who aren't using the bridge
- Lighting can enhance the experience of path users and create opportunities to contribute to skyline
- Consider embedding ground lighting into sidewalks and paths, with the Bute-Robson Plaza 'solar pucks' used as a reference
- Use colourful, programmable, and/or interactive lighting:
  - Programmable lighting that can synchronize with other buildings to create light shows or mark special events
  - Interactive lighting to create a sense of whimsy, provide information on things like path usage and/or support safe, respectful behaviour, with the CityStudio *Illumilane* project cited as a reference
  - Lighting can be used to 'paint' concrete surface and highlight key features
- Consider enhanced lighting at rest areas to create a cozy atmosphere
- Consider how lighting could be used as a wayfinding feature
- Consider how to mitigate light pollution (e.g. dark sky compliant lighting)
- Consider lighting the truss structure below the bridge deck, highlighting it as an attractive design feature of the bridge
- Ensure lighting does not create safety hazards, e.g. by blinding or distracting people driving

Public Art

- General sentiment that providing safe, comfortable paths and preserving views is a higher priority than public art
- Means prevention fencing and lighting were often cited as key public art opportunities that could be incorporated into the design without taking up valuable path space:
  - Colourful and programmable lighting could provide ambiance and delight for bridge users while significantly contributing to the city skyline at night
  - Fencing metalwork or other design details could have sculptural elements, so long as views are not adversely impacted
- Strong interest in creating story, history, and/or art walk(s) along the path as a low cost way to create additional interest beyond views, through:
  - Interpretive signage, historical photos, and/or art
  - Self-guided audio tours or stories (e.g. through QR codes)
  - Suggested themes include nature and local ecosystems, sustainability, Indigenous history, history of False Creek, information on key particular views,

    - Potential for a rotating gallery platform for emerging local artists, where curated works could periodically change
    - Potential to coordinate locations with seating, alcoves, and/or particular views
- Opportunities to feature Indigenous artists and/or themes
- Other ideas:
    - Murals on concrete components (e.g. jersey barrier), with the New York City Department of Transportation's *Barrier Beautification Program* cited as a reference
    - Sculpture as part of public plaza and/or gateway feature at northwest corner of W 5 Ave and Granville St

Furniture

- Regularly-spaced places to rest are necessary from a basic accessibility perspective
- Consider views for people sitting on benches (some people noted that it is not possible to enjoy the views on Burrard Bridge while sitting on the benches, given concrete barrier height relative to eye-level)
- Consider weather protection for benches, especially at special moments
- Suggestions for other features at special moments or bridge ends, such as recycling stations, water fountains, restrooms, bike racks, and bike repair stations
- Prioritize furniture comfort, ease of maintenance, and ability to dry quickly over unique designs
- Consider using 'warmer' materials such as wood
- Consider some flexible furniture at key locations (e.g. Highline-style furniture which can slide on rails to multiple positions)
- Include call boxes for emergencies

Materials

- If budget is constrained, prioritize safety and comfort for people using the paths and preserving views over customized furniture or expensive materials
- Scoring patterns can be interesting but priority should be safety and accessibility (smooth surfaces, slip-resistance, distinguishing between walking and cycling paths)

Landscaping

- Significant interest in trees and landscaping was tempered by structural limitations of bridge (e.g. weight restrictions, inability to accommodate large soil volumes)
- Some suggestions to use landscaping as a way to soften edges, for example:
    - Planters at special moments
    - Planters as barriers between different user groups or hanging off the jersey barriers, with Shanghai 'flower-saddle' planters that sit atop concrete barricades cited as a reference
    - Trellises over walkway and spaces for climbing plants to provide visual interest and shade

Barrier between the bike lane and motor vehicle traffic

- Needs to be safe in event of collision
- Height should be carefully considered:
    - Not too tall as to block views or create interference with bicycle handlebars
    - Tall enough to feel safe
    - Consider railing on top of jersey barriers to provide additional height while being aesthetically interesting and preserving views.
    - Consider glare from motor vehicle headlights

- Incorporate transparent sound barriers at special moments if possible, which would encourage people to linger for longer periods of time
- Consider painting murals on the surface, with the New York City Department of Transportation's *Barrier Beautification Program* cited as a reference

Barrier between walking and cycling paths

- Desire for curb or other modest barrier to discourage people from biking on the sidewalk, or walking on the bike path
- Desire for ramps at key moments to allow people cycling to easily stop, dismount, and enjoy the space without blocking the bike lane, with Burrard Bridge cited as a negative example
- Specific delineation ideas to enhance experience included planters, material differentiation between paths, and embedded lighting flush with the surface

Special Locations

In the Phase 3 survey, there were 276 means prevention comments on this topic from people who liked the overall design, 34 comments from people neutral or unsure it, and 89 comments from people who didn't like it. There was also significant interest in the topic at workshops and other events.

General Comments

- Special moments should not come at the expense of safe, comfortable movement and preserving views
- Limit locations, noting the entire path is special by virtue of the views
- The location most often supported or referenced was the bridge apex, followed by the bridge ends and interface with future elevator to Granville Island; other locations noted included quarter-marks or 'special' view spots (considering views to English Bay, mountains, Celebration of Light, Granville Island, potential for establishing design rhythm)
- For most people, 'special moments' are momentary pauses to rest and enjoy the view; most people will not linger for extended periods unless traffic noise and wind can be mitigated
- Ensure moments are accessible to people cycling as well (via ramps to let people easily stop)
- Some support for balconies, alcoves, and/or enhanced lookout points along the way, with other comments noting this might be too expensive relative to benefit
- Non-supportive comments expressed concerns that:
    - Transportation function would be sacrificed (e.g. by making through movement for walking and/or cycling difficult or by creating too many 'no passing' zones)
    - Expensive features would be prioritized instead of functional movement-related ones

Bridge Apex

- General support for recommended proposal to create a mini-plaza by narrowing the bike lane at the apex (i.e. creating a 'no passing zone'), while recognizing that safe movement is the top priority
- Some concern about narrowed bike lane creating safety issues, with expressed preference for achieving wider space though balconies
- Seating placement should consider views, social interactions, and potential for programming space, while preventing people from circumventing means prevention fence
- Include ramps to allow people on bikes to stop and enjoy the space
- Frequent sentiments that people will not linger for extended periods unless sound from motor traffic can be mitigated

- Support for localized sound mitigation, with suggestions including incorporating plexiglass into the barrier between the bike lane and motor traffic, reducing motor vehicle volumes and speeds, and/or using different paving materials
- Opportunity for bridge apex to become distinguishing feature that is visually distinct and visible from afar
- Provide binoculars, with Jericho Beach cited as a reference
- Consider landscaping to 'soften' the space (e.g. planters)
- Consider additional lighting to create a cozy atmosphere
- Include supplementary furnishing such as recycling stations and bike racks
- Consider weather protection
- Vary means prevention design to allow for views from seated position
- Provide power outlets to support bike-powered food carts and small-scale programming
- Potential Wi-Fi hotspot

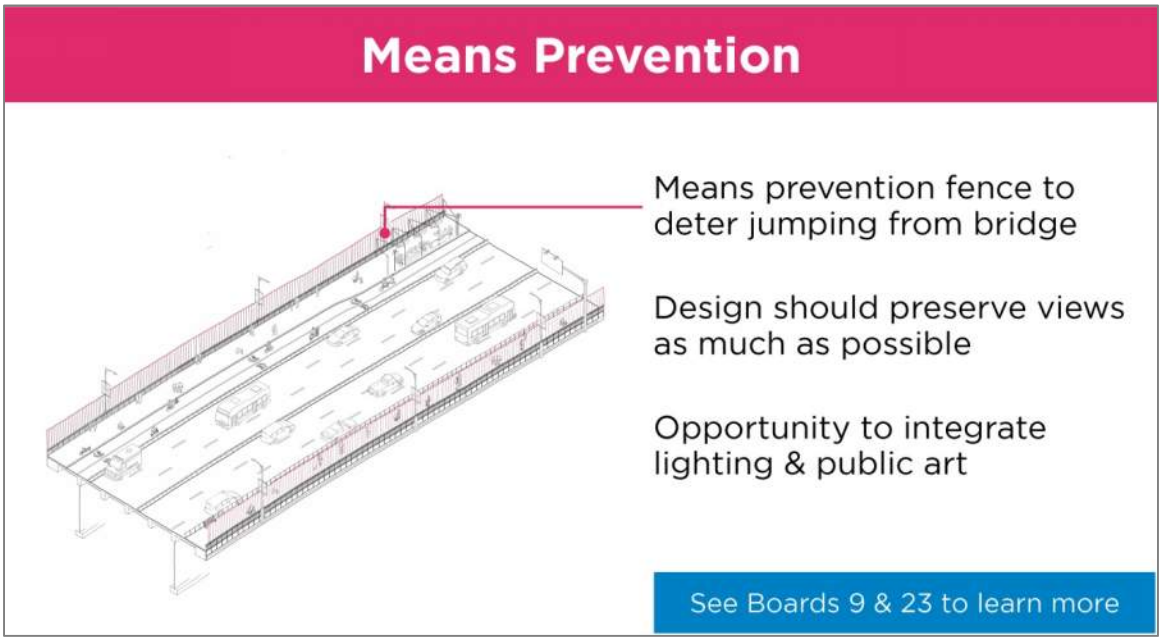
South Gateway

- Support for a plaza with special wayfinding feature (e.g. sculpture) at the northwest corner of Granville St and W 5th Avenue, noting this is where the Arbutus Greenway, Granville Bridge Connector, and South Granville business area all intersect
- General recognition that most significant opportunities for landscaping are not on the bridge itself but at the ends of the bridge (off-structure)

G. Means Prevention Fencing

The proposed design would include means prevention fencing to deter jumping and self-harm. The design would:

- Retain views as much as possible
- Include opportunities to integrate lighting and public art



In the Phase 3 survey, there were 473 means prevention comments on this topic from people who liked the overall design, 35 comments from people neutral or unsure about it, and 99 comments from people who didn't like it. There was also significant interest in the topic at workshops and other events, noting that fencing would have a major impact on the user experience. In stakeholder sessions, social service and health agencies in particular identified the importance of means prevention, and Covenant House mentioned they are planning to expand services for particularly vulnerable people near the north end of the bridge.

The majority of comments indicated a belief that means prevention is important, but needs to be done in a way that preserves views, which are deemed essential to the overall experience.

Comments generally reflected support for the proposed means prevention evaluation criteria noted in the Phase 3 engagement material:

- *Effectiveness* – ability to deter jumps by being difficult to climb or otherwise circumvent
- *Transparency* – ability to preserve views
- *Aesthetics* – appearance and ability to enhance overall experience with other features (e.g. lighting, public art)
- *Comfort* – ability to mitigate fear of heights or feelings of vertigo
- *Cost* – overall costs, including materials, installation, and ongoing maintenance

Specific issues and ideas included:

- Mitigating feelings of vertigo that some people might experience by ensuring the lower portion of the fence is less transparent
- Considering how to mitigate or eliminate the 'shuttered' or 'strobe' lighting effect that can be distracting or disorienting for people passing by, with Burrard Bridge cited as a good example, and Ironworkers Memorial Bridge a bad one
- Integrating lighting into the fence to minimize sidewalk clutter and provide rhythmic element
- Including programmable, colourful lighting for visual interest and ambiance, and to enhance the city skyline
- Varying height of fencing elements to mimic or complement the truss structure below the bridge deck, and providing visual interest for both path users and people observing the bridge from afar
- Incorporating metalwork or other design details so that the fencing becomes sculptural art, noting this opportunity may be greater at the lower portion of the fence where more opacity is desired and views would not be hindered
- Incorporating plaques, frames, and/or brackets to support the creation of story walks, history walks, or art walks
- Considering netting in lieu of fencing, with San Francisco's Golden Gate Bridge cited as an example
- Providing gaps large enough for camera lenses
- Considering potential to frame or augment particular views, e.g. with larger gaps at special locations where the fence is replaced with plexiglass or netting below
- Including a railing of some kind, if it can be delivered in such a way as to not make the bridge easy to climb
- Providing help phones as a complementary measure
- Angling elements to create a sense of spaciousness

There were some suggestions to explore additional funding sources, for example:

- Other levels of government, noting health care and emergency response sectors would directly benefit from reduced costs associated with decrease in deaths, significant injuries, emergency responses, and search and rescue efforts
- Public art funding, noting the means prevention fencing could incorporate significant public art (e.g. through lighting or other design features) that contributes to the city skyline

Those opposed to means prevention measures expressed the following sentiments:

- Fencing would destroy the experience if it obscured views
- Opportunities for self-harm exist throughout the city, and many people may simply go somewhere else if preventive measures are added to the bridge
- Investing in mental health initiatives rather than fencing would be a better use of resources
- Overall costs are not worthwhile

H. Overall Comments

The survey asked respondents to comment on why they liked or didn't like the design. The sentiments are generally captured on the preceding pages.

Comments were overwhelmingly supportive, with 973 comments from people supporting the design, 133 from people unsure about it, and 272 comments from people opposed.

Supportive comments generally focused on enthusiasm about the project:

- Enabling people to safely and comfortably walk and/or cycle over the bridge, including families, children, and seniors
- Making the bridge accessible to people who currently cannot used it, e.g. due to stairs at crossings and perceived danger from traffic
- Encouraging significantly more trips by sustainable transportation, and supporting the City's climate emergency efforts
- Supporting not only utilitarian trips, but encouraging recreational trips and tourism
- Helping to reinvigorate business areas at either end of the bridge
- Creating a major destination and highlight for the city

Non-supportive comments were fewer in number, generally focusing on:

- Concern about tax payer costs
- Concern about making driving more inconvenient
- Concern congestion by reallocating road space away from motor vehicles
- Preference for other design approaches, or for building an entirely new bridge

Selected Quotes

"Everything about [the design] feels thoughtfully considered and excellent. It will be a fantastic improvement for our city… user friendly, safe for all bridge users… and [offering] excellent options for cycling and pedestrian connections on both ends of the bridge.

"The crossings look very safe, and… will work well with future transit expansion and vehicle use. I particularly like the pedestrian features, especially the use of the West side of the bridge which has the best views.

“An inspired decision. I also like [the] compatibility for a potential Granville Island staircase / elevator.”

“This design is unique because it achieves both practical and utilitarian needs, while at the same time serving as a step forward that will make this bridge a major destination and highlight for the city. This design is amazing. It is truly exciting.”

“I'm very pleased. Let's get it underway! I'm getting older (68) still very active, walk and bike everywhere... this bridge is my most direct route to downtown, and the improvements will literally change my life for the better. I trust it will help the confidence of many seniors and families with young children to walk/bike more.”

“Crossing the current bridge is awful and this is a clear improvement in every way and method imaginable. Drivers will feel [safer] as no one will fall into traffic or suddenly "appear" at ramps.”

“.. not everyone can afford to travel in a car. This project will keep people safer and healthier.”

“[The design] responds to the realities of our climate emergency by providing for equal options for all mode of travel, [with the] potential to incorporate the bridge into the fabric of the city instead of it being a freeway devoid of character. It's the bridge we need and the bridge we deserve.”

“I am literally thrilled with this project, and very thankful for the efforts of the city-staff who are involved. Being the spouse of a person in a wheelchair, I would also like to say how important this project is to the mobility of those who are handicapped, and to their ability to enjoy their city more. Thank you.”

“Thank you to City staff for listening!”

“I’m so glad the city is doing this project. I hope it does not get value engineered as this will be a landmark when built.”

“The city is going on a really good path of transforming public space into a more inclusive and well-planned city, an enjoyable one. Safe sidewalks and bike paths will allow people to enjoy and exercise more. Those places will have enormous potential to attract people of all ages. If you build a city that allows kids and seniors to be safe and go out more often, it would be a city for everybody.”

‘Completely against this project. Spend the money on our homeless and mental health residents.”

“Anyone mobile enough to walk across the bridge should be able to cross the street/walk a few extra steps so sidewalks on both sides of the bridge would be unnecessary.”

“Car lanes are much more needed.”

Next Steps

Staff are currently preparing a report to Council. It will seek endorsement for an both an interim and an ultimate design, the latter based on the recommended option shared with the public in Phase 3, with refinements based on public and stakeholder input, as well as further analysis from staff and consultants. The report will also include recommendations for phasing the project and coordinating with other nearby work.

Appendix E

Granville Bridge Connector: Mobility Equity Engagement Report, by Jay Pitter

GRANVILLE BRIDGE CONNECTOR

Mobility Equity Engagement Report

Developed by Jay Pitter for the City of Vancouver | September 2020

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Report Author: Jay Pitter
Report Design & Research Support: Vivian Tran Nguyen

CITY OF VANCOUVER

Introduction

Among other distinct characteristics, Vancouver is lauded for its mobility options and ongoing investments. Specifically, many of the city's public transit services are automated and grade separated. The Canada Line and Millennium Line/ Evergreen Extension have exceptional frequency and ridership rates. Also, the city is endowed with numerous recreational, active-transportation pathways, such as the Seaside Greenway and well-worn hiking trails like the Grouse Grind. Moreover, the Greenest City 2020 Action Plan established and met the city's green transportation targets. When it comes to mobility, the city has a lot to be proud of.

But, as always, there are gaps and growth opportunities.

Despite championing public and active-transportation options, the city is extremely car-centric. The width of arterial and main streets is disconcerting, and relatedly, car speeds are high. On the surface, bus service is performing well with a range of routes creating connectivity to and outside of the downtown core. However, Route 49, which serves a highly racialized community, has a high rate of bus overcrowding and pass-ups, which is an indicator of mobility inequity across North American cities. Vancouver, like many other cities, is increasingly faced with transit-oriented displacement and does not currently have a plan for addressing this trend. This is in large part due to the historical transit planning and social equity silos that impede the kind of holistic mobility conversations required for creating mobility options and making investments that truly respond to the needs of all urban dwellers—especially those facing the most social and spatial barriers.

This report summarizes the Granville Bridge Connector community engagement intervention intended to listen and respond to this latter group.

This intervention was conducted toward the end of the larger Granville Bridge Connector community engagement process, which included individuals from equity-seeking groups. Also, this work stems from a broader cross-division, city-wide public space and mobility equity initiative that we have been leading. This initiative aims to build professional capacity and test new approaches across sites in Vancouver that would most benefit from a deep equity-based placemaking approach.

The report is divided in the following three sections:

Section One:

» Defining Mobility Equity

» Looking at the Granville Bridge Connector Through a Mobility Equity Lens

» Community Engagement Principles & Approach

» The Nuance of Informality

Section Two:

» Mobility Equity Workshop

» Granville Bridge Women's Storytelling Walk

Section Three:

» Recommendations:
Translating Community Engagement Findings to the Granville Bridge Connector

The concepts and approaches outlined in this document are applicable to all city-building projects and are, again, intended build on current good approaches while challenging the City of Vancouver to centralize equity, imagination, and compassion in all of its urban design, development, and public-space programming initiatives. Finally, I'd like to acknowledge that this work was carried out on the unceded territories of the xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and Səl̓ílwətaʔ/Selilwitulh (Tsleil-Waututh) Nations. I'd also like to acknowledge the collegiality and expertise of City of Vancouver staff with whom I had the privilege of collaborating, and countless local experts and residents who generously contributed their insights to this process.

Regards,

Jay Pitter, Principle Placemaker

Defining Mobility Equity

"A transportation system that increases access to high quality mobility options, reduces air pollution, and enhances economic opportunity in low-income communities of color. To achieve mobility equity in transportation planning and investments, we must prioritize:

1. Social equity: The fair and just distribution of societal benefits and burdens.
2. Community power: The ability of marginalized communities to influence decisions in a way that addresses their needs and concerns." [1]

"Transportation equity is concerned with the efficiency of transportation, its cost and people's mobility levels. It is also concerned with accessibility to transportation for the greatest possible number of people, which together with transportation equity leads to seeking fairness in mobility and accessibility levels across race, class, gender and disability."[2]

Unequal access to mobility options has largely defined the city's physical and social landscape. Migration, segregation, imposition of car-centric infrastructure, climate crisis displacement, uneven distribution of transit investments, and inaccessible street and public transit design exemplify the complexity of this chasm. Moreover, policies such as anti-loitering and vagrancy by-laws, and social issues like gender-based street harassment and police profiling, further define our mobility options and capacity.

Consequently, individuals from equity-seeking groups including single mothers, racialized people, poor people, and disabled people are faced with a wide range of hidden and visible mobility barriers that directly impact their health, access to opportunities, and ability to maintain strong networks. Mobility equity prioritizes the needs of groups facing disproportionate barriers, reduces CO_2 emissions, creates economic opportunities, and enhances our collective public health.

These, and other outcomes, are achieved when individuals from equity-seeking groups are meaningfully engaged in transportation development processes, investments are fairly distributed, and streets are reallocated to accommodate active and public transportation. Additionally, transforming the social culture of streets by addressing policing, harassment, and a growing sense of "not belonging" is paramount for advancing mobility equity, which is essentially freedom for all.

1 Creger, H., Espino, J., and Sanchez, A. S. (2018). Mobility Equity Framework. *The Greenlining Institute*. https://greenlining.org/wp-content/uploads/2018/03/Mobility-Equity-Framework-Final.pdf (accessed 22 August, 2020).

2 Savvides, A. (2013). Equity of mobility in sustainable transportation. The Sustainable City, Vol.(2), pp.1091-1101. https://www.witpress.com/Secure/elibrary/papers/SC13/SC13093FU2.pdf (accessed 22 August, 2020).

The Mobility Equity Framework below was created by the Greenlining Institute. It provides practitioners with 12 mobility equity indicators to guide the design, analysis, and evaluation of transportation modes and projects.

12 MOBILITY EQUITY INDICATORS

GOAL 1 Increase Access to Mobility	GOAL 2 Reduce Air Pollution	GOAL 3 Enhance Economic Opportunity
1 Affordability	6 Clean Air and Positive Health Benefits	9 Connectivity to Places of Employment, Education, Services, and Recreation
2 Accessibility	7 Reduction in Greenhouse Gases	10 Fair Labour Practices
3 Efficiency	8 Reduction in Vehicle Miles Traveled	11 Transportation-Related Employment Opportunities
4 Reliability		12 Inclusive Local Business & Economic Activity
5 Safety		

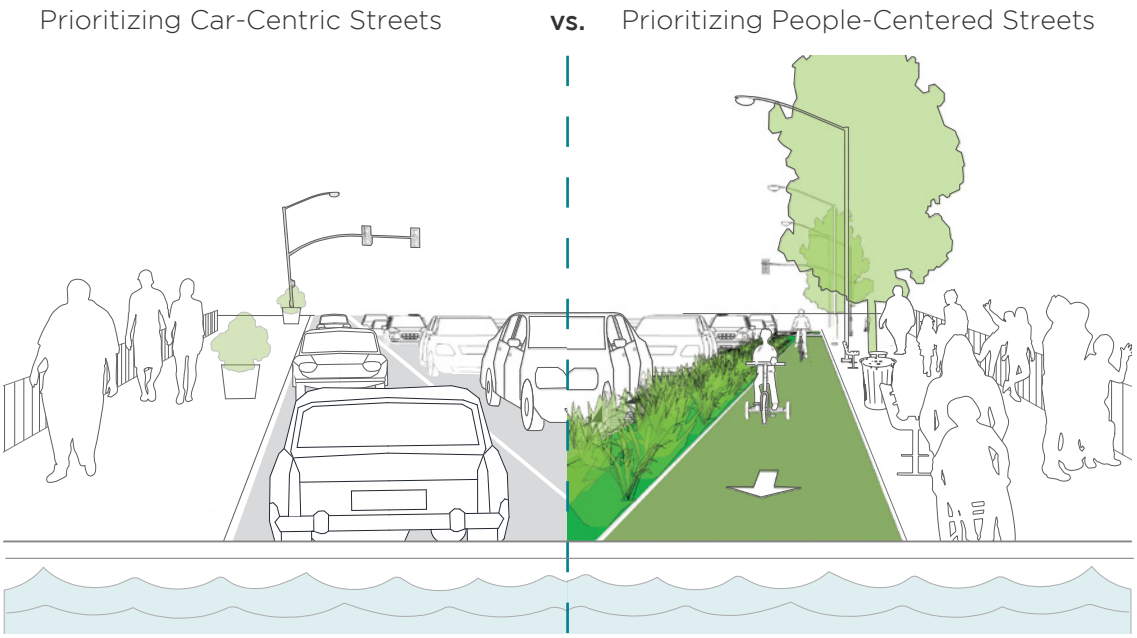
Creger, Hana, et al. *Mobility Equity Framework: How to Make Transportation Work for People*. The Greenlining Institute, 2018

Along with the indicators listed in this chart, the following considerations would further advance mobility equity:

+ Daylight the Indigeneity of the site;
+ Discontinue public transit and street-based surveillance and profiling;
+ Define standards for gender-responsive design interventions;
+ By-law reform to discontinue the criminalization of equity-seeking groups on streets and public transit;
+ Develop a social plan to catalyze conversations that will build understanding about complex social issues that unfold on public transit, streets, and other public spaces.

Looking at The Granville Bridge Connector Through a Mobility Equity Lens

Most urbanists believe that integrating equity in mobility projects begins with prioritizing people over cars. This is indeed an indisputable mobility equity tenet.



For illustrative purposes only.

NOT SO FAST, THERE'S MORE.

