1 WELCOME

GRANVILLE BRIDGE CONNECTOR

OVERVIEW

The City of Vancouver is developing conceptual plans for **a new walking, rolling, and cycling path across the Granville Bridge.**

The project is important to accommodate the growing number of people living, working, and playing in the city and region. It is key to meeting our Climate Emergency mode share target that **by 2030, at least two thirds of all trips in the city will be by active transportation and transit.**

It was identified as a priority in the 2001 False Creek Crossings Study and in the City's Transportation 2040 plan (approved in 2012) as a result of significant public engagement. In January, Council directed staff to launch a full engagement process.

WE NEED YOUR INPUT

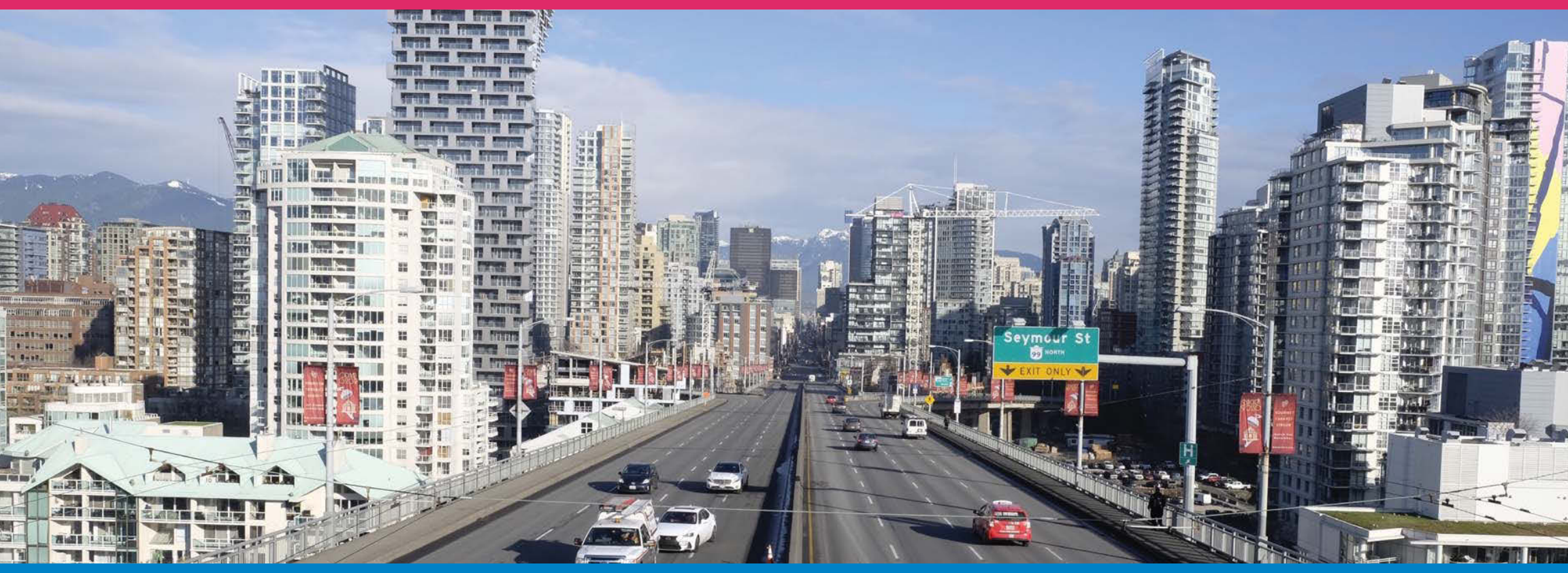
In Phase 1 (spring 2019), you helped us refine the project goals and generate ideas for the path.

In this phase, we are **reporting back on what we heard in Phase 1 and sharing six shortlisted options for you to review**:

1. **West Side**
2. **West Side +**
3. **East Side**
4. **East Side +**
5. **Raised Centre**
6. **Both Sides**

Your input today will help us refine options for the path.

Later this year there will be opportunities to review preferred option(s). Staff plan to present recommendations to City Council in early 2020.



SHARE YOUR INPUT

Visit **vancouver.ca/granvilleconnector** to

- Submit a survey by Sept 30
- Sign up for a workshop on Sept 19 - 21
- Sign up for the newsletter

2 PROCESS TIMELINE

GRANVILLE BRIDGE CONNECTOR

A **three-phased engagement process** is taking place this year.

Public and stakeholder feedback will inform a Council report on recommended design option(s) by early 2020.

WE WANT TO HEAR FROM YOU!

APRIL 2019

PHASE 1
Discuss Goals | Share Ideas & Experiences

- Discuss project goals and how you use the bridge today
- Share specific ideas and concerns for the bridge crossing and surrounding network connections

Staff will use this input to refine goals and evaluation criteria, and to develop high level options

WE ARE HERE!

SEPTEMBER 2019

PHASE 2
Review High Level Options

- Learn what was heard in Phase 1
- Review a range of high level options

Staff will use this input to further evaluate and refine options

LATE 2019

PHASE 3
Review Detailed Option(s)

- Learn what was heard in Phase 2
- Review remaining option(s) in more detail

Staff will use this input to further refine remaining option(s)

EARLY 2020

COUNCIL DECISION

2020

DETAILED DESIGN
(pending Council approval)

2021

CONSTRUCTION
(pending Council approval)

SHARE YOUR INPUT

Visit **vancouver.ca/granvilleconnector** to

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- Sign up for a workshop on Sept 19 - 21
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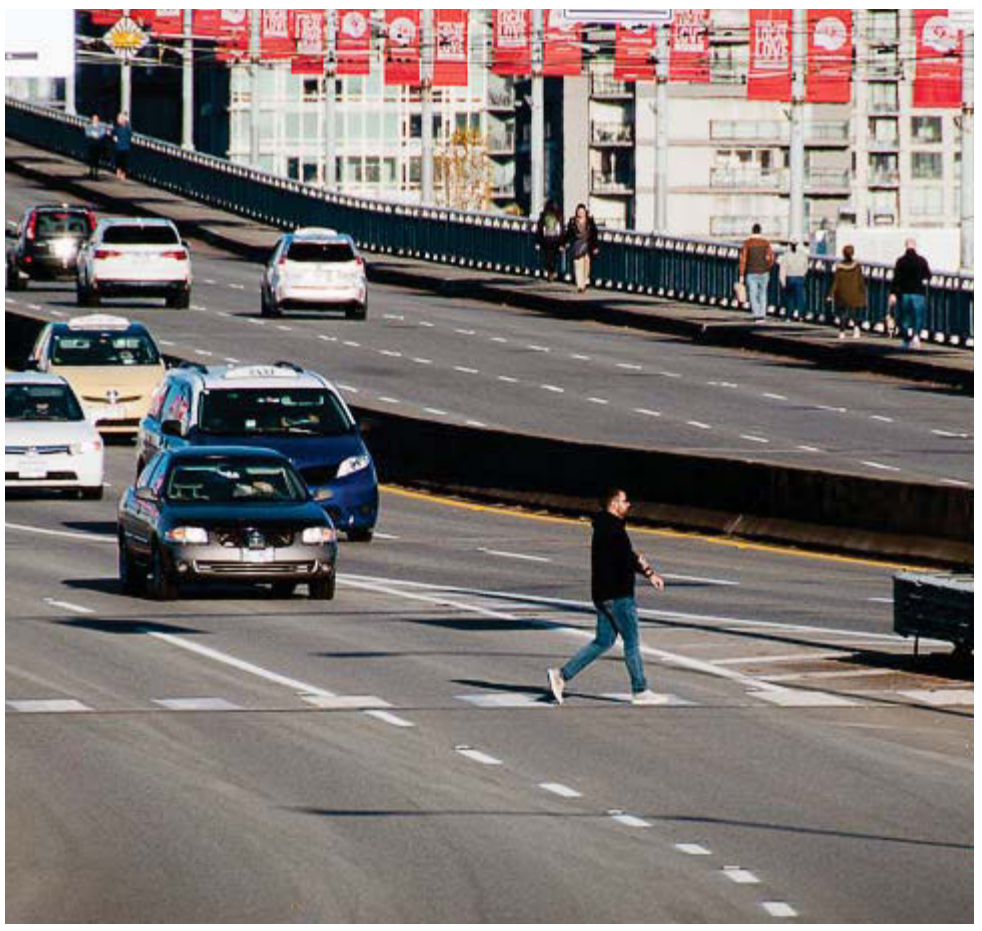
3 MOTOR VEHICLE CAPACITY