The imposition of car-centric infrastructure hasn't only contributed to unacceptably high vehicular death rates and the climate crisis. As previously noted, mobility infrastructure is tethered to a wide range of socio-spatial issues that perpetuate urban inequity. **Within the context of the Granville Bridge, we learned the following history:**

There are upward of 630 First Nation communities in Canada, representing more than 50 Nations and 50 Indigenous languages. Specifically, the xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and Sḵwx̱wú7mesh (Squamish), and Səl̓ílwətaʔ/Selilwitulh (Tsleil-Waututh) peoples are indigenous to the area around Vancouver and have lived on and stewarded the lands thousands of years.[2]

2 Canada Housing and Mortgage Corporation. (n.d). Granville Island. https://granvilleisland.com/about-us (accessed 22 August, 2020)

In 1863, the sawmill that opened on Burrard Inlet, next to False Creek, was originally intended to be a "seasonal settlement." With the site's proximity to the river and sustained contact with colonialists, the company soon attracted Squamish workers, and the economy transitioned from one of traditional subsistence on the land to paid labour. Soon after, numerous non-Indigenous people started moving to the area, and the federal government established an Indigenous reserve, but Indigenous peoples were eventually forced out of the area.[3]

The Vancouver Heritage Foundation reports, "when the first Granville Bridge connected the shores of False Creek in 1889, the south side became even more desirable...building in the area ballooned in the following decades it became apparent that new affordable land with access to water for industry was desperately needed. The Canadian Pacific Railway (CPR), government, and local businessmen fought over the sandbars and water rights until 1916."[4]

The current Granville Bridge, completed in 1954, is the third one built in this location. It replaced earlier versions with a more car-oriented design, and was intended to connect with nearby freeways that were never built. This phase of development inadvertently triggered significant displacement of predominantly Indigenous peoples, those in single-room occupancy (SRO) units, and sex workers.[5, 6, 7, 8]

Sex workers were pushed out from the West End to Mount Pleasant and later to Downtown Eastside, "a poorly lit, isolated, industrial zone, which became Vancouver's Downtown Eastside killing field – the site from which more than sixty-five sex workers – female, trans, and two-thirds Aboriginal – 'disappeared' and were murdered."[9, 10, 11]

3 Vancouver Heritage Foundation. (2016). *Granville Island*. https://www.vancouverheritagefoundation.org/place-that-matters/granville-island-public-market/ (accessed 22 August, 2020).

4 Ibid.

5 Donald Luxton and Associates Inc. (2013). Eastern Core Statement of Significance. *City of Vancouver*. pp.10-16. https://vancouver.ca/files/cov/statement-of-significance-false-creek-flats-2013-april.pdf (accessed 22 August, 2020).

6 City of Vancouver. (1995). Change in The Downtown Core SRO Stock 1970-1994. *The Housing Centre: Community Services Group*. https://chodarr.org/sites/default/files/chodarr0030.pdf (accessed 22 August, 2020).

7 Ross, B. L. (2011) Outdoor Brothel Culture: The Un/Making of a Transsexual Stroll in Vancouver's West End, 1975–1984. *Journal of Historical Sociology*, 25(1), pp.127, 142. https://doi.org/10.1111/j.1467-6443.2011.01411.x (accessed 22 August, 2020).

8 Vancouver Heritage Foundation. (2016). Granville St. Bridge. https://www.vancouverheritagefoundation.org/place-that-matters/granville-st-bridge/ (accessed 22 August, 2020).

9 Ross, B. L. (2011) Outdoor Brothel Culture: The Un/Making of a Transsexual Stroll in Vancouver's West End, 1975–1984. *Journal of Historical Sociology*, 25(1), pp.127, 142. https://doi.org/10.1111/j.1467-6443.2011.01411.x (accessed 22 August, 2020).

10 Cameron, S. (2007). The Pickton File. Alfred A. Knopf. Toronto, Canada, 2007.

11 Matas, R. "Pickton shows no emotion to guilty verdict," Globe and Mail (10 December 2007) A1, A12.

The *Report of the Missing Women Commission of Inquiry* by the Honourable Wally T. Oppal, Queen's Council Commissioner further validates the correlation between the displacement of these individuals and their tragic ending: "The fact that women are taken elsewhere by violent men does not detract from the fact that their manufactured isolation contributed to both the ability of men to harm them and to the likelihood that no traces would be left to facilitate investigation."[12]

Ron Dutton, founder of the B.C Gay and Lesbian Archives, notes that nearby Davie Village attracted a high number of young gay men from across the country who sought the affordability (at the time) and anonymity of "high-density living."[13] Sadly, many faced discrimination and lack of safety, however, "gay people found safe spaces below the radar – whether it was an illegal boozecan or a house party – places where they could be themselves with one another before it became visible."[14]

A City of Vancouver report detailing the historical and cultural identity of the West End highlights how the official naming for Davie Village in 1999 by the Davie Street Business Improvement Association gave way for a sense of identity.[15] The report further emphasized the importance of community events, stating this: "Of particular importance is the area's gay community anchored by the first Gay Pride Parade, which took place in 1978. This culture gives the neighbourhood, particularly Davie Street, a 'gay village' feel, and an accompanying sense of freedom, safety and acceptance."[16]

Today, Davie Village continues to be regarded as a vibrant and "safer" space for LGBTQQIP2SAA, but many women and gender diverse individuals note that its proximity to the Granville Entertainment District, which caters to large numbers of cisgender, heterosexual men, has resulted in numerous incidents of street-based homophobia and physical violence resulting in restricted movement around the site and throughout the immediate neighbourhood.[17]

12 Oppal, W. T. (2012). FORSAKEN: The Report of the Missing Women Commission of Inquiry. Government of British Columbia, Vol.IIB. https://www2.gov.bc.ca/assets/gov/law-crime-and-justice/about-bc-justice-system/inquiries/forsaken-vol_2b.pdf?bcgovtm=CSMLS (accessed 22 August, 2020).

13 Vancouver Heritage Foundation. (2016). Davie Street Village. https://www.vancouverheritagefoundation.org/place-that-matters/davie-street-village/ (accessed 22 August, 2020).

14 Ibid.

15 City of Vancouver. (2013, July 28). West End Historical Context Report. https://pricetags.ca/wp-content/uploads/2018/08/west-end-hcs-final-6apr15.pdf (accessed 22 August, 2020).

16 Ibid.

17 Ross, B. L., and Sullivan, R. (2012). Tracing lines of horizontal hostility: How sex workers and gay activists battled for space, voice, and belonging in Vancouver, 1975–1985. Vol.(15) (5-6), pp.604-621. https://doi.org/10.1177/1363460712446121 (accessed 22 August, 2020).

A paper authored by Becki L. Ross and Rachel Sullivan highlights the complex conflicts that often occur between equity-seeking groups. Specifically, they unpack the tension between the gay community (primarily cis gay men) and racialized sex workers (primarily trans women) on Davie Street.[18] According to these scholars, "By the early 1980s, some vocal, white guppies and yuppies (gay/young urban professionals) had a stake in openly refusing a 'de facto red light district' in the West End in part because they feared a plunge in property values."[19] The increased vulnerability of racialized trans women, demonization of sex workers, and fear that property values will decline are common issues that threaten the mobility and safety of equity-seeking groups with high visibility on streets and in public spaces.

Like in many other entertainment districts, high rates of gender-based fear, harassment, and violence have been reported by young women and gender diverse individuals. Consequently, the City of Vancouver funded a first-of-its-kind program called the Good Night Out Street Team.[19] The mandate of the group is to address the "safety and security of women and vulnerable populations,"[20] and de-escalate conflict in areas with entertainment venues/events.[21] The team engages peers skilled in bystander intervention, connects "victims" of assault with the Vancouver Police Department or other organizations upon request, and assists vulnerable patrons to access public transit or taxis, among other services.[22]

The Granville Bridge is located close to a number of adjacent public spaces and neighbourhoods with large populations of unhoused people, individuals accessing social services, and individuals participating in the informal economy.

Note: The content in this section is not intended to be a comprehensive list of socio-spatial factors impacting mobility equity on and around Granville Bridge. However, it is a solid representation of the key themes that emerged during informal conversations and the formal engagement process, verified by both academic and mainstream sources.

18 Ross, B. L., and Sullivan, R. (2012). Tracing lines of horizontal hostility: How sex workers and gay activists battled for space, voice, and belonging in Vancouver, 1975–1985. Vol.(15) (5-6), pp.604-621. https://doi.org/10.1177/1363460712446121 (accessed 22 August, 2020).

19 Ibid.

20 Good Night Out Vancouver. (n.d). About GNO. https://www.goodnightoutvancouver.com/aboutgno (accessed 22 August, 2020).

21 City of Vancouver. (2018). A good night out in the Granville Entertainment District. https://vancouver.ca/news-calendar/a-good-night-out-in-the-granville-entertainment-district.aspx (accessed 22 August, 2020).

22 Good Night Out Vancouver. (n.d). Granville Street Team. https://www.goodnightoutvancouver.com/granville-street-team (accessed 22 August, 2020).

23 Ibid.

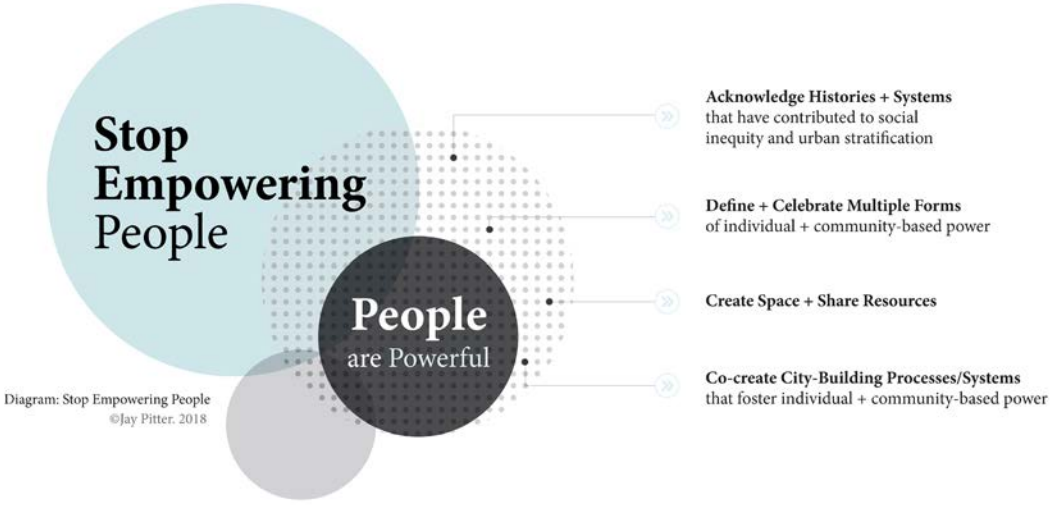
Community Engagement Principles & Approaches

While there is no singular definition of community engagement, this explanation closely aligns with our approach: “working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people.” Within urban design, placing the emphasis on centralizing people is fundamental to our values and guided our approach, along with Jay Pitter's following principles:

+ Urban design is not neutral; it either perpetuates or reduces social inequities.
+ Always begin by asking, “Who’s not here?”
+ The community itself should always be reflected on the community engagement team.
+ There is no such thing as a monolithic community; seek the pluralistic publics within the public, including stakeholders who challenge the project and/or process.
+ Provide and clearly communicate accommodations such as accessible community engagement spaces, meals, transit fare, and childcare so everyone can participate.
+ Everyone is entitled to express their “truth” during city-building processes as long as that truth doesn’t contravene history, systemic inequities, facts, or hate speech laws.
+ Deeply listen to a diverse range of viewpoints and embrace discomfort.
+ Acknowledge the Indigeneity, complex histories, and intangible cultural heritage of places.
+ Don’t expect people to come to you; engage people within the community and incorporate creative tactics such as place-based storytelling, public walks, and collaborative cooking.
+ There is no such thing as a safe community engagement space; create safe(r) spaces.
+ Avoid technical jargon and co-create a common vocabulary for all community engagements that responds to multiple communication styles and types of knowledge.
+ Engage people within the community and incorporate creative tactics such as place-based storytelling and public walks.
+ Do not over-promise; and outline the community’s actual scope of influence.
+ Tangibly demonstrate reciprocity and accountability.
+ Make the process JOYFUL.

ALSO, WE FEEL STRONGLY ABOUT NOT EMPOWERING PEOPLE.

While we take systemic power imbalances seriously and understand the well-intended sentiment of empowering people, this construct negates the fact that people, even those facing considerable social challenges, are inherently powerful. Instead of empowering people, it is preferable to share space, information, and resources within urbanism processes.



TRANSLATION IS ANOTHER IMPORTANT ASPECT OF THE COMMUNITY ENGAGMENT PROCESS.

The success of the community engagement initiatives, and this overall process, is hinged on the team's ability to translate. The translation process is three-fold:

+ Translating technical land-use and design jargon to residents;
+ Translating the community's social context, concerns, and desires to technical experts on the team;
+ Translating all inputs to the decision-making process, investments, and final design.

The Nuance of Informality

Within the practice, we believe informal conversations are the first step toward earning trust with individuals who have been excluded, harmed, and/or disappointed by formal municipal community engagement processes. Conversing over a shared meal or during a long walk creates an intimacy, and opportunity for deep listening, that simply cannot be replicated in a large room with hundreds of community stakeholders or through an online survey. It creates the time and space for nuance, which is imperative when exploring challenging, oftentimes divisive, city-building issues. This isn't to suggest that large-scale engagements do not serve a valuable function; they are simply not a good starting point for what we describe as human-scale community engagement.

At the outset of this particular engagement process we informally met with local equity-based placemaking leaders from organizations like BC Poverty Reduction Coalition/Single Mothers BC, Women Transforming Cities, Federation of BC Youth in Care Networks, and Ethós Lab. We also chatted with 50+ individuals. These conversations took place while walking, over tea in Chinatown, during intimate dinner parties and at a youth event, and afforded us the privilege of learning about the substantive achievements and work being undertaken to ensure greater mobility equity in Vancouver.

Through these authentic and intimate conversations, we were able to identify shared and divergent priorities across community stakeholder groups, flag potential risks, and identify priorities for the two community engagements we led related to Granville Bridge while establishing good ground for the larger collaborative mobility equity framework process we've been tasked to lead.

The key ideas that emerged from our informal conversations are as follows:

1. Equity-seeking groups concurrently face a complex range of public space and mobility challenges across the city. Traditional consultation approaches do not create the safety nor time to explore these issues.
2. The City of Vancouver staff leading public space and mobility equity initiatives do not represent some equity-seeking groups, and as a result, sometimes frame public conversations in a manner that either erases or flattens the experiences of individuals from equity-seeking groups.

3. Individuals from equity-seeking groups are overwhelmingly interested in advancing equity-based community conversations with the City of Vancouver. However, there is considerable engagement fatigue, broken trust, and lack of clarity pertaining to tangible metrics and outcomes.
4. The City of Vancouver is concurrently speaking to the same stakeholders from equity-seeking groups, and a lack of internal coordination and standardized practices is evident regarding compensation, language, and stated goals.
5. Individuals from equity-seeking groups would like to be engaged for their professional expertise and broader experiences outside of systemic marginalization. The City of Vancouver has often used a deficit-based lens, situating these groups as "issues" and forgetting to reference place-based knowledge, resilience, expertise, caring community networks, and possibility.

WE MODEL RECIPROCITY AND REMOVE BARRIERS TO PARTICIPATION.

For this project, we undertook the following actions:

+ Provided meals and public transit tokens;
+ Met in wheelchair-accessible spaces and mapped an accessible walk route;
+ Travelled to various areas of the city to meet stakeholders in convenient and comfortable locations;
+ Contracted local experts including a youth photographer, an Indigenous planning professional, a researcher, a public walk co-leader, and women city-builders;
+ Patronized two small local businesses;
+ Welcomed children and pets;
+ Convened formal and informal conversations on weekdays and weekends, and at various times of the day;
+ Provided expert equity-based placemaking advice to colleagues working locally.

Mobility Equity Workshop

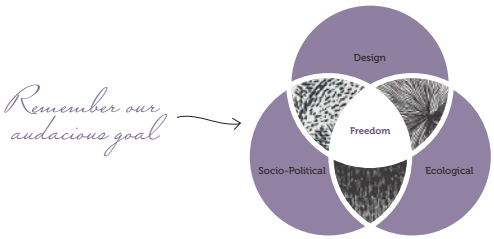
Date: November 26, 2019
Location: CityLab, 511 W Broadway, Vancouver, BC
Local Collaborator: Ginger Gosnell-Myers, Urban Indigenous Planner and Indigenous Fellow, Simon Fraser University

Objectives:

+ Explore the socio-spatial factors shaping our experiences on streets and other public spaces;
+ Unpack mobility equity principles and framework outlining indicators;
+ Consider mobility equity through an Indigenous lens;
+ Define and apply intersectionality to mobility equity initiatives;
+ Create space for small-group conversations to respond to key questions, share concerns, and offer insights.

Jay Pitter's Presentation Highlights:

To achieve mobility equity, we must consider complex socio-political factors shaping our experiences on streets.



Questions for advancing mobility equity:

Who's not here?
What are the mobility needs and overlooked opportunities in this region/community?
What is the mobility culture in this region/community?
What are the cultural and class-based meanings of particular types of micromobility vehicles?
What are the invisible socio-political factors inhibiting the movement of individuals in this region/community?
How can we work with communities to both define and identify accessibility gaps in the network?
How can we consider Indigenous peoples, people of colour, women and other equity-seeking groups in every aspect of the mobility sector?

Let's apply these principles and theories to Granville Bridge

Ginger Gosnell-Myers' Key Points:

A central part of the session was the inclusion of an expert Indigenous Planning perspective:

- Indigenous peoples living on reservations have limited mobility options for getting to cities.
- Lack of safe public transit options are associated with the prevalence of dangerous hitchhiking and the Highway of Tears, which refers to a 724-kilometer length of Yellowhead Highway 16 in British Columbia where many women (mostly Indigenous) have disappeared or been found murdered.[24]
- Cars are often a primary mobility option, but poverty and patriarchy present the following barriers:
  - The cost of a driver education program, accessing a license office, and getting a license ID itself can be prohibitive.
  - Men are often more supported to drive over women and gender diverse individuals.
- Urban Indigenous peoples face many biases and stereotypes while navigating public transit, streets, and other public spaces.
- Cities were built with white men in mind.
- Many Indigenous people new to cities are not familiar with public transit options.
- When thinking about the False Creek area where Granville Bridge is located, consider Granville Island, Senakw Village, Ceasnam Village, and Skwachays—the colonial name is China Creek, and it is an area of healing waters.
- Paved-over waterways should be daylighted as part of future development.

24 Sabo, D. (2016). Highway of Tears. The Canadian Encyclopedia. https://www.thecanadianencyclopedia.ca/en/article/highway-of-tears (accessed 22 August, 2020).

Following Gosnell-Myers' presentation segment, we posed three questions and the workshop participants responded in small groups:

1. How would we collectively define accessibility and belonging as it relates to the Granville Bridge?

- Dignified.
- Inclusive of people facing various social and spatial mobility challenges.
- Provide ways of escaping danger or accessing help on the bridge.
- Having choice + freedom when route planning.
- Something for all ages.
- Movement as something that fosters community and well-being.
- Ensure the bridge is safe and accessible in all conditions—icy, rain, dark...when people are tired.
- Make safer for those who have been drinking.
- Make sure it is accessible to city-wide connections (bikes, transit, etc.).
- Making everyone welcome and safe when using bridge. All different groups including gender, race, income, abilities are comfortable.
- All unheard voices and all walks of life feel like they belong.
- Ensure wheelchair users have enough space to roll side-by-side.
- Universal design thinking.
- Accessibility can also mean desirable (pace, inviting, safe, pretty, opportunity to pause).
- Movement for its own sake and A-B can spark joy: Movement that fosters community and wellbeing → Biking does that for many but also excludes others.
- Getting there and wanting to stay.
- Belonging: What makes you want to pause or slow down?
- Markers/art to reference Indigenous Nations' presence.
- Multi-modal.
- Prioritize pedestrians and other AT
- Protected paths, sidewalks, and lanes for all modes (design, art).
- Stickiness/vibrancy/places to rest destination.
- Access to Granville island (elevator?).
- Safety (belonging, purposeful design for all people) and security for all with consideration that it is a bridge with less ability to enter/exit.
- Joy: different moments and experiences on the bridge. Music, greenery, interpretive, history, celebration (or to not hold my keys between my fist when walking at night).

2. What is one difficult, equity-based question that designers, engineers, and planners (among others) should consider in the final design?

+ Would you let your young child cross the bridge alone?
+ Where will the bathrooms go?
+ Would you let your blind teenager cross the bridge?
+ Does everyone feel welcome and safe to cross the bridge and enjoy the spaces?
+ How do we connect with youth and youth facing social barriers?
+ What kind of wayfinding do you have for people who don't speak English as a first language?
+ What are bridge-specific considerations we need to be aware of compared to other streets?
+ Seniors whose first language is not English?
+ Would you let your blind teenager cross it?
+ Can mobility infrastructure support communities without "othering"?
+ What is the role or programming on the bridge?
+ How can the bridge serve as a leader/create a precedent for these types of spaces?
+ Have you gone into spaces where vulnerable people exist (elderly, youth at risk, those with diverse abilities—physical and invisible, English language barriers)?
+ How can the Granville Connector be purposefully designed to acknowledge and dignify historically marginalized and forgotten groups?
+ How to design the route and connections in a way that ties into low-income and social housing places? (e.g., off-ramps, vertical connection)
+ How might this project impact nearby existing and developable stock? Housing or commercial? (e.g., gentrifying forces)
+ How can the information needed to traverse the bridge safely be presented in an accessible way?
+ How will this project be made so people with any ability (sight loss, deaf, mobility device users) will enjoy the crossing? It won't be slog/stress and it's enjoyable.
+ Can the bridge provide opportunities for busking, informal markets, etc.? As one of the "moments" or even a cultural hub that is explicitly not car accessible?

3. What is your dream for the redeveloped Granville Bridge?

- Fishing off the bridge.
- Safety for all.
- Safety without policing.
- Intuitive wayfinding.
- Invites wandering and wonder.
- Indigenous history, art, and land acknowledgment.
- Nice places to pause—nooks/gems/places for wonder and awe.
- Sound-absorbing features
- Habitat—sea oats, planting, etc. (examples from High Line Park NYC).
- A park along the bridge, spaces to play and enjoy the view, convene, and have new interactions.
- Deep social and spatial accessibility.
- Designed for people first...automobiles last.
- More affordable housing near the bridge.
- A world-class example of mobility equity and great design.

Granville Bridge Women's Storytelling Walk

Date: February 29, 2020
Location: on and around Granville Bridge (see walk route map)
Community Collaborators:

Amina Yasin – Urban Planner, Vancouver City Planning Commissioner, and Former Co-Chair of the Canadian Institute of Planners Social Equity Committee

Jocelyn Macdougall – Community Convenor, Facilitator, and Event Specialist

Andrea Reimer – Former City Councillor and Policy Practitioner Fellow & Adjunct Professor UBC

Andrea Oakunsheyld – Professional Planner, Consultant, and Facilitator

Emily Brook – Writer, Actor, and Producer

Tanya Paz – Transportation Planner and Community Leader

Objectives:

+ Using an intersectional approach, map the challenges of women and gender-diverse individuals navigating the Granville Bridge and surrounding area;
+ Create space for local women city-builders to share their expertise using a gender-responsive lens;
+ Connect women and gender-diverse individuals from different lived-experiences;
+ Generate ideas and tangible design interventions for making the redevelopment accessible, safe, and joyful for women and gender-diverse individuals.

FIRST, WE LISTENED TO WOMEN AND GENDER DIVERSE INDIVIDUALS.

Stories shape our personal experiences in cities and the built environment. Within the context of placemaking—the design, development, and engagement of public spaces—stories help us understand urban histories, inform urban design projects, foster relationships across difference, and articulate a collective vision for equitable city-building.

The Granville Bridge women's storytelling walk was designed to center the experiences of a wide range women and gender diverse individuals. Five local women and gender diverse city-builders—Andrea Reimer, Andrea Oakunsheyld, Emily Brook, Amina Yasin and Tanya Paz—were provided with a simple template for developing five- to seven-minute narrative-based presentations centered on diverse gender-based stories related to Granville Bridge that explored **Indigeneity, transphobia, toxic masculinity and high speed driving, sex work, vulnerability in the entertainment district, overlooked social desires of disabled people, displacement, and elder wayfinding.**

A local consultant, Jocelyn McDougall, co-led the coordination of Jay Pitter's signature practice initiative and mapped an accessible walk route highlighting storytelling stops relevant to each women's walk topic. She also collaborated with a local coffee shop that provided refreshments to 100+ women (as well as babies and pets) who attended the walk and booked an accomplished vocalist, Tonye Aganaba, who kicked off the engagement with a beautiful acapella rendition of Jill Scott's "A Long Walk."

The engagement sparked lively and intimate conversations on the streets where women's lives unfold. After each presentation, women were given a conversation prompt to explore in small groups as we made our way to the next storytelling stop. This created an opportunity for women from vastly different lived experiences (racialized women, trans women, disabled women, elder women, young women, mid- to high-income women, poor women, etc.) to exchange insights, increase an intersectional understanding of their shared and distinct experiences on and around the bridge, and build solidarity and empathy. All women and gender diverse walk participants completed a brief survey at the end of the walk.

Looking at The Granville Bridge Connector Through a Mobility Equity Lens

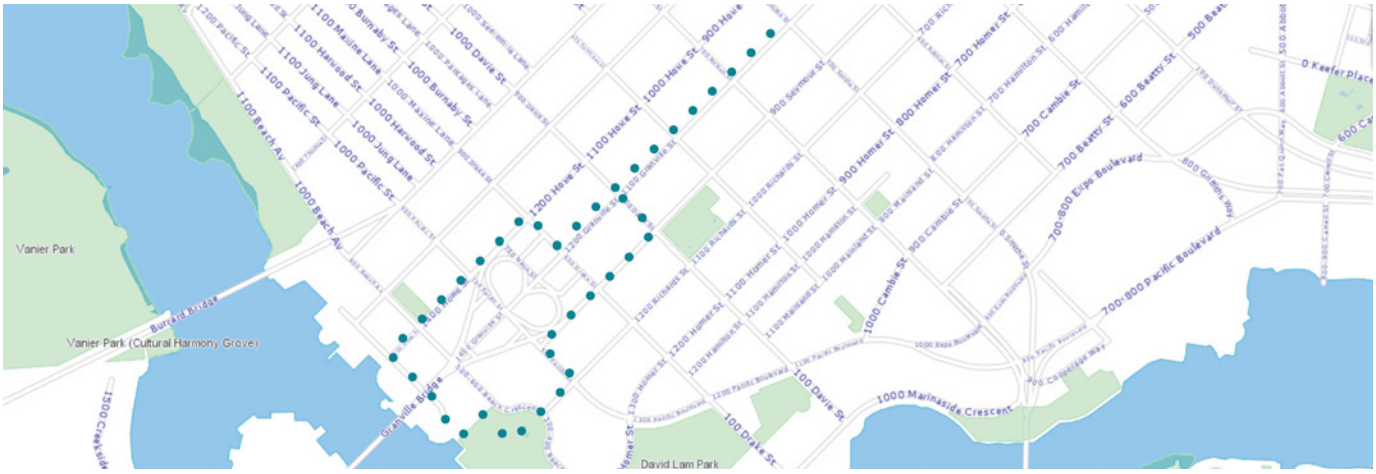
Here's what we heard:

We received upward of 130 responses from women, and many of the concerns conveyed similar insights and ideas. The following table reflects a qualitative data set encompassing the primary ideas shared by women. Moreover, these are unedited direct quotes.

Women's Insights and Feedback	Sense of Place & Connectivity	Indigeneity	Psychological & Physical Safety	Caregiving While on the Move	Accessibility
I would add the idea of feeling safe to being your authentic self to the spaces you want (or have) to be in.	+		+		
It's important to know + understand the history of place and the people who came before us and the impacts of erasure + losing those histories, consequences of repeating history.	+	+			
Understanding how health + ability are exacerbated by built form + impacts of assumptions built into our design guidelines.	+		+		+
Having a beautiful moment in the city ruled by poor infrastructure–not being able to enjoy yourself.	+				
It's important that the urban design for the Granville Bridge is more accessible to people with neurocognitive disorders, like Alzheimer's.	+				+
I also took care of my loved one with Alzheimer's and can relate to the struggles of needing extra time on crosswalks and more safe places for resting.	+		+	+	+
Ambiguous design for people with neurocognitive disorders needs to be addressed.					+
I resonated with the idea of safe, joyful spaces for queer, trans, non-binary folks but also for all of us. Planning for joy!!	+		+		
The experience of not feeling safe as a queer + non-binary person resonated with me–as well as a desire for public joy + celebration for queer + trans communities.	+		+		
I also have a relative who has dementia and is experiencing challenges + changes in how she gets around + yes public spaces for walks + recreation	+			+	+
As a woman coming from a South American country safety on the street has been always a big worry. I've never felt safe then here but that experience is still internalized in me and having infrastructure with good lighting, space for everyone to move at their own pace helps me and makes me be proud of the city I am in.	+		+		

Women's Insights and Feedback	Sense of Place & Connectivity	Indigeneity	Psychological & Physical Safety	Caregiving While on the Move	Accessibility
I have a daughter with a chronic illness and am a mother that also feels mobility challenges, we need to consider these experiences across the ages.				+	+
An overall theme which stood out for me was one of being aware of the experience of the way others experience our shared environment, building autonomy, community and love.	+				
It was great learning about the history of Yaletown's low-income housing that I didn't know about. Give women decision-making power for this project.		+			
Displacement and erasure resonated with me–coming from an immigrant background and as a woman of colour, seeing myself represented and considered in decisions doesn't feel like it happens enough. It made me think about how our histories are presented and information accessibility.		+			+
I have also felt/found myself consciously walking a certain way, or making myself more aware of my surroundings when I feel unsafe. Everyone deserves to feel like they belong, when in a public space.			+		
It's important to highlight the erasure of Indigenous peoples here in the downtown area.		+			
The lives of elders was brought to light which a lot/most of us discuss–but rarely in urban planning.				+	
It's important to create more activities along the streets while designing a good place to play and live. I feel like that it's necessary to slow down the traffic through creating buffer between traffic and pedestrians.	+				
Seeing that cross walks which should be designed for pedestrians, are actually more for the benefit of motorists needs to discussed more and needs to be changed.	+				
I imagine a wide bridge for pedestrians where you can have activities not only use it as a connection, but also as a vivid public space.	+				
Safety (physical) is a foundation, emotion of safety, space for gathering, resting and celebrating so this is an enormous opportunity in front of us.			+		


Domino's



Walk Route Map

Recommendations: Translating Community Engagement Findings to The Granville Bridge Connector

Acknowledge the Indigeneity of the site.

As aforementioned, all equitable city-building projects acknowledge the Indigeneity of sites, both people and places. The process for doing so is not yet well established being that urban development has either erased or superficially acknowledged Indigeneity. However, growing discourse has resulted in codified principles underscoring the importance of "including designs, stories, sustainability, and land management, with the understanding that ownership of knowledge must remain with the Indigenous custodians," and ensuring "respect for the diversity of Indigenous culture by acknowledging and following regional cultural understandings."[25] These and similar principles were affirmed by local experts Ginger Gosnell-Myers and Andrea Reimer, and largely embraced by the individuals who participated across the three community engagement processes.

↳ Design Considerations:

- Commemorate Indigenous groups with histories tethered to the site and recognize contemporary Indigenous presence and contributions—at the site and online;
- Daylight the existence and significance of paved-over waterways—at the site and online;
- Incorporate Indigenous languages and symbols in the wayfinding strategy;
- Consult Indigenous experts on the site maintenance and management;
- Collaborate with Indigenous artists on site art and iconology.

25 Kennedy, R., et al. (2018). INTERNATIONAL INDIGENOUS DESIGN CHARTER: Protocols for sharing Indigenous knowledge in professional design practice. *Indigneous Design Charter*. https://www.ico-d.org/database/files/library/International_IDC_book_small_web.pdf (accessed 22 August, 2020).

Accommodate deep and dignified accessibility.

The bridge and the surrounding neighbourhood are physically inaccessible for disabled people and other groups faced with barriers when navigating the city. The redevelopment of Granville Bridge is an opportune moment to address this exclusion by going well-beyond the installation of wheelchair ramps and considering the spectrum of disability (both visible and invisible), ensuring disabled people experience the delight and social connection while navigating the bridge and integrating accessibility into all aspects of the design. Also, just as it is important to build continuous protected bike networks, it's important to ensure the adjacent public spaces and public transit open up new pathways for dignified and safe movement.

↳ Design Considerations:

- Ensure all pedestrian surfaces are firm and avoid sharp level changes;
- Curb ramps, bevels, and slopes should be gentle and correspond with level changes to accommodate mobility devices;
- Obstructions such as planters and garbage cans should be placed outside of the walk/roll route;
- Pedestrian signals should incorporate both audible and visual cues;
- Respond to the spectrum of disabilities by incorporating audio, tactile, light, and noise reduction into the design schemes;
- In addition to infrastructure, street furniture, drinking fountains, and look-out points should also be designed with accessibility in mind.
- Prioritize slip- and glare-resistant surfaces that respond to changing conditions, such as seasons and time of day;
- Clearly distinguish the edge of walk/roll surfaces or changes in the infrastructure;
- Implement design features that assume that disabled people explore the city with friends, colleagues, and family members of all abilities.

Address multiple dimensions of safety.

Notions of safety and belonging have physical, historical, and emotional dimensions. However, conventional street safety design approaches tend to focus on motor vehicular collision and human-scale design interventions such as green space and wide pedestrian rights-of-way. All of these elements are critically important, but they do not fully recognize the history of streets as contested, socially fraught spaces. In addition to safety issues perpetuated by the dangerous privileging of cars and tolerance of high speeds on the bridge, a wide range of social issues were also raised—police profiling of poor and racialized people; gender-based violence and homophobia in the nearby Granville Entertainment District; the violent erasure of Indigeneity; physical accessibility barriers; and high-risks for children and elders. These issues are especially pronounced because bridges have fewer options for distancing, changing routes, and accessing assistance.

↳ Design Considerations:

- Impose traffic-calming interventions such as curb extensions, lane reductions, speed humps, raised cross-walk in the middle of the bridge, and a centre median;
- Add a smooth means restriction barrier free of footholds with a curved top toward the pedestrian side of the bridge;[26]
- Expand sidewalks and bike lanes (extra-wide) to provide options for personal space distancing and avoidance of dangerous situations;
- Install pedestrian-scale lighting and maintain clear sightlines across the bridge;
- Lower the vehicular speed rate on the bridge;
- Consult closely with equity-seeking groups before installing any form of video surveillance.

26 Rilkoff, H., Sanford, S., and Fordham, J. (2018). INTERVENTIONS TO PREVENT SUICIDE FROM BRIDGES: AN EVIDENCE REVIEW AND JURISDICTIONAL SCAN. *City of Toronto.* https://novascotia.cmha.ca/wp-content/uploads/2018/06/Interventions-to-Prevent-Suicides-from-Bridges.pdf (accessed 22 August, 2020).

Extend an invitation through clear wayfinding—signage systems, landscapes, and gentle territoriality.

Given the bridge has been underutilized due to a lack of multi-modal design, it is imperative to provide pedestrians with a clear mental image of its full expanse at both on-ramps. Additionally, wayfinding should also be used to reinforce the bridge's new function as more than a thruway for cars, encouraging a less aggressive traffic flow and synergies with new users and uses. Creative approaches to wayfinding can address equity by using iconology to respond to individuals who speak English as a second language, announce accommodations like benches and public toilets ahead, and incorporate Indigeneity and intangible cultural heritage.

↳ Design Considerations:

- Mount simple but comprehensive cartographic signs at both ends of the bridge to help pedestrians construct personal mental maps of their journey;
- Highlight safety features and accommodations features such as public toilets and benches for resting as part of the wayfinding strategy;
- Create a wayfinding system that is concurrently distinct and synthesized to create a sense of gentle and distinct territories on the bridge;
- Leverage wayfinding signs to daylight Indigeneity and broader intangible cultural heritage on and around the bridge.

Strike a balance between movement, place, and pause.

Although a bridge with high traffic volumes cannot be redeveloped as a destination in the same way a street with multiple amenities and services could be reimagined, it's still possible to embed a sense of place and pause into its redesign. Throughout the engagement process, there was a collective yearning to have a bridge that fosters both connectivity and community. The idea of place and placemaking was echoed throughout many conversations and is inherent in all of the aforementioned recommendations. Consequently, the redevelopment of Granville Bridge should apply equity-based placemaking approaches.

↳ Design Considerations:

- Construct an elevator on the bridge to access Granville Island;
- Extend public transit service to the bridge;
- Incorporate green infrastructure and public art;
- Include two sheltered areas that can be used by pedestrians in inclement weather, and by social service and neighbourhood organizations for small-scale public space animation;
- Avoid all forms of defensive architecture such as spiked surfaces and armrests in the middle of benches;
- Provide basic amenities such as wheelchair-accessible and gender-neutral toilets and water fountains;
- Create unexpected delight zones and spaces for pause.

The Granville Bridge Connector project is being led by a thoughtful interdisciplinary team of urbanists working for the City of Vancouver committed to achieving greater mobility equity outcomes. In addition to being an ambitious and exciting urban design project, it is an opportunity. An opportunity to redress past systemic and spatial exclusions that the first phase of development contributed to. An opportunity to connect individuals to new places and new people. And if we get it right, this project will help everyone realize the fullest potential of mobility projects through increased joy, safety, and **freedom**.

This process was devised and led by Jay Pitter. For further information about the process or Jay's broader placemaking practice please contact:

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Award-Winning Placemaker + Author
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Appendix F

Summary of
Granville Bridge Connector
Design Options Evaluated

Developing Granville Bridge Connector Options

Staff explored over 20 options for the Granville Bridge Connector, informed by public and stakeholder feedback, internal analysis, and consultant input.

These design options can be grouped based on their general alignment over the mid-span of the bridge: west side, east side, centre, both sides, or suspended from the existing structure.

Within each alignment group, there are options which vary depending on the number of lanes reallocated or how the ramps are used. These variations may offer benefits such as additional path width, placemaking opportunities, and/or active transportation connectivity, but may have transportation impacts or costs which require further evaluation.

Evaluating Options

Options were evaluated through a multi-step process.

High Level Screening of Long List

The long list of options underwent a high-level screening process, based on critical flaws and ability to meet baseline criteria. All shortlisted options:

- Provide an accessible walking and rolling option for people with disabilities
- Provide a safe environment for all modes of transportation
- Maintain reliable transit and emergency access
- Accommodate current motor vehicle volumes
- Integrate means prevention (to deter self-harm) and environmental features (e.g. rainwater management) into the design

Detailed Evaluation of Short List

A shorter list of options underwent a multiple account evaluation, using criteria informed by the project goals. This document includes a preliminary assessment by staff, which had been subject to further refinement based on further analysis, as well as stakeholder, public, and consultant input.

The criteria are highlighted on the next page.

Criteria	Questions or Attributes to Consider
Walking & Rolling Comfort	■ Quality of buffer from traffic ■ Space for people to walk in groups ■ Space for seating & basic amenities ■ Interaction with other modes of travel (e.g. noise from traffic) ■ Grades (steepness of path) ■ Accessibility improvements to existing sidewalks
Walking & Rolling Network	■ Directness to key destinations ■ Additional connections via ramp enhancements ■ Ability to connect with existing sidewalks ■ Additional connections via elevators & stairs
Cycling Comfort	■ Space for passing & accommodating different cycling speeds ■ Space for cycling with others ■ Quality of buffer from traffic ■ Grades (steepness of path)
Cycling Network	■ Directness to key destinations ■ Additional connections via ramp enhancements
Views & Placemaking	■ Quality of views ■ Space for placemaking & programming ■ Compatibility with specific features (e.g. balconies, pocket plazas) ■ Potential for the path to be a destination
Transit	■ Ability to maintain reliable transit ■ Potential to add transit priority measures in the future
Secure & Inclusive Place	■ Ability to provide a space that feels safe & secure for all people, at all hours & times of the year ■ Ability to accommodate fast & efficient emergency service access
Traffic & Parking	■ Ability to accommodate current traffic volumes ■ Local circulation impacts (e.g. from traffic diversion) ■ Parking impacts
Future Flexibility **Compatibility with Related Projects**	■ Compatibility with potential elevator serving Granville Island (including bus stops & signalized crossing on bridge deck) ■ Compatibility with Granville Loops removal & replacement ■ Compatibility with Vancouver House redevelopment (which will include elevators & stairs connecting to the sides of the bridge) ■ Compatibility with potential future improvements to the on-/off-ramps (e.g. improving sidewalks, supplemental bike connections, or making ramps car-free public spaces) ■ Compatibility with other potential elevators & staircases (e.g. to Seawall) ■ Ability to reconfigure travel lanes in future
Costs	■ Preliminary cost estimate, including contingencies

Shortlisted Options
Overview

Six options had been shortlisted based on their ability to meet core criteria and achieve project goals.

Each option would reallocate two travel lanes on the main span of the bridge, maintain reliable transit, and accommodate existing traffic volumes.

These options went through public and stakeholder review in phase two of engagement. The final selected option was refined and presented in phase three.

Staff had **shortlisted six options for public input**. Each one:

- **Reallocates two of eight travel lanes on the bridge** to create space for a safe and accessible walking, rolling, and cycling path
- **Rebuilds** the **Granville-5th Ave** and **Granville-Drake intersections** to make it easy to get on and off the Connector and connect to the rest of the network
- **Accommodates existing traffic volumes** and **maintains reliable transit**

NOTE: These sketches are artist impressions only and should not be used for detailed comparison.

Option 1: West Side

- Wide sidewalk & bi-directional bike lane on west side of bridge
- New signals at Howe & Fir ramp crossings
- No change to east sidewalk

View looking northwest from middle of bridge

Option 2: West Side +

- Wide sidewalk & bi-directional bike lane on west side of bridge
- Wide accessible sidewalk on east side & Hemlock ramp
- Flat bi-directional bike lane on Fir ramp to 10th Ave
- New signals at Howe and Fir ramp crossings

View looking south towards Granville St & Fir ramp

Option 3: East Side

- Wide sidewalk & bi-directional bike lane on east side of bridge
- New signals at Hemlock & Seymour ramp crossings
- No change to west sidewalk

View looking northeast from middle of bridge

Option 4: East Side +

- Wide sidewalk & bi-directional bike lane on east side of bridge
- Wide accessible sidewalk on west side & 4th ramp
- Flat bi-directional bike lane on Hemlock ramp to 7th Ave
- New signals at Hemlock & Seymour ramp crossings

View looking southeast towards Hemlock ramp

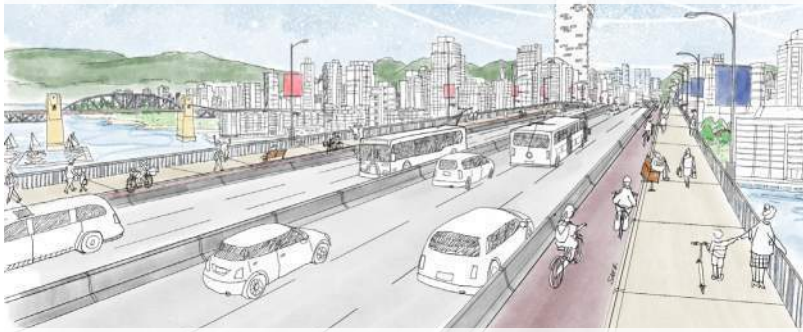
Option 5: Raised Centre

- Wide sidewalk & bi-directional bike lane down centre of bridge
- Path elevated approx. 1m above bridge deck to provide views
- No change to existing sidewalks on east & west sides

View looking north from middle of bridge

Option 6: Both Sides

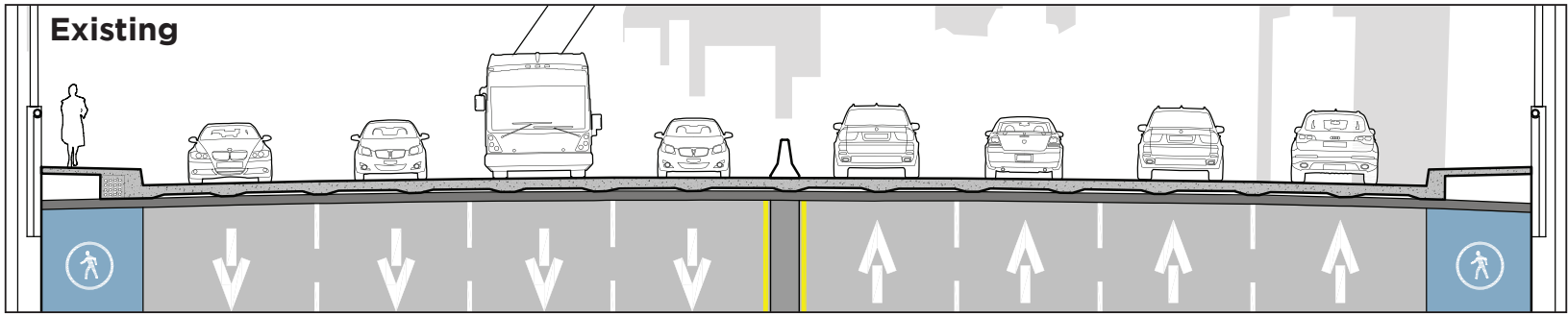
- Slightly widen existing sidewalks on both sides of bridge
- Uni-directional bike lanes on both sides
- Signalize Howe, Fir, Hemlock, & Seymour ramp crossings



View looking northwest from middle of bridge

This graphic shows how space would be used in the mid-span of the bridge for different options. In general:

- About 8m of space is created for the path by reallocating two of the eight existing travel lanes, and by slightly reducing the width of the remaining six lanes.
- The existing sidewalks are about 2m wide in the mid-span of the bridge. Depending on the option, this additional width can be integrated into the path.
- Each option provides at least 3m for walking.
- Each option provides at least 3m for a bi-directional bike path or 2.5m for unidirectional bike paths.
- Remaining space could be used for furniture or special features, as a buffer space between modes, and/or to provide more space for walking or biking.



1. West Side

2. West Side +

3. East Side

4. East Side +

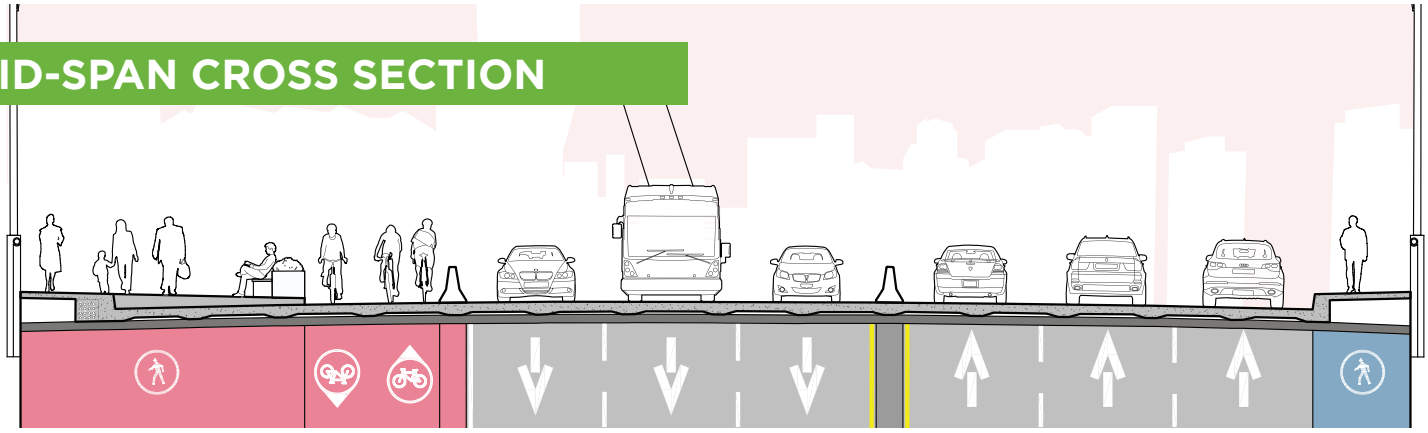
5. Raised Centre

6. Both Sides

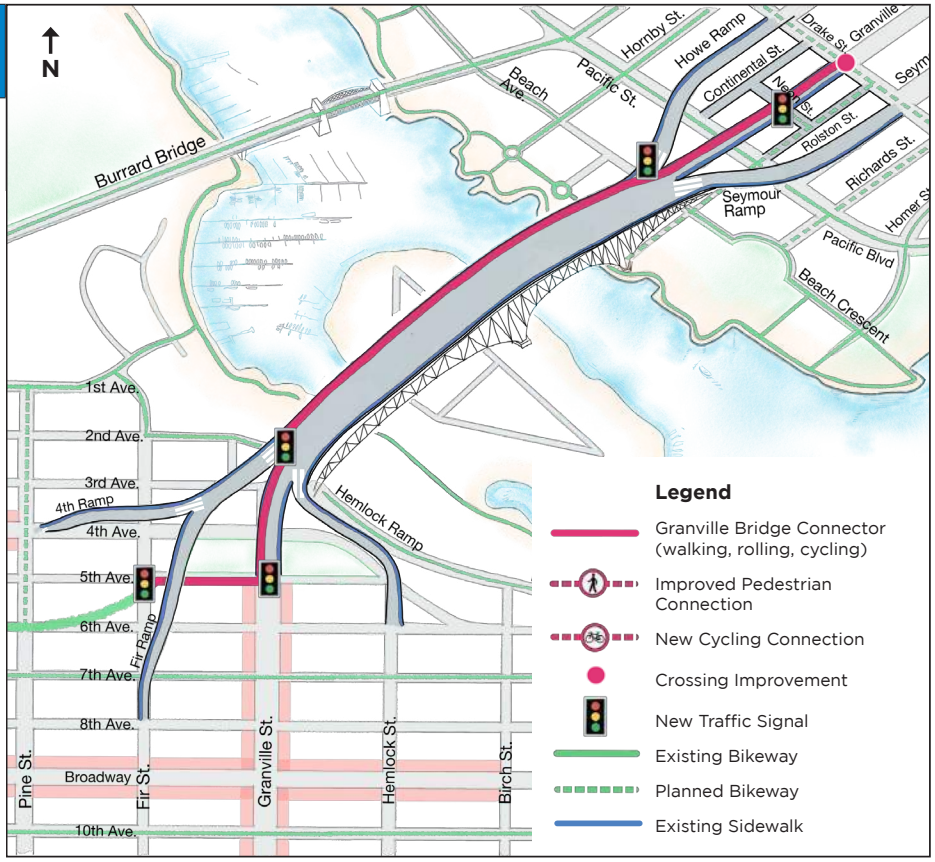
WEST SIDE

- Wide sidewalk and two-way bike lane on west side of bridge (approx. 10m)
- New signals at Howe and Fir ramp crossings
- No change to east sidewalk

MID-SPAN CROSS SECTION



COST: $20M-30M*



BENEFITS

+ Traffic only on one side of path
+ Views to west over False Creek
+ Up to 4m extra space for seating, amenities, & programming
+ Potential to use extra space for wider sidewalks and/or bike lanes
+ Connects to existing sidewalks on 4th, Fir, & Howe ramps
+ Most compatible with potential transit priority

CHALLENGES

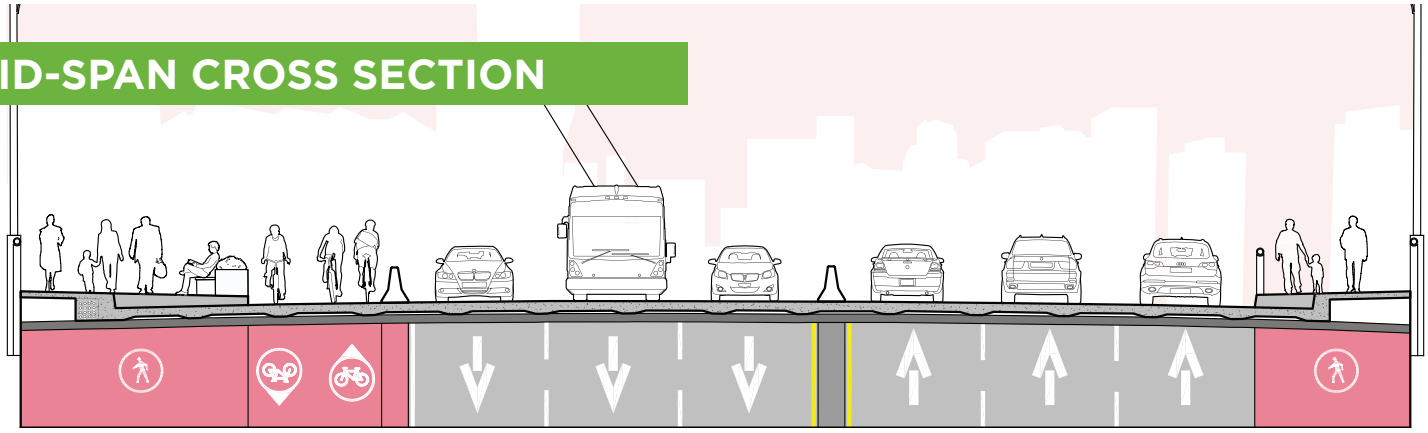
- Requires signalized crossings at Howe & Fir ramps

*** Preliminary cost estimates are based on conceptual designs & developed for comparative purposes only.** As many details are not yet determined, estimates include a large contingency and will be refined significantly once a recommended option is selected. Estimates do not include means prevention fencing.

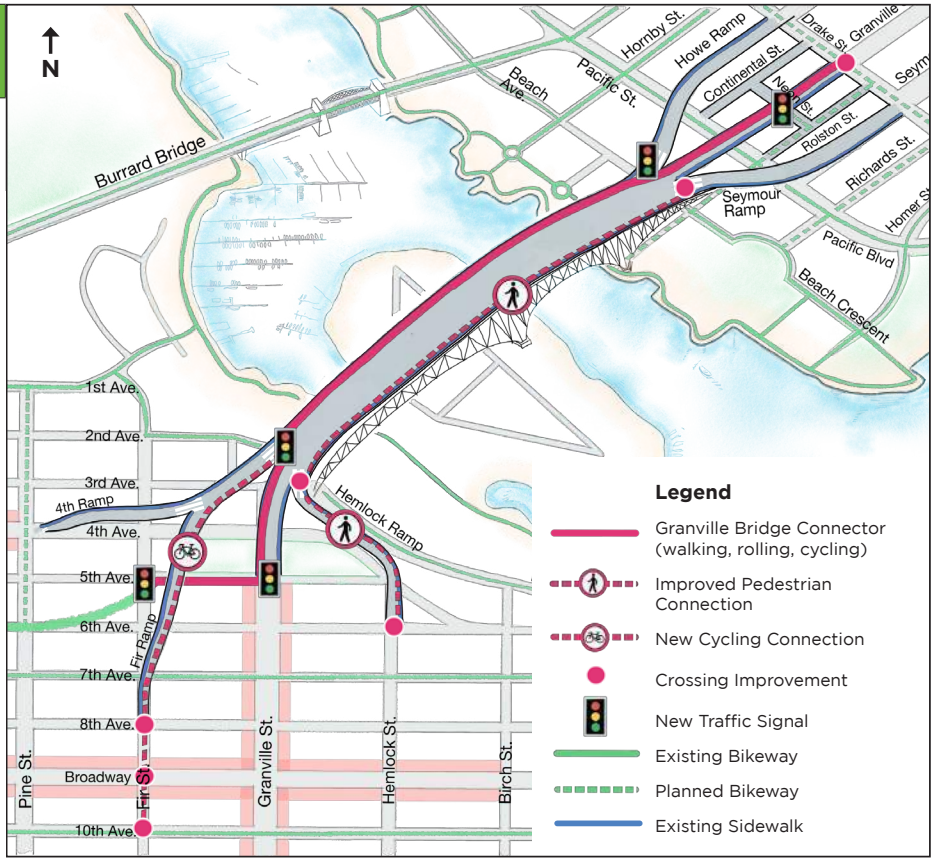
WEST SIDE +

- Wide sidewalk and two-way bike lane on west side of bridge (approx. 8m)
- Wide accessible sidewalk on east side and Hemlock ramp
- Relatively flat two-way bike lane on Fir ramp to 10th Ave
- New signals at Howe and Fir ramp crossings

MID-SPAN CROSS SECTION



COST: $30M-40M*



BENEFITS

Same as 'West Side' option, except:

+ Accessible & wide sidewalks on both sides of bridge, & Hemlock ramp
+ Views to west & east over False Creek
+ Relatively flat two-way bike connection on Fir ramp to/from 10th Ave
+ Up to 2m for seating & amenities on west side

CHALLENGES

Same as 'West Side' option, except:

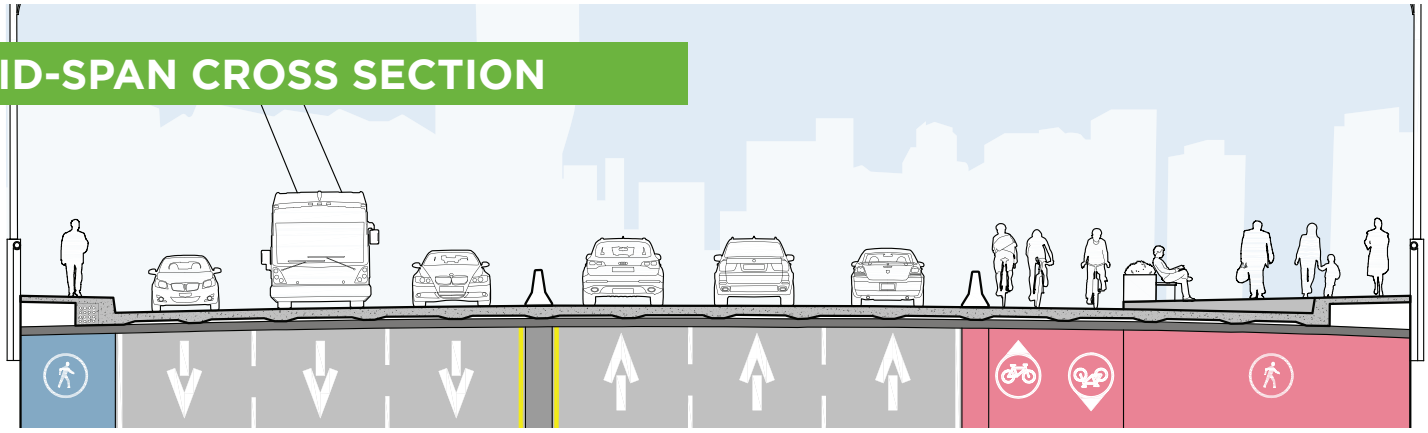
- Some vehicle delay and circulation impacts around Fir St
- Less room on path for public space compared to 'West Side' option

* **Preliminary cost estimates are based on conceptual designs & developed for comparative purposes only.** As many details are not yet determined, estimates include a large contingency and will be refined significantly once a recommended option is selected. Estimates do not include means prevention fencing.

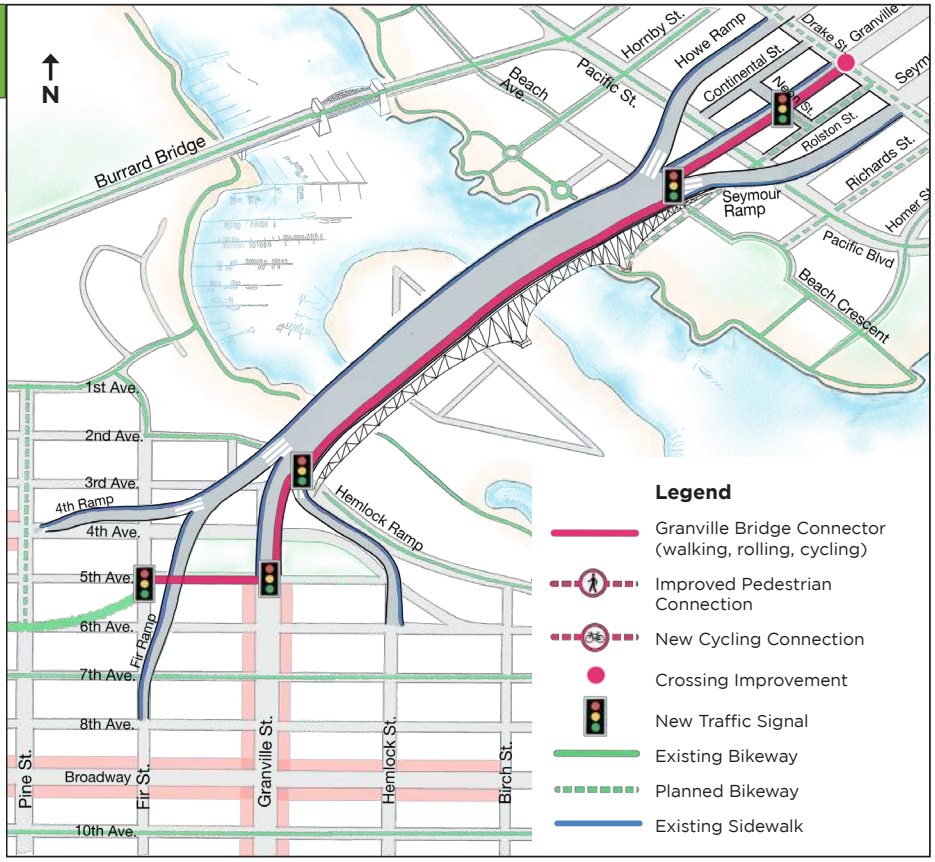
EAST SIDE

- Wide sidewalk and two-way bike lane on east side of bridge (approx. 10m)
- New signals at Hemlock and Seymour ramp crossings
- No change to west sidewalk

MID-SPAN CROSS SECTION



COST: $20M-30M*



BENEFITS

+ Traffic only on one side of path
+ Views to east over False Creek
+ Up to 4m extra space for seating, amenities, and programming
+ Potential to use extra space for wider sidewalks and/or bike lanes
+ Connects to existing sidewalks on Hemlock & Seymour ramps
+ Compatible with some transit priority

CHALLENGES

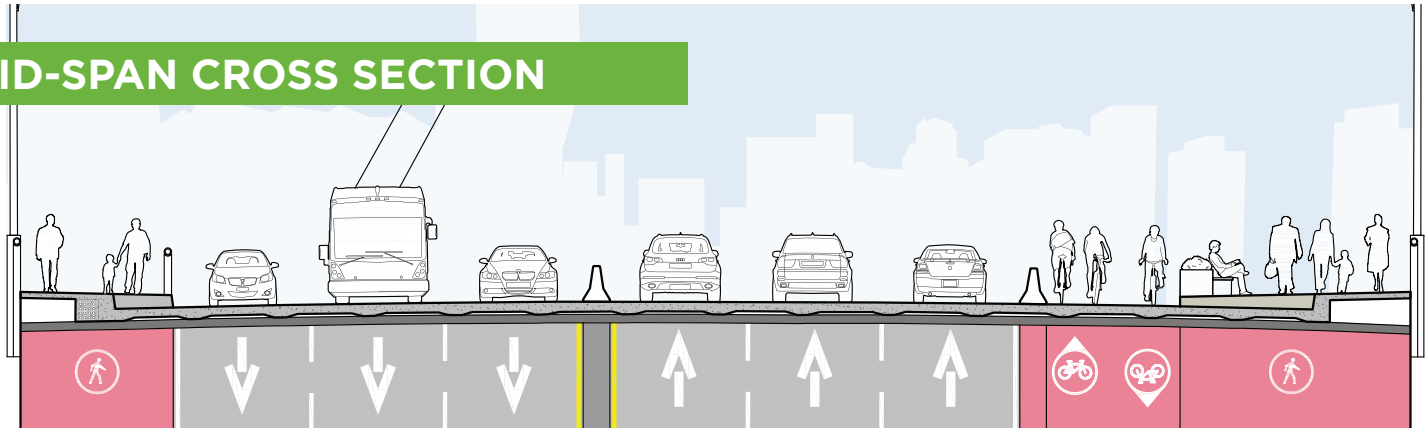
- Requires signalized crossings at Hemlock & Seymour ramps
- Signalizing Seymour ramp may impact transit by encouraging some traffic to remain on Granville St
- Limits ability to add northbound transit priority

*** Preliminary cost estimates are based on conceptual designs & developed for comparative purposes only.** As many details are not yet determined, estimates include a large contingency and will be refined significantly once a recommended option is selected. Estimates do not include means prevention fencing.

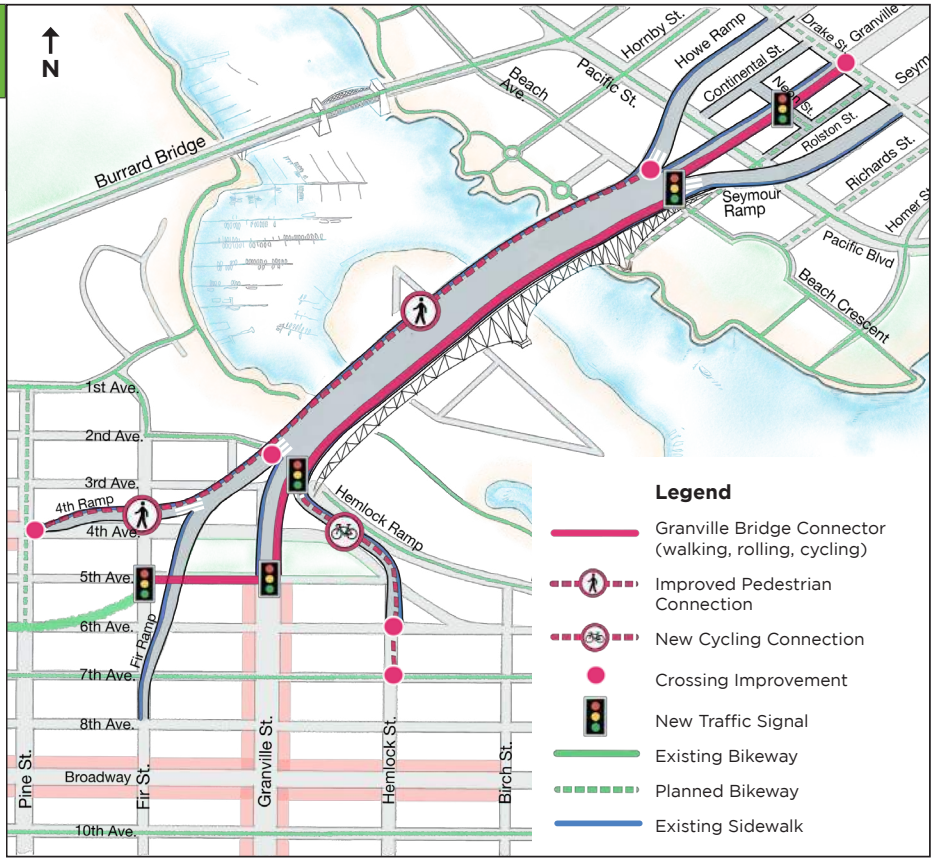
EAST SIDE +

- Wide sidewalk and two-way bike lane on east side of bridge (approx. 8m)
- Wide accessible sidewalk on west side and 4th ramp
- Relatively flat two-way bike lane on Hemlock ramp to 7th Ave
- New signals at Hemlock and Seymour ramp crossings

MID-SPAN CROSS SECTION



COST: $25M-35M*



BENEFITS

Same as 'East Side' option, except:

+ Views to west & east over False Creek
+ Accessible & wide sidewalks on both sides of bridge, and 4th ramp
+ Relatively flat two-way bike connection on Hemlock ramp to/from 7th Ave
+ Up to 2m for seating & amenities on east side

CHALLENGES

Same as 'East Side' option, except:

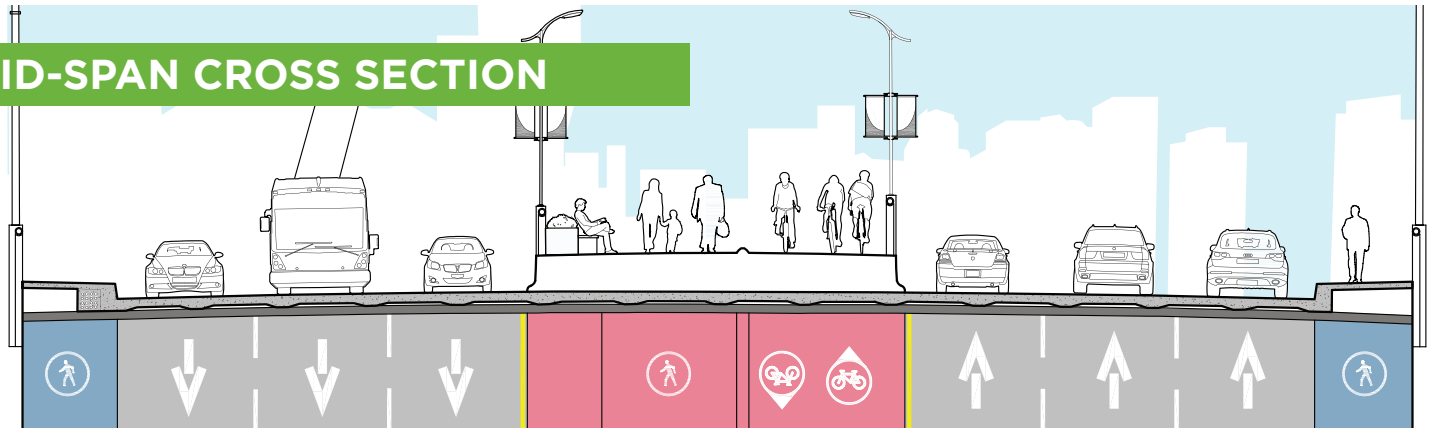
- Some vehicle delay & circulation impacts around Hemlock St
- Less room for public space compared to 'East Side' option

* **Preliminary cost estimates are based on conceptual designs & developed for comparative purposes only.** As many details are not yet determined, estimates include a large contingency and will be refined significantly once a recommended option is selected. Estimates do not include means prevention fencing.

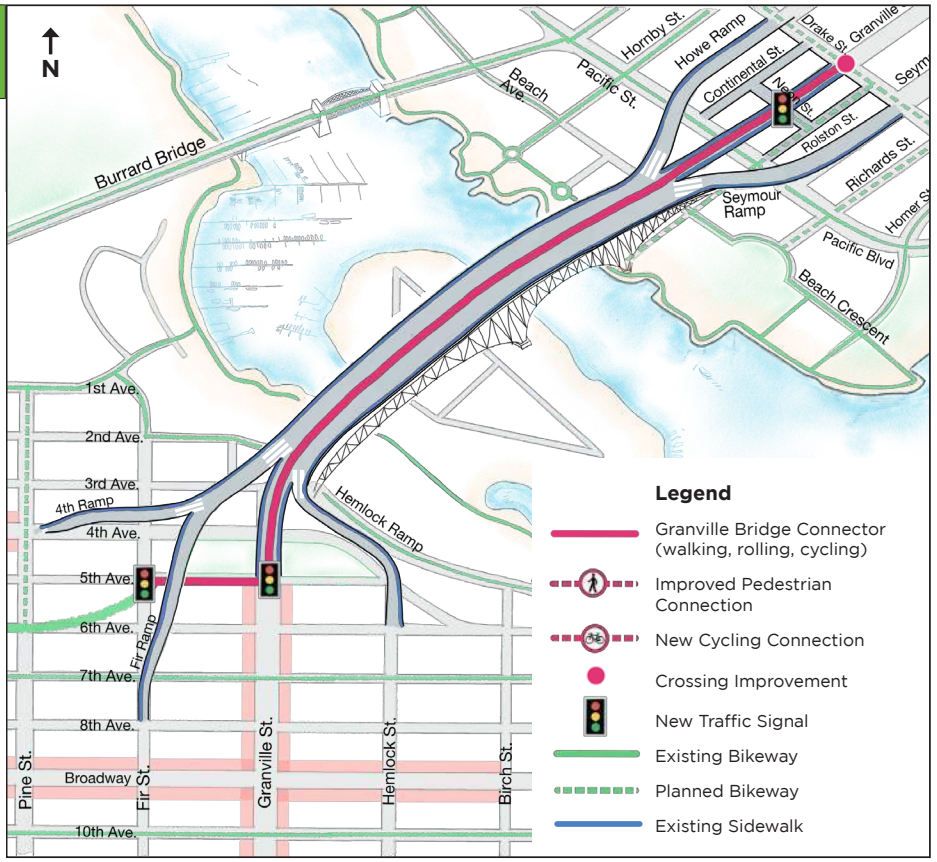
RAISED CENTRE

- Wide sidewalk and two-way bike lane down centre of bridge (approx. 8m)
- Path elevated ~1m above bridge deck to provide views and separation from traffic
- No change to existing sidewalks on east and west sides

MID-SPAN CROSS SECTION



COST: $45M-55M*



BENEFITS

+ Avoids need to cross on-/off-ramps at either end of bridge
+ Unique view from middle of bridge, raised 1m to see over most traffic
+ Up to 2m for seating & amenities
+ Compatible with some transit priority

CHALLENGES

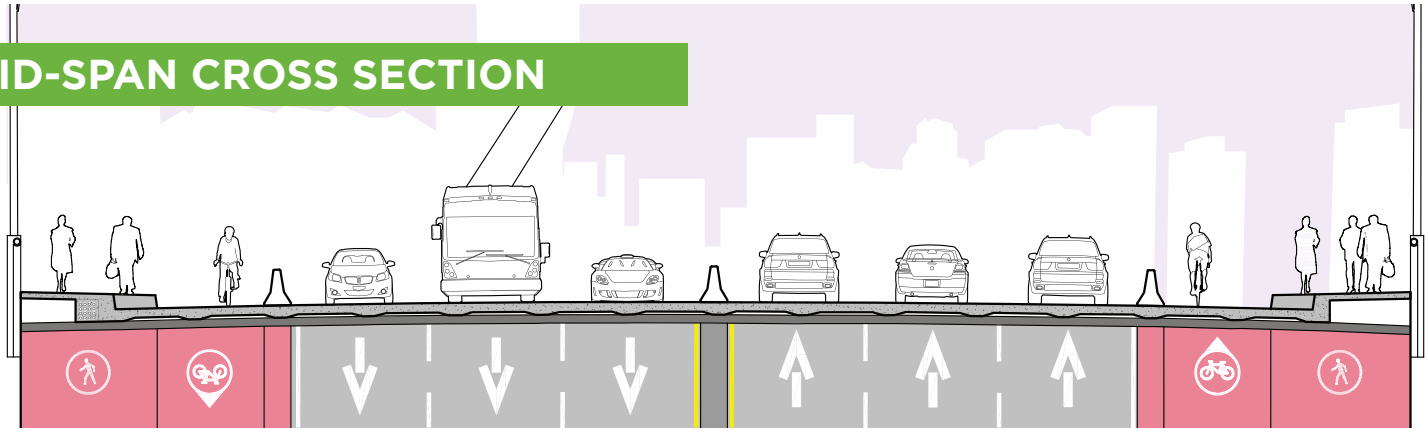
- Limited views of water
- Motor vehicles on both sides of path
- Does not address accessibility challenges with existing sidewalks
- No access to new path from existing ramp sidewalks
- Less room for public space compared to 'West Side' & 'East Side' options
- Limits ability to add southbound transit priority

*** Preliminary cost estimates are based on conceptual designs & developed for comparative purposes only.** As many details are not yet determined, estimates include a large contingency and will be refined significantly once a recommended option is selected. Estimates do not include means prevention fencing.

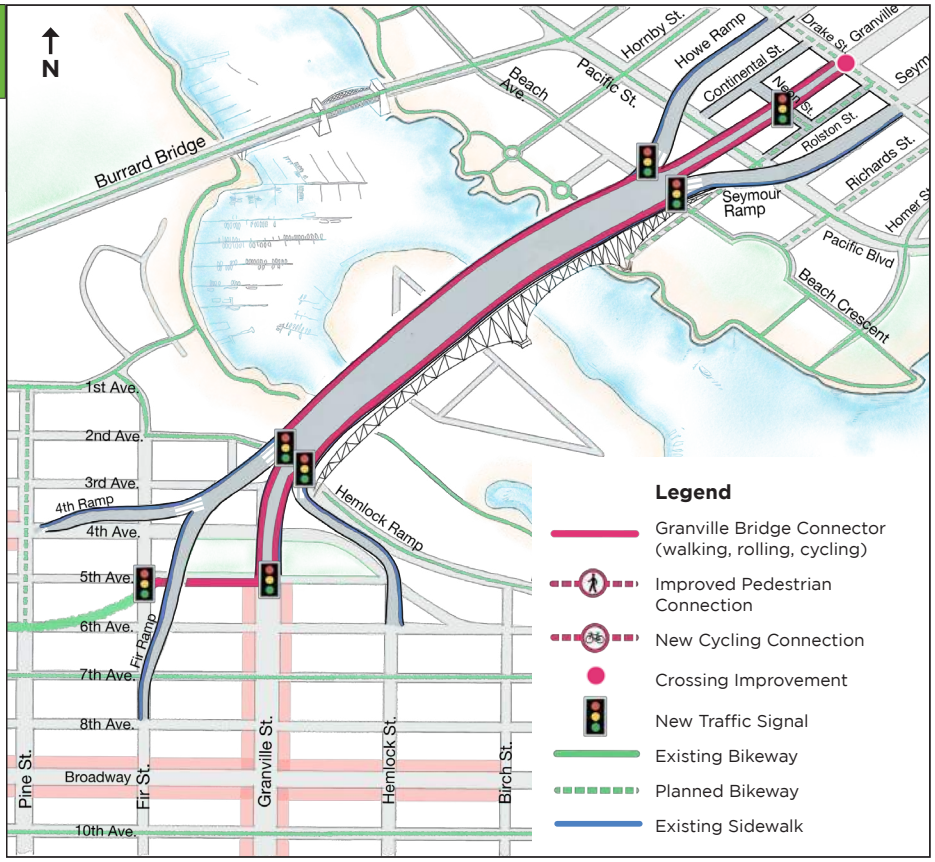
BOTH SIDES

- Slightly widen existing sidewalks on main span of bridge
- One-way bike lanes on both sides (similar to Burrard Bridge)
- New signals at Howe, Fir, Hemlock, and Seymour ramp crossings

MID-SPAN CROSS SECTION



COST: $20M-30M*



BENEFITS

+ Traffic on one side of path only
+ Views to west & east over False Creek
+ Accessible & widened sidewalks on both sides of bridge
+ Connects to existing sidewalks on 4th, Fir, Hemlock, Howe, & Seymour ramps

CHALLENGES

- Requires signalized crossings at Hemlock, Seymour, Howe, & Fir ramps
- Signalizing Seymour ramp may impact transit by encouraging some northbound traffic to stay on Granville St
- Minimal space for seating, railings, or other path enhancements
- Very limited compatibility with potential transit priority

*** Preliminary cost estimates are based on conceptual designs & developed for comparative purposes only.** As many details are not yet determined, estimates include a large contingency and will be refined significantly once a recommended option is selected. Estimates do not include means prevention fencing.

Shortlisted Options
Evaluation

The following was a preliminary assessment of the shortlisted options, conducted by City staff.

CRITERIA 1: WALKING & ROLLING COMFORT

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Quality of buffer from traffic	Bike lane provides additional separation from traffic	Bike lane provides additional separation from traffic	Bike lane provides additional separation from traffic	Bike lane provides additional separation from traffic	Limited lateral buffer from traffic	Bike lanes provide additional separation from traffic
Space for people to walk in groups **Space for seating & basic amenities**	Allows for 3m minimum path Plus up to 4m of additional space	Allows for 3m minimum path Plus up to 2m of additional space	Allows for 3m minimum path Plus up to 4m of additional space	Allows for 3m minimum path Plus up to 2m of additional space	Allows for 3m minimum path Plus up to 2m of additional space	Widens existing sidewalks to ~3m Space for occasional bench
Interaction with other modes of travel	Dedicated pedestrian-only space Motor vehicle traffic on one side	Dedicated pedestrian-only space Motor vehicle traffic on one side	Dedicated pedestrian-only space Motor vehicle traffic on one side	Dedicated pedestrian-only space Motor vehicle traffic on one side	Dedicated pedestrian-only space Motor vehicle traffic on both sides	Dedicated pedestrian-only space Motor vehicle traffic on one side
Grades (steepness of path)	2.5% to 3.5%	2.5% to 3.5% Additional level connection via Hemlock ramp	2.5% to 3.5%	2.5% to 3.5% Additional level connection via 4th ramp	3% to 4.5% Raising the path ~1m requires making the path steeper	2.5% to 3.5%
Accessibility improvements to existing crosswalks	Addresses one side	Addresses both sides	Addresses one side	Addresses both sides	Does not address either side	Addresses both sides
Consistent Connector width (doesn't have to pinch at ends)	✓	✓	✓	✓	Requires narrowing Granville St sidewalks south of Drake for 1 block	Requires narrowing Granville St sidewalks south of Drake for 1 block
Number of ramps to cross when walking main span	2 Crossings would be signalized	2 Crossings would be signalized	2 Crossings would be signalized	2 Crossings would be signalized	0 Avoids need to cross ramps	2 Crossings would be signalized
OVERALL GRADE:	**A**	**A+**	**A**	**A+**	**B**	**A+**

CRITERIA 2: WALKING & ROLLING NETWORK

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Directness to key destinations, e.g. ■ Granville-Granville ■ Arbutus Greenway	✓	✓	✓	✓	✓	✓
Additional walking connections via ramp enhancements	None Potential for enhancements to Fir/4th ramps in future	Improvements on Hemlock ramp provide an accessible connection to 6th Ave	None Potential for enhancements to Hemlock ramp in future	Improvements on the 4th ramp for an accessible connection to Pine St	None	None Potential for enhancements to Fir/4th/Hemlock ramps in future
Ability to connect with existing ramp sidewalks	Fir/4th & Howe ramps	All ramps	Hemlock & Seymour ramps	All ramps	Not possible	All ramps
Elevator/stair access to new public space below Granville Bridge via Vancouver House	Direct access	Direct access	Direct access	Direct access	Access one block away via future Granville-Neon intersection	Direct access
Pedestrian delay					Fewer signalized crossings for walking trip between Drake and 5th Ave	
OVERALL GRADE:	B	A	B	A	C	A

CRITERIA 3: CYCLING COMFORT

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Space for passing & accommodating different cycling speeds **Space for cycling with others**	Allows for 3m minimum path Plus up to 4m of additional space	Allows for 3m minimum path Plus up to 2m of additional space	Allows for 3m minimum path Plus up to 4m of additional space	Allows for 3m minimum path Plus up to 2m of additional space	Allows for 3m minimum path Plus up to 2m of additional space	2.5m one-way cycling paths on each side of bridge allow for passing
Interaction with other modes of travel	Dedicated cycling-only space Motor vehicle traffic on one side	Dedicated cycling-only space Motor vehicle traffic on one side	Dedicated cycling-only space Motor vehicle traffic on one side	Dedicated cycling-only space Motor vehicle traffic on one side	Dedicated cycling-only space Motor vehicle traffic on both sides	Dedicated cycling-only space Motor vehicle traffic on one side
Grades (steepness of path)	2.5% to 3.5%	2.5% to 3.5% Additional level connection with 10th Ave via Fir ramp	2.5% to 3.5%	2.5% to 3.5% Additional level connection with 7th Ave via Hemlock ramp	3% to 4.5% Raising the path ~1m requires making the path steeper	2.5% to 3.5%
Consistent Connector width (doesn't have to pinch at ends)	✓	✓	✓	✓	May require narrowing path at ends to accommodate movement on & off the centre path	Requires narrowing bike lanes at north end to accommodate a southbound bus boarding island
Number of ramps to cross when cycling main span	2 Crossings would be signalized	2 Crossings would be signalized	2 Crossings would be signalized	2 Crossings would be signalized	0 Avoids need to cross ramps	2 Crossings would be signalized
OVERALL GRADE:	**A**	**A-**	**A**	**A-**	**B**	**A**

CRITERIA 4: CYCLING NETWORK

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Directness to key destinations, e.g. ■ Granville-Granville ■ Arbutus Greenway	✓	✓	✓	✓	✓	✓
Additional cycling connections via ramp enhancements	None Potential for enhancements to Fir/4th ramps in future	Additional level connection with the 10th Ave bike route via Fir ramp	None Potential for enhancements to Hemlock ramp in future	Additional level connection with 7th Ave bike route via Hemlock ramp	None	None Potential for enhancements to Hemlock and Fir/4th ramps in future (but might encourage wrong-way cycling)
Elevator/stair access to new public space below Granville Bridge via Vancouver House	Direct access	Direct access	Direct access	Direct access	Access one block away via future Granville-Neon intersection	Direct access
Cycling delay					Fewer signalized crossings for cycling trip between Drake and 5th Ave	
OVERALL GRADE:	B	A	B	A	B	B

CRITERIA 5A: VIEWS

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Quality of Views	Unobstructed west side views for people walking & cycling	Unobstructed west side views for people walking & cycling Unobstructed east side views for people walking Unique views for people walking via Hemlock ramp Unique views for people cycling via Fir ramp	Unobstructed east side views for people walking & cycling	Unobstructed east side views for people walking & cycling Unobstructed west side views for people walking Unique views for people cycling via Hemlock ramp	Unique experience Limited water views in both directions Hinders views in one direction for people driving or taking transit	Unobstructed west side views for people walking & cycling Unobstructed east side views for people walking & cycling
OVERALL GRADE:	**A**	**A+**	**B+**	**A+**	**C**	**A+**

CRITERIA 5B: PLACEMAKING

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Space for placemaking & programming	Up to 4m of additional space	Up to 2m of additional space	Up to 4m of additional space	Up to 2m of additional space	Up to 2m of additional space	Very limited space
Compatibility with specific features	Compatible with balconettes, pocket plazas, additional staircases	Compatible with balconettes, additional staircases	Compatible with balconettes, pocket plazas, additional staircases	Compatible with balconettes, additional staircases	Not compatible with balconettes or additional staircases	Compatible with balconettes, additional staircases
OVERALL GRADE:	**A**	**B**	**A**	**B**	**C**	**D**

CRITERIA 6: TRANSIT RELIABILITY & FUTURE PRIORITY

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Maintains reliable transit	✓	✓	✓	✓	✓	✓
Potential for northbound transit priority downtown beyond Drake St	✓	✓	Significant impacts Would divert northbound general traffic to signalized Seymour ramp	Significant impacts Would divert northbound general traffic to signalized Seymour ramp	✓	Significant impacts Would divert northbound general traffic to signalized Seymour ramp
Potential for northbound transit priority in South Granville	✓	✓	✓	✓	Limited potential due to space constraints at Granville & 5th Ave	Limited potential due to space constraints at Granville & 5th Ave
Potential for southbound transit priority downtown	✓	✓	✓	✓	Limited potential due to space constraints at Granville & Drake	✓
Potential for southbound transit priority in South Granville	✓	✓	✓	✓	Limited potential due to space constraints at Granville & 5th Ave	Limited potential due to space constraints at Granville & 5th Ave
OVERALL GRADE:	A	A	B	B	B	C

CRITERIA 7: SECURE & INCLUSIVE SPACE

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Safe & secure space for all people, at all hours & times of the year	✓	✓	✓	✓	Raised path with traffic on either side may feel isolating to some people Less visibility into path from rest of bridge	✓
Accommodates fast & efficient emergency access	✓	✓	✓	✓	Difficult for emergency services to access	✓
OVERALL GRADE	A	A	A	A	B	A

CRITERIA 8: TRAFFIC & PARKING

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Accommodates current traffic volumes	✓	✓	✓	✓	✓	✓
Potential delays	New signals at Howe and Fir ramps could slightly increase southbound travel times for trips using ramps	New signals at Howe and Fir ramps could slightly increase southbound travel times for trips using ramps Potential for some localized delays around Fir St	New signals at Hemlock and Seymour ramps could slightly increase northbound travel times for trips using ramps Seymour ramp signal may divert some northbound traffic to Granville St downtown	New signals at Hemlock and Seymour ramps could slightly increase northbound travel times for trips using ramps Seymour ramp signal may divert some northbound traffic to Granville St downtown Potential for some localized delays around Fir St	Slightly less delay for vehicles using on-/off- ramps compared to east or west side options, since ramps are not signalized Slight more delay for vehicles traveling between Granville St downtown and south Granville, due to wider crosswalk and longer signals at 5th and at Drake	New signals at Howe, Fir, Hemlock, and Seymour ramps could slightly increase travel times for trips using ramps (northbound and southbound) Seymour ramp signal may divert some northbound traffic to Granville St downtown
Local circulation or parking impacts	N/A	May require restricting left turn from northbound Fir to westbound Broadway May require vehicle circulation changes on 10th Ave	N/A	May require restricting northbound right turn and southbound left turn at Hemlock & 6th Ave May require vehicle circulation changes on 7th Ave May require a few parking stalls to be removed on Granville between 6th & 8th Ave	May require a few parking stalls to be removed at Granville & 5th Ave	May require a few parking stalls to be removed at Granville & 5th Ave
OVERALL GRADE	**A**	**B**	**A**	**B**	**A**	**B**

CRITERIA 9: FUTURE FLEXIBILITY | COMPATIBILITY WITH RELATED PROJECTS

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Compatibility with Granville Island Elevator, including: ▪ staircase ▪ bus stops on bridge ▪ signalized crossing on bridge Note: elevator would be on one side or both sides, not in centre	✓	✓	✓	✓	✓ Allows for two-stage signalized crossing, which would have less impacts to traffic than other options Requires modifications to Connector so that it ramps down to bridge deck level at crossing	✓ Designing to accommodate bus stops requires narrowing the path for a significant stretch above Granville Island
Compatibility with potential future improvements to on/off-ramps	✓	✓	✓	✓	Difficult to connect ramp improvements to raised Connector	✓ Additional bike connections on Fir and/or Hemlock ramps could encourage wrong-way cycling
Compatibility with other elevators & staircases (e.g. Seawall)	✓	✓	✓	✓	Not compatible, since sides of bridge can't be reached from centre path without full signal	✓
Ability to reconfigure travel lanes in future	✓	✓	✓	✓	Difficult & more costly to alter the raised centre structure	✓
OVERALL GRADE:	**A**	**A**	**A**	**A**	**C**	**B**

CRITERIA 10: COST

	West Side	West Side +	East Side	East Side +	Raised Centre	Both Sides
Cost Note: estimates are preliminary & include a large contingency. They are intended for comparative purposes only.	**$20M to $30M**	**$30M to $40M**	**$20M to $30M**	**$25M to $35M**	**$45M to $55M**	**$20M to $30M**
OVERALL GRADE:	A	B	A	B	D	A

COMPARING OPTIONS - PRELIMINARY ASSESSMENT

Option	Walking & Rolling		Cycling		Placemaking		Transit Reliability & Future Priority	Secure & Inclusive Space	Traffic	Adaptability & Compatibility with Related Projects	Cost
	Comfort	Network	Comfort	Network	Views	Place & Amenity					
West Side	A	B	A	B	A	A	A	A	A	A	$20M - $30M
West Side +	A+	A	A-	A	A+	B	A	A	B	A	$30M - $40M
East Side	A	B	A	B	B+	A	B	A	A	A	$20M - $30M
East Side +	A+	A	A-	A	A+	B	B	A	B	A	$25M - $35M
Raised Centre	B	C	B	B	C	C	B	B	A	C	$45M - $55M
Both Sides	A+	A	A	B	A+	D	C	A	B	B	$20M - $30M

Appendix G

Drake Street Engagement Summary







DRAKE STREET UPGRADES

Public & Stakeholder Engagement Summary
Phase 2 | 2019 - 2020

CITY OF VANCOUVER

Contents

Drake Street Upgrade
Phase 2 Highlights

The City of Vancouver conducted a two-phase engagement process on the Drake Street to provide new walking, rolling, and cycling connection. This report summarizes feedback from the second phase of engagement.

The summary from previous phase of engagement is shared online at vancouver.ca/drake-street-upgrades.

Project overview

The City of Vancouver is planning upgrades along Drake Street from Hornby St. to Pacific St. These changes would:

- Improve safety, comfort and accessibility for people of all ages and abilities to walk, roll and cycle
- Fill a major gap in the cycling network, connecting the West End to Yaletown, and linking existing and future routes on Burnaby, Hornby, and Richards Streets, as well as the proposed future Granville Bridge Connector
- Maintain access for residents and businesses for all modes of transportation
- Provide more street trees and improve the ability of the street to manage rainwater

Coordination with Granville Bridge Connector- A Phased Implementation Approach

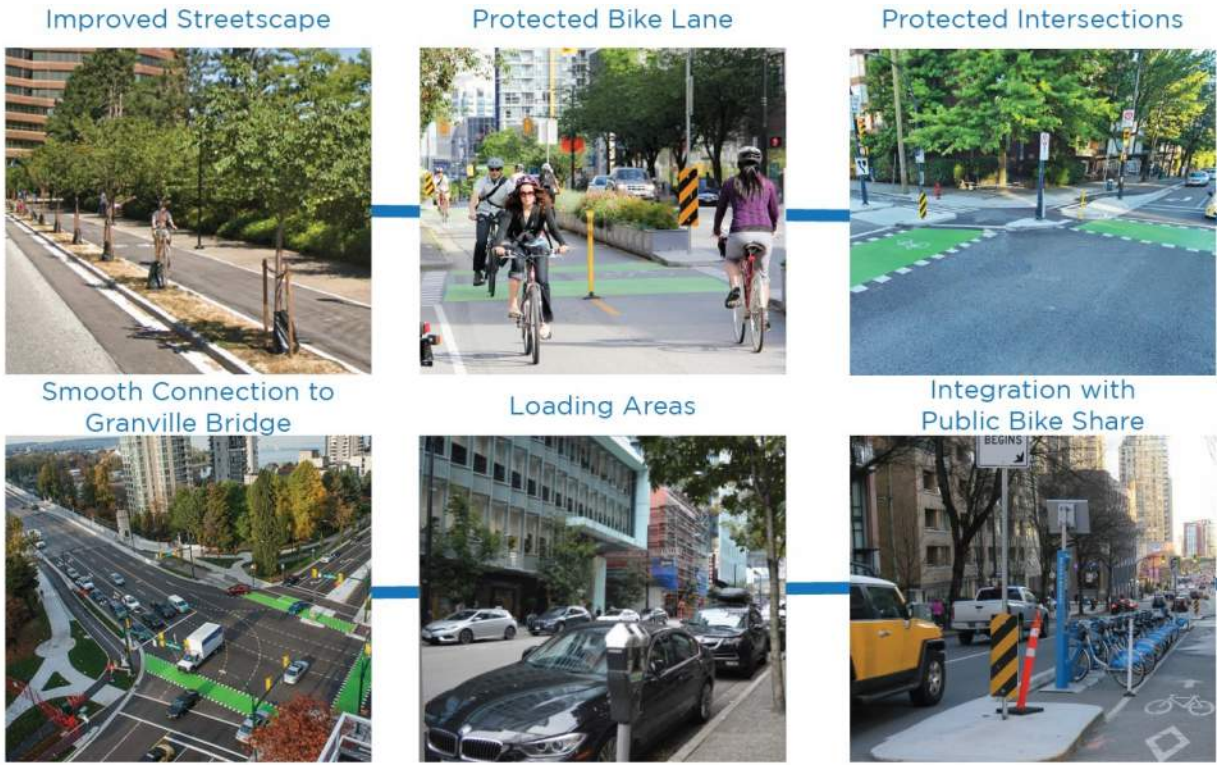
As staff have reviewed more detailed information on cost and refined an integrated approach to construction with the Granville Bridge Connector and loops replacement, an interim concept has been developed for Drake Street and some midblock design features will be deferred to the long-term concept. This integrated approach and phasing will be further outlined in a report to Council in fall 2020 and is being noted in this summary as it relates to landscaping and green rainwater infrastructure components of the project.

A median with paint and planters would be installed as part of an interim design to reduce initial timeline and cost. Planters would provide interim landscaping features while street trees and green infrastructure will be incorporated into the long-term concept for Drake St.

Drake St is an essential component to the combined project, filling a major east-west gap in the City's downtown cycling network and providing onward connections for the Granville Connector.

Existing Conditions on Drake Street

Potential Improvements



Engagement Approach

Public and stakeholder engagement took place from **spring 2019 to spring 2020**. This approach builds off the earlier public and stakeholder engagement on an east-west route in 2012 as part of the Comox-Helmecken Greenway project. The work informed, ongoing design efforts and was structured around a two-phase public engagement process including open houses, targeted discussions with local businesses, resident associations, and other stakeholders, and surveys for the broader public to share their feedback and concerns.

In **Phase 1 (spring 2019 – fall 2019)**, staff sought input on the role of the Drake Street bike lane in the overall downtown cycling network and on future connections that could improve safety and encourage sustainable travel.

Two design options were presented:

- **Option 1 (preferred by staff)**: This option proposed a bi-directional (two-way) bike lane on the south side of Drake Street with protected intersections and significant opportunities for new trees, landscaping and green infrastructure. In this option, Drake Street would become one-way eastbound for motor vehicles. Approximately half of the on-street parking would be retained.
- **Option 2**: This option proposed uni-directional (one-way) bike lanes on both sides of the street. The option maintained two-way motor vehicle traffic, but would require turn restrictions at key intersections, such as Howe St and Granville St. Significant sidewalk narrowing would be required, for example at the Hornby, Granville, and Richards intersections. Approximately one tenth of the on-street parking would be retained – primarily in the Yaletown area.

More details about the two design options can be found on the Information Displays.

In **Phase 2 (Early 2020)** staff reported back on the feedback heard in Phase 1 and shared a refined recommended design that addressed the feedback received from public. More details about the recommended design option can be found on the Information Displays.

In both phases, there were multiple opportunities to review and comment on the designs, including:

- Public open houses and surveys
- Personalized stakeholder discussions, which were offered to local businesses, business improvement associations, stratas, and citizen advisory groups to discuss the proposal in more depth

Updated Proposed Design in Phase Two

The second phase of public engagement occurred in conjunction with the final phase of engagement for the Granville Bridge Connecter project, which depends on Drake Street improvements for cycling network connectivity at the north end of the bridge. Both projects are expected to present recommended designs to the Council in 2020.

What We Did

Stakeholder Engagement

Phase 2 stakeholder engagement generally mirrored the approach taken in Phase 1, with additional outreach to groups that expressed interest in the project.

Staff reached out to stakeholders representing local businesses and residents, emergency service providers, and transportation. Staff also met with citizen advisory groups representing transportation, seniors, families and children, and persons with disabilities. Letters were sent throughout the area, and staff went door-to-door along the corridor, offering interested businesses and stratas personalized discussions.

A full list of stakeholders is provided in the table below.

Phase 1 (Spring 2019)	Phase 2 (Fall 2019 – Early 2020)
We met with: ▪ Vancouver Fire and Rescue Service ▪ Vancouver Police Department ▪ HUB ▪ Downtown Vancouver Business Improvement Association ▪ Yaletown Business Improvement Association ▪ Yaletown businesses along Hamilton St. ▪ Ismaili Community Centre ▪ GEC Suites ▪ Residence Strata and Associations along Drake St. such as - ○ Drake-Marinaside Corridor Association ○ Governors Tower – 388 Drake St. ○ Charleson – 499 Pacific St. ○ Pacific Point – 1323 Homer St. ○ Grace – 1280 Richards St. ▪ Other local businesses and residents associations along Drake St. ▪ Wildlife Thrift Store **We notified:** ▪ Elsie Roy School ▪ TransLink ▪ BC Trucking Association	**We met with:** ▪ Downtown Vancouver Business Improvement Association ▪ Yaletown Business Improvement Association ▪ Yaletown businesses along Hamilton St. ▪ BEST ▪ HUB ▪ HUB – UBC local committee meeting ▪ Advisory Committees ○ Transportation Advisory Committee ○ Seniors Advisory Committee ○ Persons with Disability Advisory committee ○ Children, Youth, and Families Advisory Committee ▪ Drake- Marinaside Corridor Association ▪ Governors Tower – 388 Drake St. ▪ Parkview Tower – 289 Drake St. ▪ Wildlife Thrift Store **We notified:** ▪ Elsie Roy School ▪ Vancouver Fire and Rescue Service ▪ Vancouver Police Department ▪ Ismaili Community Centre ▪ GEC Suites ▪ Residence Strata and Associations along Drake Street, including: ○ Grace Building – 1280 Richards St. ○ Charleson – 499 Pacific St. ○ Pacific Point – 1323 Homer St. ▪ Yaletown local Businesses ▪ TransLink ▪ BC Trucking Association

Phase 2: Public Engagement & Outreach

As with Phase 1, a communications outreach plan was developed to support the engagement process by ensuring diverse public awareness of the scope, timeline, and opportunities for input.

Phase 2 for the Drake Street Upgrades project began with a media technical briefing in early 2020, with open houses, and an online survey running from February through March.

Specific tactics are listed below.

- **Notification letter mail drop:** Letters were sent to over 9210 residents and businesses near Drake Street. Staff became aware of an issue with notification letter delivery to a small number of addresses, a second round of notifications was sent by mail and letters/postcards were hand delivered to affected addresses. Staff hosted an additional drop-in session and extended the engagement period to ensure we had an opportunity to hear from additional residents/businesses.
- **Post cards:** 200 postcards were dropped off at local businesses along Drake St and at nearby community centres.
- **Posters:** Eye-level signs were installed along Drake Street, targeting people walking or cycling in the area to promote the project
- **Social media:** Organic and paid content was posted on the City's Facebook, Instagram and Twitter platforms. The social media posts had over 1200 engagements (shares, comments etc.) and over 90,500 impressions.
- **Consultation web page:** A dedicated project page (*vancouver.ca/drake-street-upgrades*) was created, displaying project information and how to provide feedback. Open house engagement materials were posted to this website and were available throughout the consultation period. The public could also sign up for the project newsletter from the webpage. The website received over 1200 impressions/visitors.
- **Partner networks:** Stakeholders were encouraged to share engagement opportunities with their members and networks
- **Newsletter –** 366 subscribers to date

Engagement and Communications

Activity	Quantity	Participants*
Stakeholder Meeting/Conversations	13	97
Local Businesses (door knocking) ○ February 24, 2020	50+	50+
Public Open House ○ Date: February 6, 2020 ○ Location: Roundhouse Community Centre	1	132 attendees
Drop-In Session ○ Date: March 3, 2020 ○ Location: Roundhouse Community Centre	1	72 attendees
Website	1	Over 1200 visitors
Survey form ○ Dates: January 24 to March	1	1237 responses
Social Media	8 Twitter posts	351 engagements 46, 346 impressions
	5 Facebook posts	313 Engagements 11,966 impressions
	4 Instagram post	607 engagements 32,472 impressions
Emails, Letters, Calls, 311 inquiries	1 inbox	70+

**Totals may include those who participated in multiple engagement methods.*

Who We Heard From

A total of **1237 people** responded to the public survey.

More respondents identified as male (45%) than female (33%), with another 1% identifying as transgender or another gender identify. A diverse range of ages was represented.

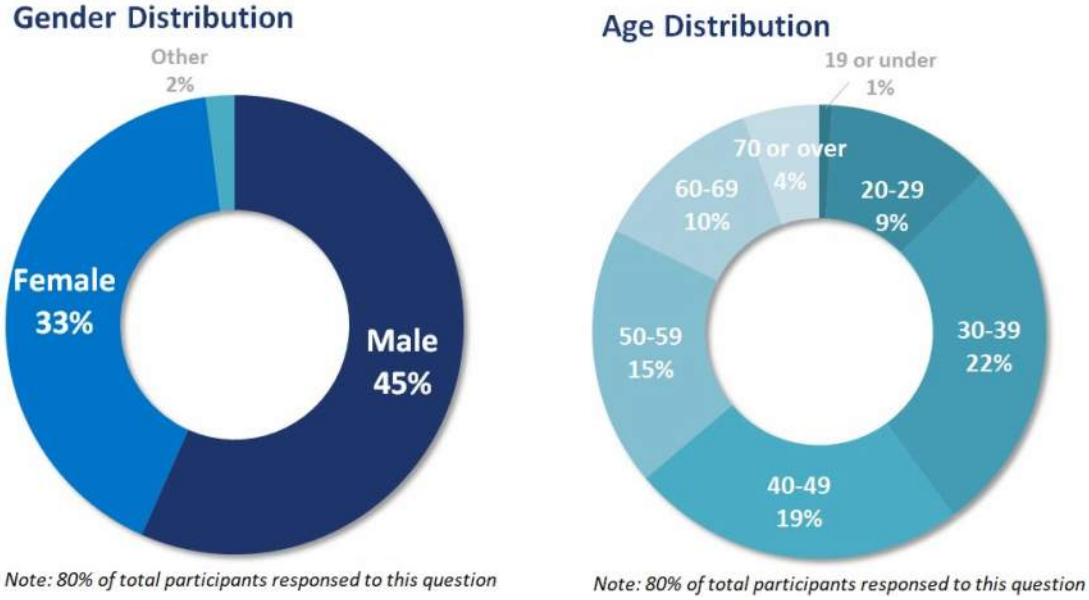


Figure 1 Phase 2 survey participants by gender and age.

When asked about their primary mode of travel in everyday life, respondents reported a broad mix:

- 15% walk as their main mode of travel
- 38% bike as their main mode of travel
- 22% use motor vehicle as their main mode of travel
- 3% use car-share as their main mode of travel
- 1% take transit as their main mode of travel
- 3% use other ways or switch between different modes as their main way of getting around

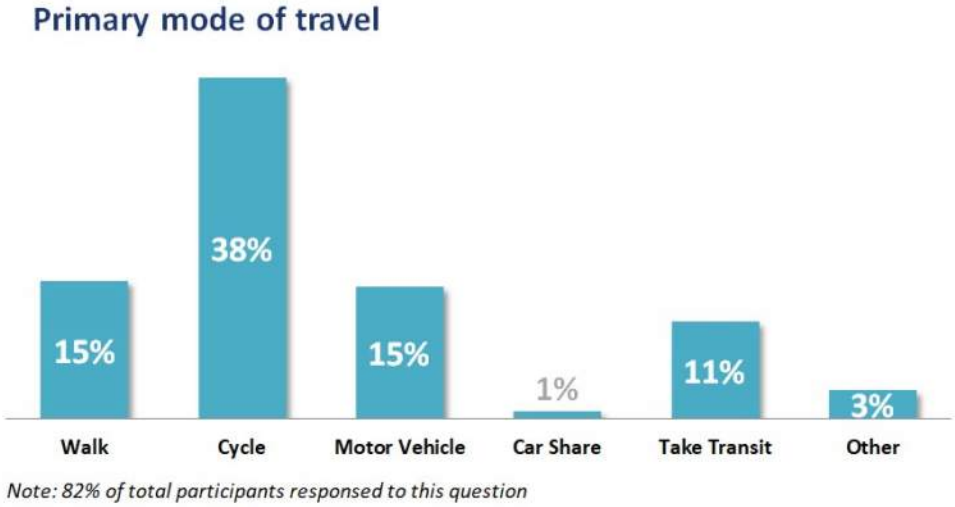


Figure 2: Phase 2 survey responses by experience using preferred modes of travel.

Participants reported how they normally travel along Drake St. using a wide variety of travel modes:

- 34% walk along Drake St. twice in a week or more (18% indicated they walk along Drake St. at least once a week)
- 19% bike along Drake St. twice in a week or more (24% indicated they bike along Drake St. at least once a week)
- 27% drive along Drake St. twice in a week or more (10% indicated they take transit across it at least once a week)
- 15% of the participants of total participants do not travel along Drake St. but are interested in the project

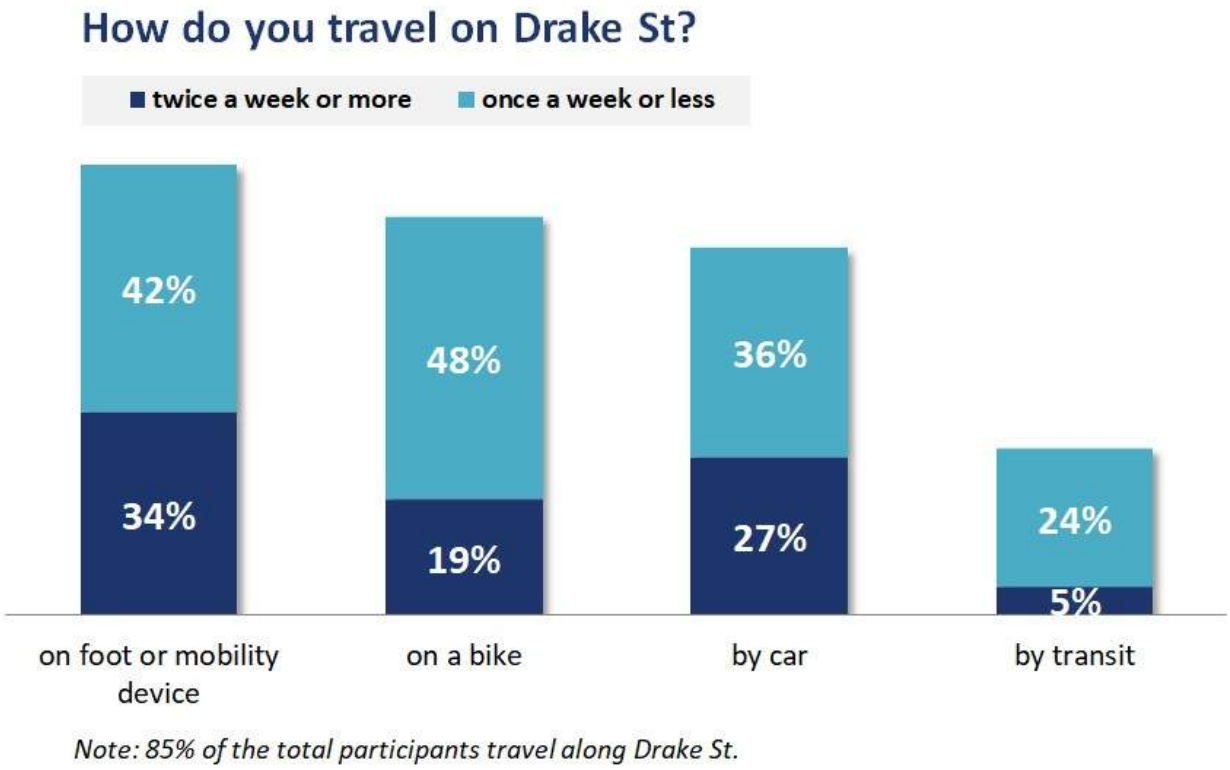


Figure 3: Phase 2 survey responses by experience using different modes of travel along Drake Street.

What We Heard

This section highlights key findings and themes from stakeholders and the general public.

Findings from Phase 1

Participants noted the importance of:

- Providing safe cycling in both directions
- Improving landscaping and adding more trees
- Maintaining current sidewalk widths
- Ensuring the cycling route safely connects to existing and future routes
- Minimizing construction impacts

The most common themes from the stakeholder and public conversations in Phase 1 were:

- Parking and passenger/ loading zones
- Access to Granville Bridge
- Access to Yaletown businesses and the local neighbourhood
- Vehicle circulation and turning movements associated with converting the street to one-way for motor vehicles
- Safety for all road users, especially at intersections
- Walking infrastructure including sidewalk width and landscaping
- Construction impacts and coordination with related projects

Many of the specific concerns related to proposed turn restrictions at the eastern end of the project area, (particularly at the Drake-Pacific intersection), access to and from Granville Bridge, and access to Hamilton Street. A number of design modifications were made to address these concerns in the lead-up to Phase 2.

Feedback was also received on the importance of providing parking and loading options along Drake Street. Staff subsequently worked with stratas and businesses to modify the design, providing a mix of parking, loading and passenger zones in each block as required, and are continuing to find new opportunities for zones on adjacent streets.

Some participants expressed concerns with Option 1, noting in particular that maintaining two-way motor vehicle traffic along Drake Street was important to them. However, these concerns were offset by greater concerns that maintaining two-way motor traffic (Option 2) would result in fewer parking spaces and loading/passenger zones. Through the engagement, staff heard that much of the support for retaining two-way traffic was to facilitate convenient access to Granville Bridge for motor vehicles; however the turn restrictions required making a two-way option safe, removed most of the benefits.

Overall, Option 2 provided fewer transportation and public realm benefits since it reduced sidewalk widths at intersections, introduced new motor vehicle turning restrictions, had more conflict areas, and didn't provide opportunities for green rainwater infrastructure. Conversely, Option 1 was felt to be better for walking and public realm due to wider sidewalks, the potential to include new trees and better for cycling due to fewer conflict areas, better interfaces with other routes, and more room for passing, and potentially better for driving due to fewer turn restrictions.

Read more: *Phase 1 Engagement Summary*

Findings from Phase 2

Level of support for the design changes to the recommended design

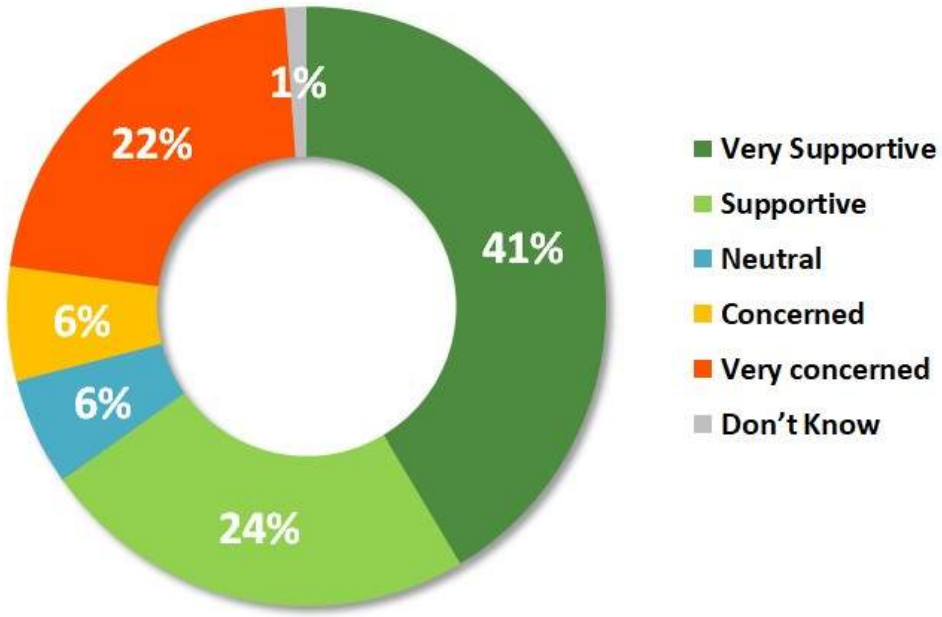
Following the first phase of engagement, staff refined Option 1 (two-way protected bike lane and one-way eastbound vehicle traffic), with design changes to address feedback and concerns.

The changes included:

- Improving motor vehicle access to Hamilton Street by maintaining two-way motor traffic between Hamilton Street and Pacific Boulevard
- Addressing motor vehicle circulation concerns at the eastern end of the project by eliminating proposed turn restrictions at Pacific Boulevard, allowing vehicles to turn left, right, or go straight
- Prioritizing loading and passenger zones based on input from businesses and residents
- Advancing green rainwater infrastructure to reduce road flooding during heavy or prolonged rainfall (permeable paving materials, trees, and rainwater tree trenches)

The revised design was presented to public in early 2020. Staff consulted with residents, businesses and key stakeholder on these modifications. Figure 4 below, reflects the level of support for the changes to the recommended design:

- Over 60% of participants were supportive or very supportive of the design changes
- 28% of participants were concerned or very concerned
- 6% participants felt neutral

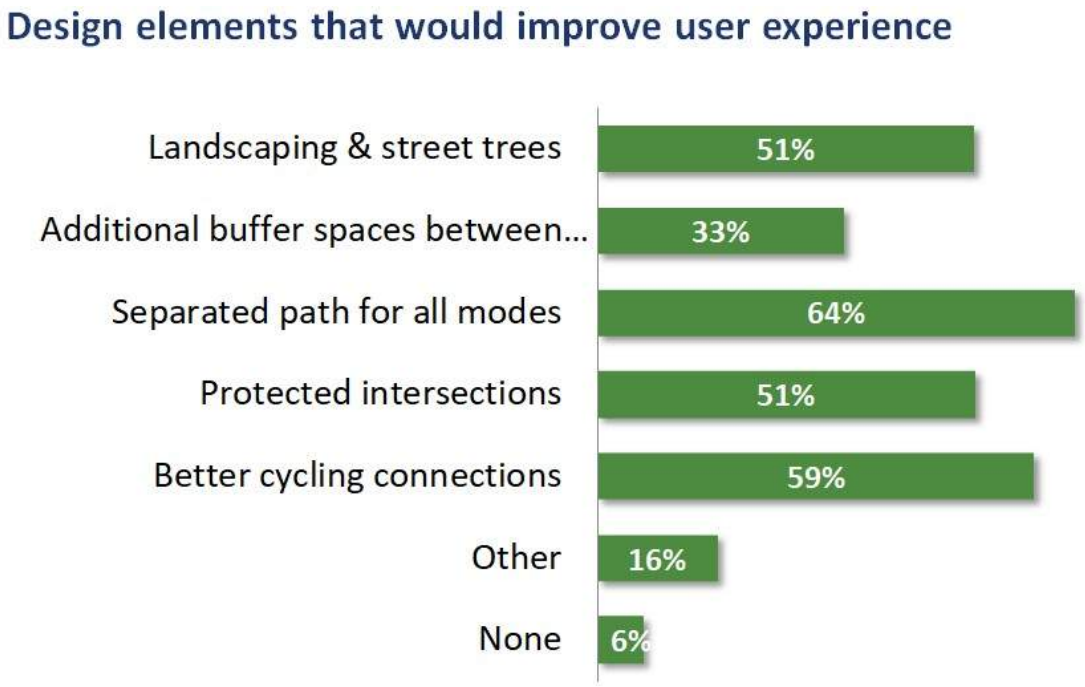


Note: 91% of total participants responsed to this question

Figure 4: How do you feel about the changes to the recommended design?

Respondents were invited to share which design elements would improve the experience of people walking, rolling, cycling, or driving (see Figure 5). In ranked order, the elements were:

- Providing separate paths for different user groups (64%)
- Improving cycling connections to existing and future routes (59%)
- Protected intersections (51%)
- Landscaping and street trees (51%)
- Creating additional space between the sidewalk and moving traffic (33%)
- Other (16%), with write-in comments including suggestions to maintain two-way motor vehicle traffic for people driving, and more explicit cycling connections to the Seawall for people cycling



Note: 90% of the total participants responded to this question.

Figure 5: Overall, which design elements would improve your experience to walk, roll, cycle or drive on Drake Street?

Concerns related to the recommended design

Respondents were also invited to share their concerns about the project (see Figure 6 below). Highlighted concerns included:

- Potential conflicts between people cycling and people driving between Hamilton and Pacific as well as at the Hamilton-Drake intersection, where the proposed cycling facility transitions from a protected lane to a shared one
- Potential difficulty for residents entering or exiting the laneways and parkades in developments at the eastern end of the project area
- Continued diverse opinions relating to Option 2 (which was part of Phase 1 engagement and did not advance to Phase 2), with some participants continuing to advocate for maintaining two-way motor vehicle traffic along Drake Street
- Divergent opinions on the design at the eastern end of the project, which was modified to improve motor vehicle circulation and access
    - Many respondents appreciated the nuanced change to the design
    - Some respondents wished to extend the two-way design all the way between Homer and Pacific
    - Other respondents expressed a desire to extend the two-way protected cycling facility further east for additional safety and improved active transportation connectivity to the Seawall
- 22% did not respond to this question and 16% did not have any concerns

Note: 78% of the total participants responded to this question.

Figure 6: Overall, concerns about the recommended design.

Common Themes & Staff Responses for specific intersections

This section reflects the comments and suggestions that we heard in Phase 2 through surveys, public events, and stakeholder discussions, followed with staff responses.

1. Drake St and Pacific Blvd

- General support for design change to remove proposed turn restrictions at Drake-Pacific to allow motor vehicles traveling eastbound on Drake St. to turn left, right or go straight
- Some people commented that Pacific St can be challenging to cross for people walking and cycling, particularly for children and seniors accessing the Yaletown-Roundhouse Community Centre, due to street width and high number of left-turning eastbound vehicles
- Specific suggestions for improvement included:
    - Improving visibility, wayfinding and traffic signal timing for all road users
    - Extending the Drake Street cycling connection to the Seawall

Staff Response

The design was modified to allow motor vehicles traveling eastbound on Drake Street to make all movements (left, right and straight) at Pacific Boulevard. This change was made in response to concerns heard in Phase 1 regarding a desire for adequate motor vehicle access to the Marinaside neighbourhood and Elsie Roy School. This change maintains Pacific Blvd. as a route to access to the Granville Bridge and provides the same access to Hamilton St as today.

Due to the width of Pacific Boulevard and angle of the intersection, crosswalks are 31-37m long versus the 11m needed to cross Drake at most of its intersections. This width not only prevents the use of protected turn phases since the walk phase already takes up half the available signal time, but it can make the intersection daunting to cross on its own. Unfortunately, meaningful changes at this intersection are not possible without substantial reconstruction of Pacific to reduce the crossing distance by realigning the intersection, narrowing or removing the median and a protected intersection design that would allow people to cross the Pacific bike lanes separately from the main crossing. With the current alignment, the use of curb bulges (as would be effective in smaller intersections) would reduce crossing distances by no more than 10% while not making progress toward more substantial change.

To help improve walking and cycling connections between Drake Street and the Seaside Greenway (Seawall), staff are exploring minor improvements on Marinaside Crescent between Drake St and Davie St, such as a reduced 30km/h speed limit, wayfinding signs and stencils. Through a related project, staff could explore redesigning the Davie-Marinaside intersection, separating walking and cycling paths along the Seawall to help reduce conflicts between all users and provide a smooth transition between the roadway and the Seaside Greenway.

2. Drake St and Hamilton St & Homer St

- General support for design change to make Drake Street two-way for motor vehicles between Hamilton and Pacific to allow better vehicular access to Hamilton Street
- Concerns raised included:
    - Accessing building parkade between Homer and Pacific
    - Potential conflicts between people cycling and people driving between Hamilton and Pacific as well as at the Hamilton-Drake intersection, where the proposed cycling facility transitions from a protected lane to a shared one
    - How people would safely access the loading or passenger zones on the south side of Drake St from the sidewalk
- Specific ideas mentioned included:
    - Adding street markings, visibility features and wayfinding at the Hamilton intersection to make it safer and less confusing for people cycling and driving
    - Considering moving the protected bike lane to shared bike lane transition from Drake-Hamilton to Drake-Homer

Staff Response

Maintaining existing access routes to Hamilton St businesses is important, and although this requires mixing westbound cycling and motor vehicles, 60% of the peak hour traffic to Hamilton Street is from eastbound, rather than westbound Drake, and there is no westbound through traffic along Drake. At the Hamilton transition point, only a single lane of eastbound traffic need be crossed by making a fairly regular left turn at a two-way stop. As a result, this section still meets the City of Vancouver's All Ages and Abilities guidelines for mixed traffic.

Staff will continue to work with the Yaletown BIA and businesses on the allocation of curb use for parking and other business functions, which could, for example, include the use of pay stations to allow more parked cars along the same length of curb, and morning loading zones that convert to metered parking in evenings.

Overall design considerations
Well over a dozen variations on the transition of the east end of the protected bike lane were considered in terms of safety, comfort, access, and parking. Only the Pacific Blvd intersection was considered more appropriate, but the turn restrictions in the original proposal eliminated it from consideration and a substantial reconstruction of Pacific Blvd on either side of the intersection would be required to make it work without the turn bans. Several transitions at Homer St were considered, but they do not work as well as Hamilton St given the larger signalized intersection with an additional road connection where a transition similar to that proposed at Hamilton St would have been. As a result, the transition would likely need to be achieved with a westbound protected bike lane along the north curb (removing parking) and a separate diagonal signal phase, which is a significant expense providing limited benefit and increased delay for each mode of travel over the recommended design.

North side of Drake St
This change also requires removing parking from the north side of Drake St between Hamilton St and Pacific Blvd adjacent a residential building, and staff will work to identify the nearest potential alternates for pick-up and drop-off, such as from the Pacific Blvd side of the building.

South side of Drake St
In February 2020, staff requested data collection of motor vehicle circulation at Drake St and Hamilton St, including access to a residential driveway on the south side of Drake St which is slightly offset at this intersection. Peak-hour, peak-direction traffic at the residential driveway is one vehicle every other minute, and traffic returning home in the afternoon peak is 2/3 eastbound right turns. This driveway is thus comparable in volume to many others along downtown protected bike lanes, but with more reliable user familiarity in negotiating the crossing. Although it is possible to provide westbound access into the driveway, either some or all of the north side parking would be removed depending on whether that travel lane ended at the driveway (potentially confusing) or as a right turn onto Homer.

Loading, passenger zones, and parking along protected bike lanes are typical in Downtown Vancouver, including busier locations like hotels, cultural facilities, and transit stops. Residential towers and townhomes frequently front protected bike lanes, retaining loading and passenger zones for guests, deliveries, and moves from homes. There is currently a signed passenger zone within the Hamilton intersection, which is not consistent with City bylaws and as such is to be relocated west of the intersection (and driveway) per the adjacent strata's preference versus a location closer to Pacific. It cannot be retained in the intersection due to bylaw. Staff explored formally closing the unmarked crosswalk east of the intersection to provide an alternate location, but this would be further away from the courtyard entrance than the proposed location and closing crosswalks is not supported by the City's policies as set out in Transportation 2040.

3. Drake St and Richards St

- General support for providing a safe cycling connection to link the Richards Street upgrades (currently under construction) and the proposed Granville Bridge Connector

- Support for specific proposed intersection features to improve safety for all road users, including corner islands, bike boxes, and maintaining clear sight lines
- Specific concerns included:
  - Removal of a designated passenger pick up and drop off zone on Drake Street for visitors to the Ismaili Community Centre
  - How people driving would safely enter and exit the lanes between Richards and Homer while crossing a two-way bike lane

Staff Response

Along with the Richards Streets Upgrades, staff worked with representatives of the Ismaili Community Centre to provide two designated passenger pick up and drop off zone and other parking options in the vicinity of the Ismaili Community Centre on the Southwest corner of Drake St and Richards St. Both projects would maintain direct access to the Community Centre. A detailed design can be found here.

- The designated passenger pickup-drop off would include:
  - One Passenger zone on south side of Drake St. at the entrance of the Ismaili Community Centre
  - Two spaces of passenger zone on Richards St. adjacent to the Ismaili Community Centre
- Other parking options would include:
  - New metered parking on Richards on the Northwest curb across the Ismaili Community
  - Additional strip of four metered parking stalls on the Southside of the block

4. Drake St and Seymour St

- Some reported the intersection to be confusing with cars coming off the ramp turning right, making it awkward and challenging for the drivers
- Some wondered whether there would be a right turn signal to enable safer turn movements and reduce conflicts with two-way bike traffic

Staff Response

The way Seymour St approaches Drake St is largely determined by the Granville Bridge ramp joining with the lower portion of Seymour St immediately before the intersection, and without significant reconstruction of the bridge, restricting the turn in question, or generally affecting access, limited change is possible. Changes such as separate traffic signal phases for the two approaches on Seymour St would require a more complicated five leg intersection and a reduction in capacity available for traffic leaving the Granville Bridge.

Conflicts with two-way bike traffic on Drake St would be managed by restricting right turns on red from Seymour St onto Drake St, as is standard practice for these types of bike lanes.

5. Drake St and Rolston St – Continental St

- Some questions regarding traffic circulation and access , relating to:
  - The combination of Drake St becoming one-way for motor vehicles and the replacement of the Granville Loops with a normalized street network (approved in 2010)
  - Access to some buildings on Rolston St. & Continental St.

Staff Response

Although the exact details will be finalized through the Granville Connector and Loops projects, the replacement street network is expected to provide the following connections for motor vehicles:

- Between Drake St and existing driveways on the western portion of Neon St in both directions via Continental St
- Between Drake St and existing driveways on the eastern portion of Neon St in both directions via Rolston St

- Northbound from Pacific St (to Drake St) on Continental St
- Southbound from Pacific St (to Drake St) on Rolston St
- Access to and from the bridge from any individual building in this area varies, but can be achieved using a combination of Drake St , Pacific St, Continental St, Rolston St, and/or Neon St without leaving those blocks

6. Drake and Granville

- General support and excitement for providing safe walking and cycling connections to the potential Granville Bridge Connector via Drake St
- Some questions and comments regarding neighbourhood circulation
- Some suggestions to
  - Facilitate cycling further north on Granville St
  - Ensure the design allows for high volumes of turning bikes

Staff Response

Although the design for this intersection is led by the Granville Bridge Connector project, staff have been working closely together. The eastbound right turn restriction at Drake St is expected to be accommodated for most with the separate turn phase at Howe St, and instead the space can be used to ensure the north end of the Granville Bridge Connector connects well to Drake St and onward into Downtown. It would additionally allow for more curb use on Drake, and a more useful loading zone in front of the Wildlife Thrift Store.

In terms of cycling connections along Granville Street, a formal connection would need to be considered as part of a broader downtown Granville Street project as there is currently no east-west connection until Dunsmuir. However, the intersection aims allow transitions to and from mixed traffic to the north of Drake St through the arrangement of ramps for southbound and a two-stage turn to continue northbound first using the Drake St crossing.

7. Drake St and Howe St

Some general safety concerns for all road users, with suggestions including reducing speed limits, adding corner islands and pedestrian refuges, and improving visibility.

Staff Response

The design for Drake St and Howe St includes curb bulges to support slow turning speeds and reduce the length of crosswalks to their minimum for the number and kinds of traffic lanes. Along with a separate right turn phase for people driving turning onto Drake St, this provides not only more comfortable crosswalks, but also helps to maintain motor vehicle capacity onto the Granville Bridge as part of the approach taken by the Granville Bridge Connector project. Although there are no current plans to reduce speed limits on downtown streets more broadly, the Granville Street Patio and Transit Priority Pilot includes a 30km/hr speed limit just north of the bridge, and the City has been reducing speed limits that are higher than the 50km/hr default (like the Granville Bridge) during related project work.

8. Drake St and Hornby St

- Many comments regarding awkward and unclear current conditions, in particular for people cycling:
  - Travelling south on Hornby St and turning right on Drake St
  - Travelling east on Drake St and turning left on Hornby St
- Some suggestions included:
  - Creating a diagonal crossing for people cycling to turn between Hornby and Drake and improving traffic signal timing for people walking and people cycling
  - Adding more signage, improving markings and wayfinding

Staff Response

The protected intersection is expected to substantially address confusion regarding the existing design that requests, for example, people cycling from Hornby St to Burrard St to first make a left turn and a U turn to face oncoming motor vehicle traffic. The proposed design clearly separates two crossings, one north-south for Hornby St, and one east-west for Drake St, and turns between the two are smoothly made in the protected southeast corner.

To facilitate the important connection between Hornby St and the Burrard Bridge, as well as remove the incentive to ride in crosswalks or disobey signals, the expected intersection timing will maximize the length of each bicycle crossing and should provide an overlap where both bicycle crossings are green at the same time. The ideal result would be someone cycling from Hornby St at Davie St to Burrard St at an appropriate pace without stopping.

We understand the interest in a diagonal crossing, but given the geometry of the intersection the most likely outcomes for a third phase would be:

- A phase in which all crosswalks and bicycle crossings are possible at the same time, which could lead to conflict between the various bicycle turns, as well as with crosswalks
- A phase in which only the diagonal crossing is made, along with the busier northbound right turn for motor vehicles, which could be confusing and requires diagonal bike movements to proceed separately from straight bike movements
- A longer wait to use the specific phase rather than maximizing the length of each individual crossing

9. Drake St and Burrard St

- Some comments expressing appreciation for how the design would improve safety for people walking and cycling
- Some concerns regarding potential conflicts when people driving attempt to access neighbourhood lanes
- Suggestions included
    - Synchronizing traffic lights to improve conditions for people walking and cycling
    - Connecting Drake St with the Burnaby St bike lane further west

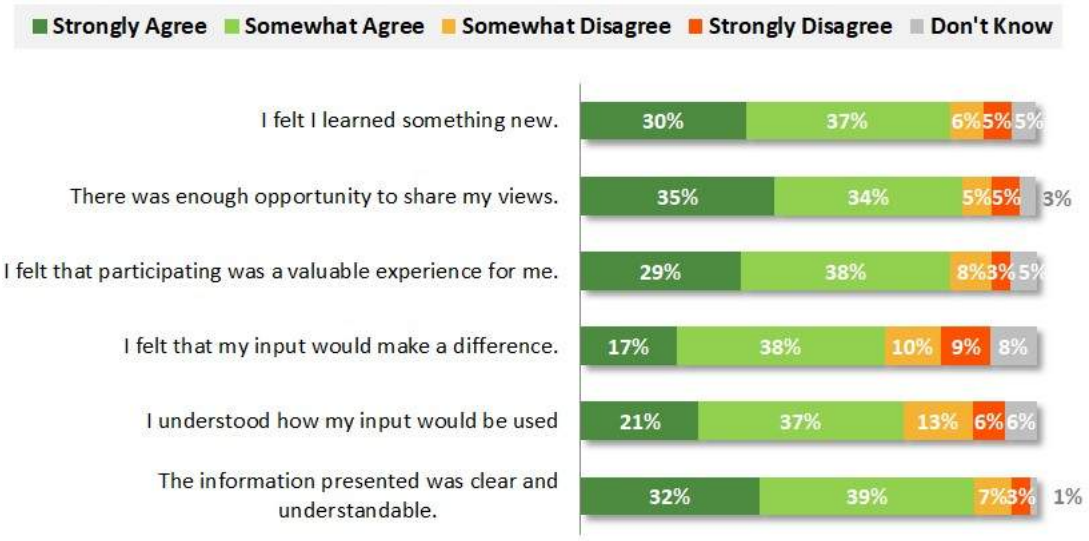
Staff Response

The changes coordinated with adjacent redevelopment at Burrard St include expanding refuges and adding tactile walking surface indicators (TWSIs) for accessibility as is now standard at protected intersections. As with Drake St and Hornby St, the busy northbound right turn movement from Burrard St would have its own phase, and the intent is to maximize safe crossing opportunities, for example allowing people walking and cycling along Burrard St to cross at the same time as Drake St provided there is no traffic exiting from the alley. The current situation encouraged people to cross against the signal as there is rarely traffic from the lane, which in turn makes it more difficult for drivers to safely exit.

On the west side of the intersection, a subtle redesign introduces a protected intersection corner in the southwest to make a smooth Burnaby St to Drake St connection while straightening the alignment for people driving eastbound and better accommodating garbage truck access from Burrard St to the lane while still supporting slow turning speeds.

Public Feedback Engagement Process

Staff collected feedback about the engagement process to review what went well and how we can improve on future projects.



Note: 83% of total participants responsed to this question

Figure 7: Public reflection on overall Engagement Process

Next Steps

Comments received in Phase 2 of the engagement process are being considered by staff as they finalize the recommended design and prepare a report to Council.

Appendix H

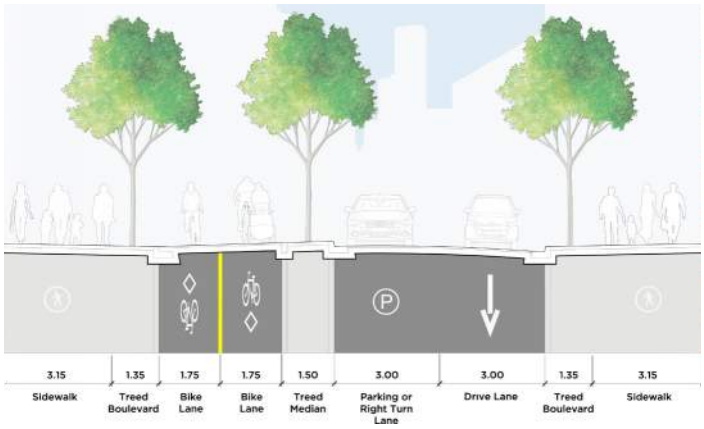
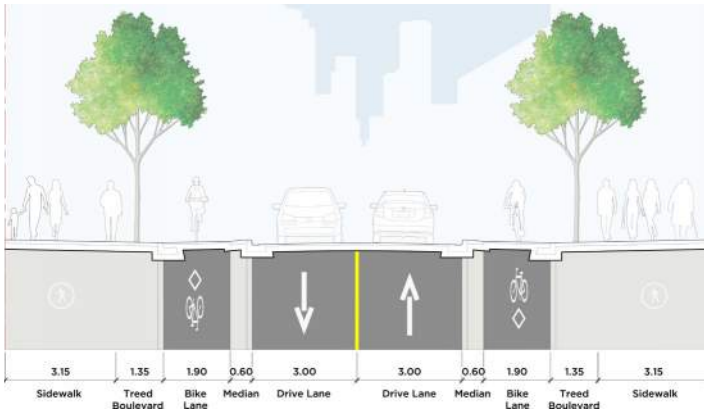
Summary of Drake Street Design Options Evaluated

Overview of Drake Street Options

Staff developed two design options for Drake Street, which were presented at the first round of engagement and later refined for a second round of engagement:

- A two-way Drake St with uni-directional bike lanes on either side.
- A one-way Drake St with some on-street parking, loading, and turn bays, and a bi-directional bike lane on the south side of Drake St.

Preferred Option

Bi-directional Bike Lane Option	Uni-directional Bike Lane Option
 Drake Street Facing West	 Drake Street Facing West
PRECEDENT IMAGES	
	
CYCLING SAFETY AND COMFORT	
• Fewer conflict areas increase comfort • Simpler turn movements for bikes at key intersections • Larger buffer between those cycling and driving	• More conflict areas decrease comfort • More complicated turn movements for bikes at key intersections • Narrower buffer between those cycling and driving
VEHICLE CIRCULATION	
• Eastbound motor vehicle traffic only • Four new right-turn lanes	• Maintains two-way motor vehicle traffic • Requires additional turn restrictions • No space for new turn lanes
PARKING	
• Retains more on-street parking	• Retains less on-street parking
STREET EXPERIENCE	
• Maintains sidewalk widths and improve curbs • Space for a median with landscaping and potentially trees	• Reduced sidewalk width at some intersections • No room for additional landscaping

Detailed Evaluation of Options

A more detailed comparison of the benefits and trade-offs of both Drake Street options that were evaluated are summarized in the table below:

	Preferred Option	
	Bi-directional Bike Lane Option	**Uni-directional Bike Lane Option**
SAFETY		
Protected Active Travel Connections	Protected intersections for those walking and cycling at Burrard Street, Hornby Street and Richards Street.	More constrained protected intersections for those walking and cycling at Burrard Street, Hornby Street and Richards Street.
Granville Bridge Connection	Direct, accessible walking and cycling connection through a protected intersection. Those cycling can move smoothly to and from the bridge.	Less capacity to accommodate high volumes of people walking, cycling and rolling through a protected intersection. Those wishing to move to or from the westbound cycling lane will need to cross twice. Congestion in cycling lane will impact those walking and rolling on the sidewalk as well.
Number of driveways, alleys, and intersections without signals	6 westbound, 6 eastbound	8 westbound, 6 eastbound
CONFLICTS AT SIGNALIZED INTERSECTIONS		
Turning conflicts	5 conflict areas	19 conflict areas
Conflicts requiring signal phase	3 intersections requiring additional signal phases	4 intersections requiring additional signal phases
STREET EXPERIENCE		
Sidewalk Width	Requires minimal change	Requires sidewalk narrowing at certain intersections
Buffer from Traffic	Wide south-side buffer	Narrow buffer
Landscaping	Treed & landscaped median	No landscaping
Public Bike Share	Space for bike share station near Granville Street	No space for bike share station
CIRCULATION		
Motor vehicle circulation	Eastbound only	Eastbound and westbound
Right turns	Add four right turn lanes for motor vehicles (Howe, Granville, Richards, Homer)	No space for right turn lanes
Additional turn restrictions	Requires one turn restriction: Eastbound left turn only at Pacific St.	Requires four turn restrictions on Drake Street: No westbound lefts at Burrard Street and Howe Street; No eastbound left at Hornby Street; no left turns in any direction at Granville Street.
PARKING		
Loading zones and parking retention	Retain approximately 41 out of 82 parking spaces (approximately 50%)	Retain approximately 10 out of 82 parking spaces (approximately 12%)

Appendix I
Stakeholder Letters and Advisory Committee Motions

- City of Vancouver Children, Youth and Families Advisory Committee (CYFA)
- Downtown Vancouver Business Improvement Association (DVBIA)
- HUB Cycling
- City of Vancouver Transportation Advisory Committee (TRAC)
- South Granville Business Improvement Association (SGBIA)
- Vancouver Coastal Health (VCH), Chief Medical Officer

CITY OF VANCOUVER

CHILDREN, YOUTH AND FAMILIES ADVISORY COMMITTEE

VanRIMS No.: 08-3000-11

The Children, Youth and Families Advisory Committee is a civic agency appointed by Vancouver City Council to advise Council and staff on matters that relate to children, youth and families. The following represents the views of the members of the Children, Youth and Families Advisory Committee. The Children, Youth and Families Advisory Committee is not expressing views on behalf of the City of Vancouver.

June 25, 2020

Mayor and Council
City of Vancouver
453 West 12th Avenue
Vancouver, B.C.
V5Y 1V4

Dear Mayor and Council:

RE: Granville Bridge Connector – Letter of Support

The Children, Youth and Families Advisory Committee is committed to advocating for the best interests of children, youth, and families in Vancouver. At our meeting on June 25, 2020, the Children, Youth and Families Advisory Committee members approved the following:

MOVED by Ashini Dissanayake
SECONDED by Janice Douglas

> THAT the Children, Youth, and Families Advisory Committee direct the Co-Chairs, on behalf of the Committee, to write to Mayor Kennedy Stewart and Vancouver City Council expressing the Children, Youth, and Families Advisory Committee's utmost support for the proposed Granville Bridge Connector;
>
> FURTHER THAT in this letter, the Children, Youth, and Families Advisory Committee outline the benefits the proposed Granville Bridge Connector will provide for children, youth, and families in Vancouver, and urge council to vote in favour of this proposal.

CARRIED UNANIMOUSLY

City of Vancouver, City Clerk's Department
Office of the City Clerk
453 West 12th Avenue
Vancouver, British Columbia V5Y 1V4 Canada
tel: 3-1-1, Outside Vancouver 604.873.7000 *fax:* 604.873.7419
website: vancouver.ca

The Granville Bridge currently presents significant safety and accessibility barriers for children, youth, and families wanting to access the bridge to travel to and from Downtown Vancouver. The proposed west side walking, rolling, and cycling path, as well as improvements to the east sidewalk will make traveling across the bridge safer and will also introduce a welcoming space where children, youth, and families can gather in our city. However, the Committee is also concerned that the addition of signal lights may impede the positive flow of traffic, especially during rush hour.

The proposed wide path, traffic signals, and protective barrier between the bike path/sidewalk and motor traffic will solve significant safety concerns for children, youth and families who are currently hesitant to use the bridge. Additionally, two of our 2020 areas of focus (Mental Health and Environmental Sustainability) are addressed by the Granville Bridge Connector, through the proposed means prevention measures (such as fencing and crisis phones), and the flat two-way cycling connection with the 10th Ave. bike route, which will contribute to helping us meet our Climate Emergency Response targets. We are particularly excited about the potential of introducing features such as art, lighting, seating, live music, vendors, greenery and lookout stations to turn the Granville Bridge into an enjoyable space where children, youth, and families can gather.

It is the Children, Youth and Families Advisory Committee's sincere desire that you approve the proposed Granville Bridge Connector.

Yours truly,

Joseph Dunn, Co-Chair
Children, Youth and Families Advisory Committee

City of Vancouver, City Clerk's Department
Office of the City Clerk
453 West 12th Avenue
Vancouver, British Columbia V5Y 1V4 Canada
tel: 3-1-1, Outside Vancouver 604.873.7000 *fax:* 604.873.7419
website: vancouver.ca

September 1, 2020

Mayor and Council
City of Vancouver
453 West 12th Ave
Vancouver, BC
V5Y 1V4

Cc: Dylan Passmore, Senior Transportation Design Engineer

Downtown Vancouver BIA Supports Granville Bridge Connector

Mayor and Council,

The Downtown Vancouver BIA (DVBIA) has been involved throughout the consultation process regarding the Granville Bridge Connector. We thank City Staff for the stakeholder engagement opportunities, including open houses, workshops, surveys, and a presentation to our Policy Advisory Council.

In October 2019 the DVBIA Board of Directors passed a motion to endorse the West Side Plus option for the Granville Bridge Connector. The improved cycling and pedestrian experience will benefit commuters, visitors, and businesses on both sides of the bridge. The Reimagine Downtown Vancouver public engagement summary from 2015, with input from 11,000 people, describes a future of Vancouver where "the bridges that link the downtown peninsula to the surrounding city have been transformed into multi-modal connectors, with safe, generous walking and cycling routes side by side with vehicle lanes". The Granville Connector project will achieve this vision expressed by the public.

While we look forward to full build-out of the Granville Connector plan, we understand that it will take longer than originally scheduled due to the City's current financial situation resulting from the COVID-19 pandemic response.

We appreciate the interim plans and phased approach that City Staff are proposing. We ask that the cycling and pedestrian related upgrades be prioritized and implemented as early in the process as possible.

Sincerely,

Charles Gauthier, MCP
President & CEO

SUITE 325 - 1130 WEST PENDER STREET, VANCOUVER BC V6E 4A4

PH: 604-685-7811 FAX: 604-685-7812 WWW.DTVAN.CA

Your Cycling Connection

604.558.2002
bikehub.ca

September 2, 2020

Dylan Passmore, Transportation Planning, City of Vancouver
cc: Granvilleconnector@vancouver.ca
(By Email)

Re: Proposed Granville Connector and Drake Street Projects

Dear Dylan

HUB Cycling and our members are excited about the significant potential of the proposed Granville Connector, and the Drake Street Upgrades to both link Burrard Ave and Pacific Ave, and to provide access to the Granville Connector. We have had many meetings and discussions with City staff over the past years, have encouraged our members and supporters to participate in open house events and workshops, and have had the benefit of many occasions to consider the opportunities these projects present. We write today to provide our full endorsement for the two projects, and acknowledgement the detailed work, and significant public consultation, that the City has engaged in to get to the best possible solution.

1) We consider that these projects will greatly improve active transportation connections across False Creek, both for people walking and for people cycling. The Drake Street upgrades will also connect the Burrard Street bike lanes to Pacific, avoiding the dangerous section of Pacific under the Granville Bridge. Both projects are network upgrades, whereby the benefits are multiplied by the increase in network connectivity that the projects represent for active transportation users.
2) In our review, we have kept sight of the need to consider users of all transportation modes in the evaluation. While many of our members are primarily concerned with the cycling benefits, we recognize the benefits to people walking, and the relative impacts on transit and private vehicles, for all the options.
3) We see a great need to connect to the Arbutus Greenway, and other points on the south side of False Creek, particularly for people cycling. We expect that the proposed 5th Ave connector to the Arbutus Greenway will work well, especially when combined with upgrades to Pine St to access False Creek.
4) There are important destinations in the South Granville business area, a new subway station at Granville, and east-west bikeways on 7th Ave and 10th Ave. All of these should be considered when finalizing this project and planning the potential phasing for construction. For cycling connections, a bidirectional bike lane on the Fir offramp presents a great opportunity, due to the relative lack of elevation change, and the ability to connect the Granville Connector to 10th Ave and to the future Granville Subway Station. The proposed West Side option for the greenway works best of all the options considered, when combined with the Fir offramp connection.
5) As part of the Fir ramp connection, we would like to see protected bikeways on Broadway, to access the new subway station at Granville. That station is likely to have a bike parkade, and Translink has announced that all new subway stations will have cycling access. Broadway is the most logical connection, and Fir represents the best cycling link to get to Broadway to access the Granville station from the north side of False Creek

HUB Cycling, 312 Main Street (2nd Floor), Vancouver BC, V6A 2T2

6) We consider the proposed west side sidewalk and Hemlock ramp improvements to be important for improved walking connections, and as a way to improve equity for those travelling to and from the south and east side of the bridge.
7) We are supportive of removing the centre concrete barrier between the northbound and southbound vehicle lanes, to provide more space on the bridge deck, slow vehicle traffic, and improve emergency vehicle access on the bridge deck.
8) We are pleased to see the plan for traffic signals at crossing points, as these best address vulnerable user safety issues with the current crossings.
9) For the Drake St improvements, we support the proposed bidirectional cycling lanes on the south side of Drake, as they provide the best connection to the Granville connector; the safest and most comfortable active transportation intersection designs at Hornby, Richards, and Homer; and the best connections to existing infrastructure at both Burrard, and Pacific.

Thank you, and please extend our thanks to the staff team involved for their work on these projects, and the significant amount of effort put into public consultation. In consideration of the years that these projects have been planned for, and with our current public health situation, we urge Council to advance this project to provide more opportunities for safe and comfortable active transportation. We would be pleased to meet to discuss any of the points we have raised, at your convenience.

Sincerely,

Jeff Leigh
Chair, Vancouver UBC Local Committee, HUB Cycling
Vancouver@bikehub.ca

HUB Cycling is a not-for-profit charitable organization that works to make cycling better through education, events, and collaboration. We are Metro Vancouver's leader in making cycling an attractive choice for everyone and have close to 3,000 members and more than 38,000 direct supporters. HUB Cycling has 11 volunteer committees across Metro Vancouver that encourages cycling for all ages and abilities (AAA) in municipalities across Metro Vancouver.

CITY OF VANCOUVER

TRANSPORTATION ADVISORY COMMITTEE

MINUTES

January 29, 2020

A meeting of the Transportation Advisory Committee was held on Wednesday, January 29, 2020, at 5:33 pm, in Business Centre Meeting Room, Second Floor, City Hall.

PRESENT:	Brad Griffin, Vice-Chair Colin Brander Eugene Chin Lisa Corriveau Bethany Dobson Michael Feaver Karen Fung Isabel Garcia Mahdi Hassan Nayebi Angela Jarvis Jimin Park Bridgitte Taylor
ABSENT:	Joan Andersen (Leave of Absence) Sanjith Gopalakrishan (Leave of Absence) Molly Millar (Leave of Absence)
ALSO PRESENT:	Commissioner John Irwin, Vancouver Park Board David Rawsthorne, Civil Engineer, Transportation Design Branch, Staff Liaison Geoffrey Keyworth, Senior Transportation Planning Engineer, Transportation Planning Branch Jordan McAuley, Planner, Park Board
CITY CLERK'S OFFICE:	Kathy Bengston, Committee Clerk

WELCOME

The Vice-Chair acknowledged we are on the unceded territories of the Musqueam, Squamish, and Tsleil-Waututh Nations.

Introduction

The Vice-Chair welcomed Laura Jane, Senior Stakeholder Relations and Promotions Lead, Transportation Planning Branch.

Leave of Absence Requests

MOVED by Colin Brander
SECONDED by Lisa Corriveau

THAT the Transportation Advisory Committee approve leaves of absence for Joan Andersen, Sanjith Gopalakrishan and Molly Millar, for today's meeting.

CARRIED UNANIMOUSLY

Approval of Minutes

MOVED by Colin Brander
SECONDED by Karen Fung

THAT the Transportation Advisory Committee approve the Minutes from the meeting of November 20, 2019, as circulated.

CARRIED UNANIMOUSLY

1. Granville Bridge

The Vice-Chair introduced a motion on the Granville Bridge Connector for the Committee's consideration.

MOVED by Michael Feaver
SECONDED by Jimin Park

WHEREAS:

1. Transportation 2040 identifies the following challenges related to the Granville Bridge:

    a. Sidewalks are narrow and uncomfortable, and inaccessible for many people due to steps at ramp crossings;
    b. Motor vehicles travel at high speeds and there are no cycling lanes on the bridge;
    c. Off-ramps that were designed to accommodate high-speed traffic create additional connectivity challenges at either end of the structure.

2. Transportation 2040 identifies the Cambie and Granville bridges as early candidates for new all ages and abilities cycling routes;

3. The previous Active Transportation Policy Council identified the Granville Bridge as its top priority for additions and upgrades to the cycling network, using a methodology that took into consideration: safety, grade, travel times, gaps in the network, destinations, demographics, etc.;

4. Transportation 2040 includes policies or actions to:

   a. W 1.2.3: Identify, prioritize, and address locations with insufficient sidewalk width by: a) removing or relocating obstacles, b) reallocating road space, c) requiring setbacks in new developments;

   b. W 1.3.1: Continue to install or replace missing or deficient curb ramps; develop criteria for prioritizing implementation;

   c. W 1.3.2: Continue to install accessible pedestrian signals citywide through ongoing replacement programs, at locations prioritized in consultation with representatives of the visually-impaired community;

   d. W 1.3.5: Provide accessible public restrooms in high-demand locations, through measures including:

      a) monitoring the performance of existing automated public toilets (APTs), and installing and maintaining additional APTs, if successful; b) maintaining or extending hours for City-owned facilities at parks, libraries, community centres, and other locations;

   e. W 1.3.7: Provide opportunities for rest at regular intervals by increasing the amount of seating available on and along sidewalks and other pedestrian paths;

   f. W 1.4.3: Incorporate rain-friendly design features into public spaces;

   g. W 1.5.1: Improve pedestrian connectivity and accessibility by addressing gaps and deficiencies in the network. High priority locations include:

      a): False Creek Bridges;

   h. W 2.2.1: Create pedestrian-priority streets and spaces, considering needs for cycling, transit, services, and deliveries to determine appropriate design treatments. Potential locations (subject to additional consultation) include:

      a): portions of Robson and/or Granville Streets;

   i. T 1.3.1: Develop and implement transit priority measures in partnership with TransLink by:

      b): supporting and strategically implementing priority measures;

   j. M 1.1.1: Continue to optimize network operations such as signal timings and rush-hour parking regulations to manage congestion while supporting other plan goals;

   k. M 1.3.3: Explore opportunities to normalize bridge ramps and arterial intersections that have highway-style loops, odd angles, slip lanes, or other features that create a hostile pedestrian environment;

5. The Climate Emergency Response includes an Accelerated Action to explore opportunities to accelerate the completion of accessible and equitable active transportation networks, and close key gaps, including the Granville Bridge pathway.

THEREFORE BE IT RESOLVED THAT the Transportation Advisory Committee supports the following:

- The West Side Plus option of the proposed Granville Bridge Connector;
- The inclusion of means prevention on the Granville Bridge;
- The inclusion of place-making features along the West Side of the Granville Bridge;
- The potential implementation of transit priority measures, if necessary, that will minimize travel time and travel time variability for buses, including designating bus-only lanes on Granville Street and on the Granville Bridges; and
- Supports including measures that will moderate car speeds while minimizing delays, including by timing signals in accordance with speed limits.

FURTHER THAT the Transportation Advisory Committee recommends the following:

- Consideration of an option to close Granville Street between Smithe and the Granville Bridge to restrict private vehicles, parking, while widening the narrow and crowded sidewalks, and permitting deliveries, at least at some times of day;
- That measures be included in the design to ensure safety for all users, including by ensuring the bike lanes have at least a minimum width or by adding means to prevent collisions between oncoming cyclists; and
- Including amenities such as seating, washrooms, and water stations in the final design for the Granville Bridge or at the bridgeheads.

CARRIED UNANIMOUSLY

2. Drake Street and Richards Street

Jimin Park introduced a motion on the Drake Street and Richard Street upgrades for the Committee's consideration.

MOVED by Michael Feaver
SECONDED by Jimin Park

WHEREAS

1. The Drake project provides a direct and safe route for cycling between the Granville Bridge and the middle of downtown;

2. The Drake project complements the Granville Bridge project;

3. A gap in the safe cycling network exists between Hornby and Beatty and between Dunsmuir and the seawall in a part of downtown with numerous amenities;

4. A gap in the cycling network between the Granville Bridge and the rest of the AAA cycling network would exist without improvements on Drake;

5. A gap in the cycling network exists for trips between the West End and Yaletown that could be addressed by the proposed improvements on Drake;

6. Transportation 2040 includes actions or policies to:

    a. C 1.1.1: Adopt and implement planning and design guidelines to support a network of routes that feel comfortable for people of all ages and abilities (Class AAA), including design treatments and interventions for:

        a) providing physically separated bicycle facilities on busy streets where motor vehicles or speeds will remain high;
        b) managing and reducing motor vehicle traffic volumes and speeds on neighbourhood routes through traffic diversion and other calming measures;
        c) providing sufficient operating space for bicycle traffic through parking management and other measures;
        d) designing safe intersections and crossings with improved visibility and managed conflicts (for example, through turn restrictions and signal priority);
        e) reallocating road space from general traffic and/or motor vehicle parking where appropriate;

    b. C 1.2.2: Develop, regularly update, and implement short-term (approximately 5-year) network improvement strategies to address gaps and deficiencies in the network, in consultation with residents, businesses, and other stakeholders.

c) prioritizing critical gaps in the network and connections to key destinations, including schools, community centres, major transit stations, and commercial high streets; and;

c. E 1.1.2: Continue a 'safe routes to school' program that connects schools to their surrounding neighbourhood with high quality walking and cycling routes for at least one block, complemented by promotional strategies that encourage students to use active travel modes;

d. W 1.6.2: Explore opportunities to improve local ecology when designing and (re)building streets and other rights-of-way, for example by improving wildlife habitat and stormwater management, restoring native flora, increasing the number, size, and health of street trees, and daylighting lost streams.

THEREFORE BE IT RESOLVED:

A. THAT the Transportation Advisory Committee supports the proposed upgrades of Drake Street as proposed by staff.

B. THAT the Transportation Advisory Committee recommends that further improvements to better connect the Drake street cycling facility to the seawall and Elsie Roy Elementary School should be explored.

CARRIED UNANIMOUSLY

3. ShareNow Parking Spaces

Karen Fung introduced a motion on the ShareNow parking spaces for the Committee's consideration.

MOVED by Karen Fung
SECONDED by Michael Feaver

WHEREAS

1. ShareNow, formerly known as car2go, has announced that it will cease car-sharing operations in Vancouver effective February 29, 2020;

2. Free-floating car sharing comprises a significant portion (66%) of the usage of car-sharing in Vancouver overall;

3. Transportation 2040 identifies car-sharing as an important mode to support through parking and other policies, as it has been shown to have a significant impact on rates on car ownership and frees up road space for other uses;

4. The discontinuation of the ShareNow service means that a significant amount of both on-street and off-street parking formerly assigned for ShareNow vehicles, will

now no longer be dedicated to car-sharing specific uses or sustainable trips or travel modes generally;

5. The City of Vancouver has declared a climate emergency and is now aiming to achieve its Transportation 2040 mode share and vehicle kilometers travelled targets in an accelerated time frame, by the year 2030.

THEREFORE BE IT RESOLVED:

A. THAT the Transportation Advisory Committee recommends that the City consider changing the designations of on-street parking that is currently dedicated to ShareNow to support the priorities outlined in Transportation 2040 by allowing for a combination of the following uses:

   i. Additional facilities for bicycle parking, weather protected facilities, charging facilities for e-bikes, and parking for specialized bicycles such as cargo bikes, adaptive bicycles, and tricycles;

   ii. Designated parking, charging, and storage areas for micro-mobility devices;

   iii. Accessible seating or on-street public spaces (e.g. through the Parklet program);

   iv. Loading zones for zero-emissions vehicles, including cycle delivery vehicles;

   v. Parking spaces for cars displaying a parking permit for people with disabilities;

   vi. Drop-off and pick-up spaces for zero-emission and low-emission vehicles;

   vii. Parking for other car-sharing vehicles.

B. THAT the Transportation Advisory Committee recommends that the City consider changing the designations of off-street parking currently designated to ShareNow to support the priorities outlined in Transportation 2040, by allowing for a combination of the following possible uses:

   i. Parking spaces for zero-emissions vehicles;

   ii. Parking spaces and micro-distribution hubs for zero-emissions vehicles, including cycle delivery vehicles;

   iii. Parking spaces for cars displaying a parking permit for people with disabilities; and

   iv. Designated parking, charging, and storage areas for micro-mobility devices.

CARRIED UNANIMOUSLY

4. Council of Councils

Michael Feaver provided a brief update on the January 13, 2020, event, and responded to questions from members.

5. Street Light

Brad Griffin, Vice-Chair, provided information on the LGBTQ2+ Committee's concerns with pedestrian safety in regards to the street lighting in the City, and the opportunity for a combined motion from TRAC and LGBTQ2+. The Policy subcommittee will review this potential motion at their next working session.

6. Liaison Updates

Jordan McAuley, Park Board Planner, received questions from the Committee regarding lighting in parks, which Michael Feaver will compile and send to Jordan.

Geoffrey Keyworth, Senior Transportation Planning Engineer, provided the following brief updates:

- Bold Actions for a Climate Emergency event, February 3, The Orpheum Theatre
- Urban Freight Strategy
- Motor Vehicle Act Pilot Project

David Rawsthorne, Staff Liaison, provided a brief update and responded to questions on the following:

- Three Open Houses on Granville Bridge Connector, with upcoming workshops
- Drake St Project Open House
- New General Manager of Engineering Services
- Director of Transportation position opening

7. Subcommittee Updates

a. Projects Subcommittee

Jimin Park provided a brief activity update and directed question to the staff liaison on presenting to Council.

b. Policy Subcommittee

Karen Fung provided a brief activity update including urban freight strategy.

8. New Business

Geoffrey Keyworth shared information regarding promotion on transportation demand management, and school travel planning, with April 15 as suggested presentation date.

ADJOURNMENT

MOVED by Karen Fung
SECONDED by Angela Jarvis

THAT this meeting be adjourned.

CARRIED UNANIMOUSLY

Next Meeting:

DATE: Wednesday, March 18, 2020
TIME: 5:30 pm
PLACE: Business Centre Meeting Room
Second Floor, City Hall

The Committee adjourned at 6:52 pm.

* * * * *

SOUTH GRANVILLE

Sept 1, 2020

Granville Bridge Connector Project Team
City of Vancouver
453 West 12th Avenue
Vancouver, BC, V5Y 1V4

Attention: Paul Krueger, Team Lead, Transportation & Public Space, Engineering Services

Re: Granville Bridge Connector – SGBIA Support

Dear Paul,

The South Granville Business Improvement Association (SGBIA) is at the epicentre of the City of Vancouver's Granville Bridge Connector project, Broadway Subway and Broadway Plan. This project, in particular, has the potential to positively enhance connections between Downtown, False Creek and South Granville.

For this reason we are writing to express our support for the Granville Bridge Connector project with the following concerns and points:

- The normalization of West 5th Ave at the base of the bridge is valued by the South Granville community to improve connections. A public open space plaza at the northwest corner of 5th Avenue & Granville Street would provide a much-needed public space for the SGBIA to host events and reconnect surrounding residents. We wish to be a part of creating a 'Gateway' feature that announces arrival into South Granville and also allows us to welcome the community, perhaps with an outdoor gallery, light display or a seasonal display (i.e:// Christmas Tree). We understand that conversations need to be had on the role of this land as part of the Broadway Plan but want to reiterate it's importance to the neighbourhood and it's role as a catalyst between South Granville, the Arbutus Greenway, West 4th and Granville Island. We would like to see the 5th avenue normalization confirmed as soon as feasible.

- The reduction of southbound lanes into South Granville from 3 lanes to 1 presents a unique opportunity to encourage commuter traffic onto Fir streets through wayfinding. The opportunity to prioritize Granville Street for local uses – much like Granville Street Downtown, presents an opportunity to remove rush hour parking restrictions on the West side of Granville Street. The peak hour parking restrictions implemented temporarily for the now decommissioned 98 B-line have always inhibited businesses on South Granville**. Due to the economic impacts of the pandemic, the businesses need 24 hour access to the curb lane more than ever for patios, distancing, quick contactless pick-ups, food delivery and parking.** This will address the #1 challenge for businesses on South Granville, which experience a significant drop-off in business when current peak parking restrictions begin.

- Improved Pedestrian connections between Granville Bridge and the new South Granville Subway station are not included in any version of the plan but future pedestrian pathway improvements southward on Granville Street beyond 5th Avenue to at least Broadway will address a critical gap in the pedestrian network.

- We are concerned about the safety of the existing bridge. The pedestrian and cycling connections between downtown and South Granville are important for social and economic reasons. We look forward to welcoming the residents of downtown into our area for their shopping and social needs and our neighbourhood benefits when our residents to feel safe in their active commute downtown. This is not possible until the road allocation is addressed, and the crossing made to feel safe.

cont…

NEIGHBOURHOOD
SOUTHGRANVILLE.ORG

210 - 1501 West Broadway, Vancouver, BC V6J 4Z6 **T:** 604.734.3195 **F:** 1.888.734.3195 **E:** info@southgranville.org **Follow:** @southgranville

- Last, we believe that previous proposals which included improved light and viewing areas were important to making the walking experience enjoyable. The Granville Bridge is one of the places we can make an impression on visitors coming from the Airport. The Granville Bridge is currently the least enjoyable and least safe bridge to cross and is avoided in favour other bridges. We'd like to change that.

I am available to have a greater conversation if you have any questions or concerns about the above.

Sincerely,

Ivy Haisell
Executive Director, South Granville BIA

Office of the Chief Medical Health Officer
#800 - 601 West Broadway
Vancouver, BC V5Z 4C2
604-675-3900

September 2, 2020

City of Vancouver
507 West Broadway
Vancouver, BC V5Z 0B4

Dear City of Vancouver Mayor and Council:

RE: Granville Bridge Connector - Means prevention to prevent harm associated with suicide

I am writing in my role as Medical Health Officer for Vancouver to express support for the long-term design of the Granville Bridge Connector that includes means prevention fencing to deter jumping and self-harm. This is an essential component of suicide prevention and part of Vancouver Coastal Health's regional injury prevention plans to install means prevention fencing on all high-rise bridges in the Lower Mainland.

In recent years, incorporating means prevention into bridge projects has become best practice in BC. Recent Metro Vancouver examples on the Ironworkers Memorial Bridge and Burrard Bridge have had a considerable impact, with early evidence suggesting that means prevention has saved lives and significantly reduced healthcare and emergency service costs. The Granville Bridge Connector has been identified by the BC Coroners Service as one of the Lower Mainland bridges subject to suicide and suicide attempts by jumping from the bridge[1]. Between 2007 and July 2019, there were 34 deaths by suicide off the bridge, with many more suicide attempts. The Granville Bridge Connector upgrade project presents an opportunity to address this important issue and create a safer space for everyone.

The evidence shows that means prevention interventions (such as fencing) are effective in preventing suicide deaths, with published studies showing a 93% reduction in suicide deaths at the site in which they are implemented. The evidence also shows overall reductions in suicide deaths from jumping in jurisdictions in which they are implemented, indicating minimal displacement to other bridges and jumping locations[2].

In addition to the pain and suffering experienced by people affected by suicide, suicides and attempts have a significant impact on the health care system and economy. A suicide death is estimated to cost approximately $460,000 (in 2020 dollars), and therefore the prevention of suicide results in considerable annual public savings[3]. Despite attempting to estimate the economic impact of suicide, however, saving lives has an inestimable value; it is about promoting human potential, averting tragedies, and ensuring that the system does what it can to preserve life[4].

For these reasons, VCH supports the plan to include means prevention fencing in the long-term design of the Granville Bridge Connector that is being brought forward to Council in September. We look forward to working with the City on the next phases of the project.

Yours sincerely,

Mark Lysyshyn MD MPH FRCPC
Deputy Medical Health Officer
Vancouver Coastal Health

1 BC Coroners Service. A Five-Year Retrospective Review of Child and Youth Suicide in B.C. 2018.
2 Toronto Public Health. Interventions to prevent suicide from bridges: An evidence review and jurisdictional scan. 2018.
3 Rajabali, F. et al. The economic burden of injuries in British Columbia: Applying evidence to practice. *BC Medical Journal.* (2018).
4 Introducing a Discussion on Child and Youth Suicide and Self-Harm Prevention (For the BC Injury Prevention Committee). 2019.

Appendix J
Future Work

Realizing the Long-term Vision

Creating a safe, delightful, inclusive space

In future phases of the Granville Bridge Connector, staff envision significant engagement activities to realize the long-term vision for a safe, delightful, and inclusive space that recognizes the local and regional history in which the bridge has evolved and operates today. This will entail advancing conceptual designs and further exploring public space and placemaking ideas that emerged in the 2019-2020 public and stakeholder engagement process.

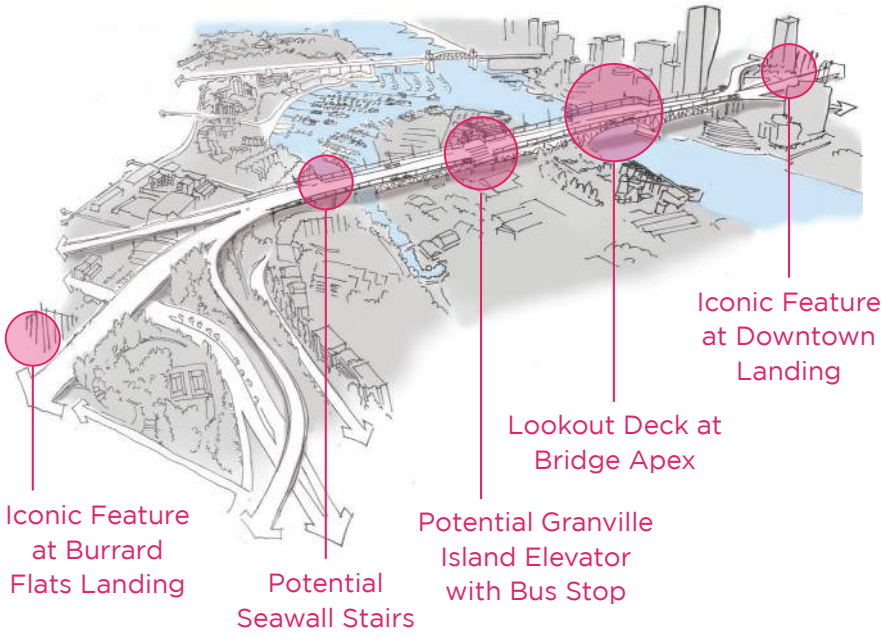
Key design themes that have recurred throughout engagement include:

1. A path that is safe, equitable, and delightful to move through for people of all ages and abilities

- Excellent views of the skyline, mountains, False Creek, and Burrard Bridge
- De-emphasize the highway quality and feel
- Lighting to provide safety and ambiance
- Colours, materials, and other features to provide a consistent theme
- Places to rest at regular intervals
- Paths wide enough for safe passing and traveling in groups
- Curb ramps and other features to provide access for all

2. Special moments at key locations along the way

- Opportunities for respite and interest, breaking up an otherwise long walk
- A lookout at the bridge apex to create a moment for pause
- A special opportunity where the bridge connects with a potential Granville Island elevator and staircase
- Iconic landmark features at "landings" on either end of the bridge to welcome people on & off the bridge and support wayfinding

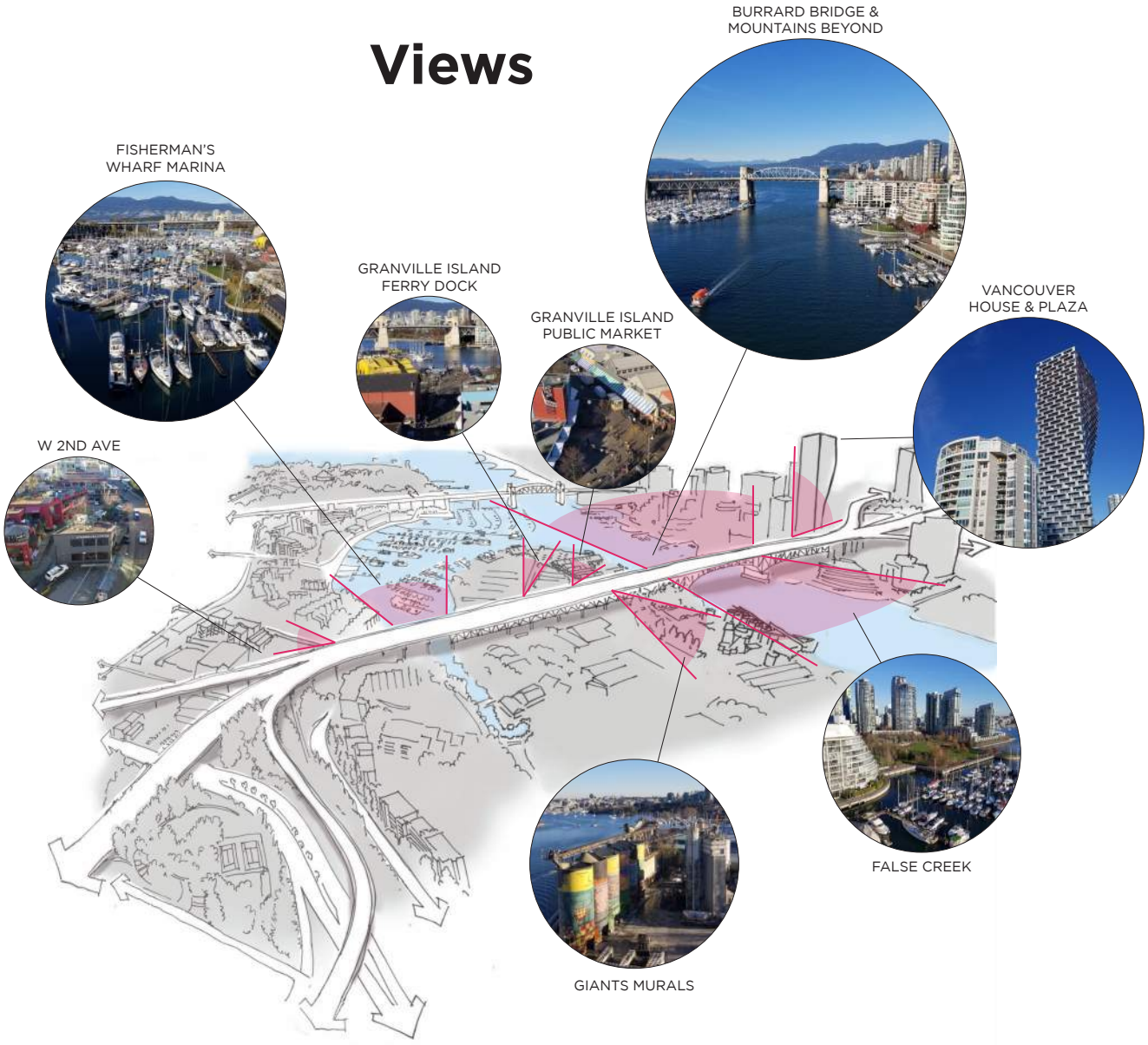


3. Unified design through repetitive design elements

- Repetitive design elements to create a sense of rhythm and establish a unified bridge identify
- Includes paving, lighting, seating, traffic/noise barriers, green infrastructure, wayfinding, and means prevention

4. Effective means prevention that preserves views and complements the overall experience

- An effective fence design that deters jumping while preserving views
- Potential to incorporate special lighting and artistic elements for ambiance and to create an iconic landmark



Deferred Components of the Long-Term Design

The following summarizes components of the long-term design that staff recommend deferring to future capital plans. The approach would follow a similar process to how the delivery of improvements to Burrard Bridge were phased across multiple capital plans. Should additional funding sources become available in the near future, some of these "add-on" components could be incorporated into Phase 1. However, this may result in construction schedule impacts.

Means Prevention Fencing and Lighting

Means prevention is an important future component of the project. It is recommended that pedestrian scale lighting and potential light-based public art be installed at the same time to enable an integrated approach. Staff recommend prioritizing installation on the west side of the bridge (along with corresponding on- and off-ramps) since that is where the initial pedestrian and cycling improvements would be located.

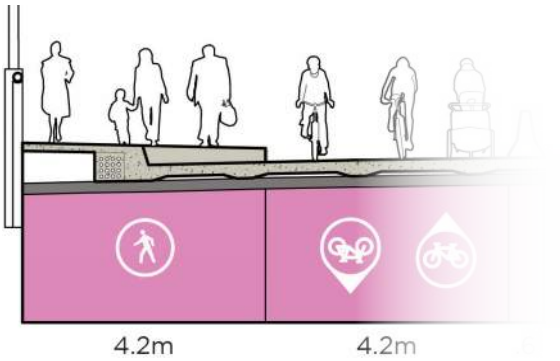
Estimated cost (west side): $9M
Estimated cost (east side): $7M

Benefits:

- Improve pedestrian comfort
- Significantly reduce self-harm attempts on the bridge
- Bring bridge railing up to code
- Improve pedestrian-scale lighting
- Potential for light-based public art

West Sidewalk Widening

The long-term vision for the west side of the bridge includes a wide contiguous pedestrian realm with seating, as well as a wider bike lane. This would require widening the existing sidewalk and making the associated adjustments to drainage. It would likely also involve significant structural work to address changes to the bridge's loading during which time it is recommended that any localized cantilever widening on the west side of the bridge (e.g. at the bridge apex and Fir off-ramp) also take place.



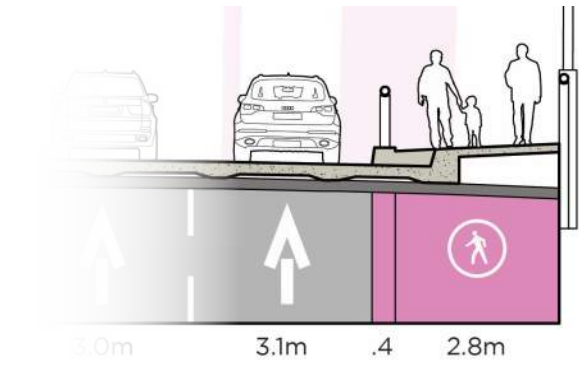
Estimated cost: $14M

Benefits:

- Improve pedestrian accessibility and comfort on the west side, including on/off-ramp crossings
- Provide a consistently high-quality pedestrian realm between Downtown and South Granville
- Introduce seating to provide rest points along the bridge
- Address pinch points in pedestrian realm and create special places
- Provide a wider bike lane for more comfortable cycling and passing

East Sidewalk Widening

The long-term design concept includes improvements to the east sidewalk to ensure both sides of the bridge are comfortable and accessible to pedestrians. This would include widening the sidewalk and adding a railing barrier next to the travel lane, as well as signalizing the Seymour and Hemlock ramp crossings.



Estimated cost: $10M

Benefits:

- Improve pedestrian accessibility and comfort on the east side, including on/off-ramp crossings
- Provide additional pedestrian connectivity across the bridge
- Introduce seating to provide rest points along the bridge

Fir Ramp Bike Connection to 10th Ave

The long-term design concept includes a two-way bike lane on the Fir ramp, which would provide a relatively flat cycling connection between the Broadway Corridor / 10th Avenue and downtown.

Estimated cost: $2.5M

Benefits:

- Significantly improves bike network connectivity for relatively low cost
- Provides relatively flat cycling connection between downtown and 10th Ave (eliminates ~2 storeys of climbing relative to taking the Arbutus Greenway or ~6 storeys relative to taking Burrard Bridge)
- Provides exceptional views

Replace the South Granville Loop and Rebuild 5th Ave

The long-term concept would replace the south loop with a more people-friendly street network, including W 5th Ave between Fir St and Granville St, and a new signalized intersection at W 5th Ave and Granville St. This new urban street grid would improve connectivity and for people walking and cycling, and would "unlock" the City-owned land within the existing loop for potential development, similar to what is being achieved through the 2010 *Granville Loops Policy Plan* at the north end of the bridge. Potential land uses for this site will be informed by the on-going Broadway Plan.

Estimated cost: $7M

Benefits:

- Improves pedestrian safety and access to South Granville commercial area
- Provides access to the land inside the existing south loop
- Facilitates a more direct connection to/from Granville Island and the Seawall
- Eliminates the need for pedestrians to use narrow and dark tunnels

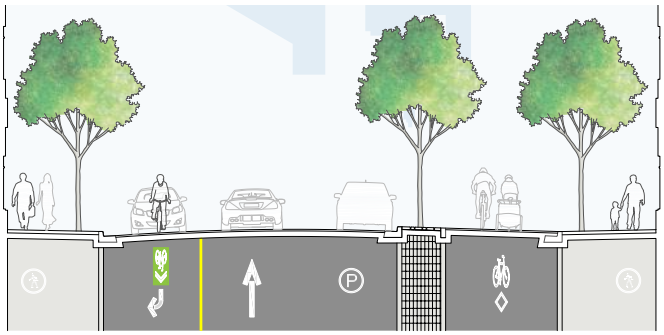
Drake Street Landscaping and Green Infrastructure

Although the recommended interim design maintains the full function of key intersections such as Hornby St, Howe St, Granville St, and Richards St, it defers installing the raised protected bike lane and green rainwater infrastructure components.

Estimated cost: $4M

Benefits:

- Improves accessibility and provides more clear priority for walking and cycling at alley and driveway crossings
- Improves accessibility by providing more direct wheeled access between parking / passenger zones and sidewalk
- Additional landscape features, such as tree median with permeable paving
- Underground green rainwater infrastructure, such as rainwater tree trenches with more volume for roots to grow



Davie St and Marinaside Cres

Through a related project, the City will explore re-designing the seawall paths at the Davie St & Marinaside Cres intersection, separating walking and cycling paths to help reduce conflicts between all users and provide a smooth transition between the roadway and Seaside Greenway.

Estimated cost: $1M

Benefits:

- Separates walking and cycling through a busy section of Yaletown seawall
- Improves accessibility by providing separate path for cycling
- Increases connectivity between the Seaside Greenway and downtown bike network

Improving Nearby Connections

The Granville Bridge Connector supports the following additional future connections, which were strongly supported by stakeholders and the general public.

Granville Island

The City is working with the Canada Mortgage & Housing Corporation (CMHC) and other stakeholders to explore how connections to Granville Island could be improved as part of future projects.

Areas of focus include:

- A potential elevator and staircase to Granville Island from the bridge deck, which could include dedicated bus stops on the bridge
- An additional staircase linking the Connector with the False Creek Seawall
- A more direct walking and cycling connection from Granville / 5th Ave to Granville Island, which could align with Anderson St or Old Bridge Walk
- A future local bike connection via Pine St and 1st Avenue
- Improved wayfinding for all modes
- Improvements to private ferry services

Downtown Granville Street

The City is working with the Downtown Vancouver Business Improvement Association (DVBIA) and TransLink to explore short-term public space improvements to inform a longer-term land use and transportation vision.

Areas of focus include:

- The ongoing COVID-related Granville Street Patio and Transit Priority Pilot, which includes more than a dozen businesses with Temporary Expedited Patios on the roadway, reclaiming sidewalks space previously used for parking, adjusting bus stop spacing, and introducing select turn restrictions
- Learning from the above pilot to improve transit corridors, increase transit reliability, reduce travel time, and boost overall transit experience
- Updating land use and design guidelines, increasing and introducing new daytime uses, and supporting cultural and heritage assets
- Encouraging walking, transit, and cycling to support new and increased business activity
- Unlocking additional street space for patios and public space while considering business access and deliveries

Other Gaps

Through the engagement process, other gaps in the walking and cycling networks were identified. Staff hope to continue these discussions and address these gaps as part of future work, including:

- Ensuring safe and comfortable cycling connections to the future rapid transit station at Granville-Broadway
- Providing a safe cycling connection between the Granville bridge Connector and the Off-Broadway bike route to the east
- Completing connections between the North False Creek Seawall and Rolston, Richards, and Drake streets