GRANVILLE BRIDGE CONNECTOR

A BRIDGE DESIGNED FOR FREEWAYS

Completed in 1954, Granville Bridge is an eight-lane bridge over False Creek. The bridge was designed to connect to high-speed, high-volume freeways that were never built.



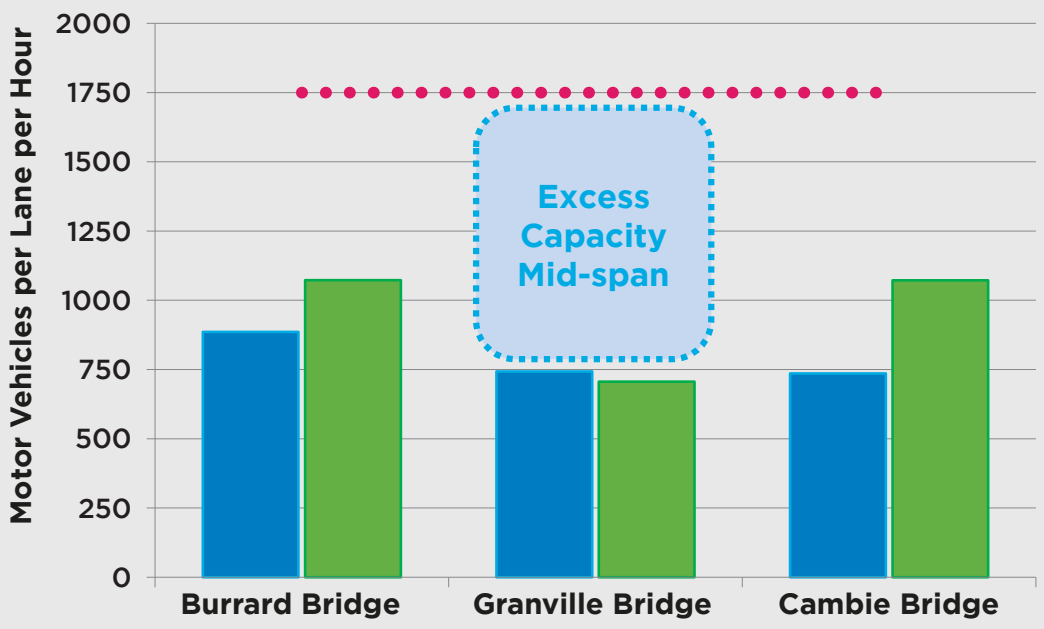
GRANVILLE BRIDGE HAS SIGNIFICANT EXTRA CAPACITY

Granville Bridge has more motor vehicle capacity than needed. It carries slightly more traffic than Burrard Bridge, but has twice as many vehicle lanes.

Even when all the lanes leading to the bridge are full, traffic on the bridge itself is relatively light.

MOTOR VEHICLE VOLUMES OVER FALSE CREEK BRIDGES

(Per Lane During Busiest Times)



The eight-lane Granville Bridge has significant extra capacity. Up to four motor vehicle lanes could be reallocated towards a pathway, and there would still be enough capacity to accommodate motor vehicle traffic. Connections at either end of the bridge would be redesigned to ensure safety and comfort while ensuring reasonable travel times for all modes.

- 2018 Average AM Peak Hour Northbound
- 2018 Average PM Peak Hour Southbound
- Theoretical Capacity per Lane

Burrard Bridge = 2 lanes in each direction. Granville Bridge = 4 lanes in each direction. Cambie Bridge = 3 lanes northbound, 2 lanes southbound.

4 BRIDGE USE TODAY
MOTOR VEHICLES & TRANSIT

GRANVILLE BRIDGE CONNECTOR

A BUSY BRIDGE FOR TRANSIT & MOTOR VEHICLES

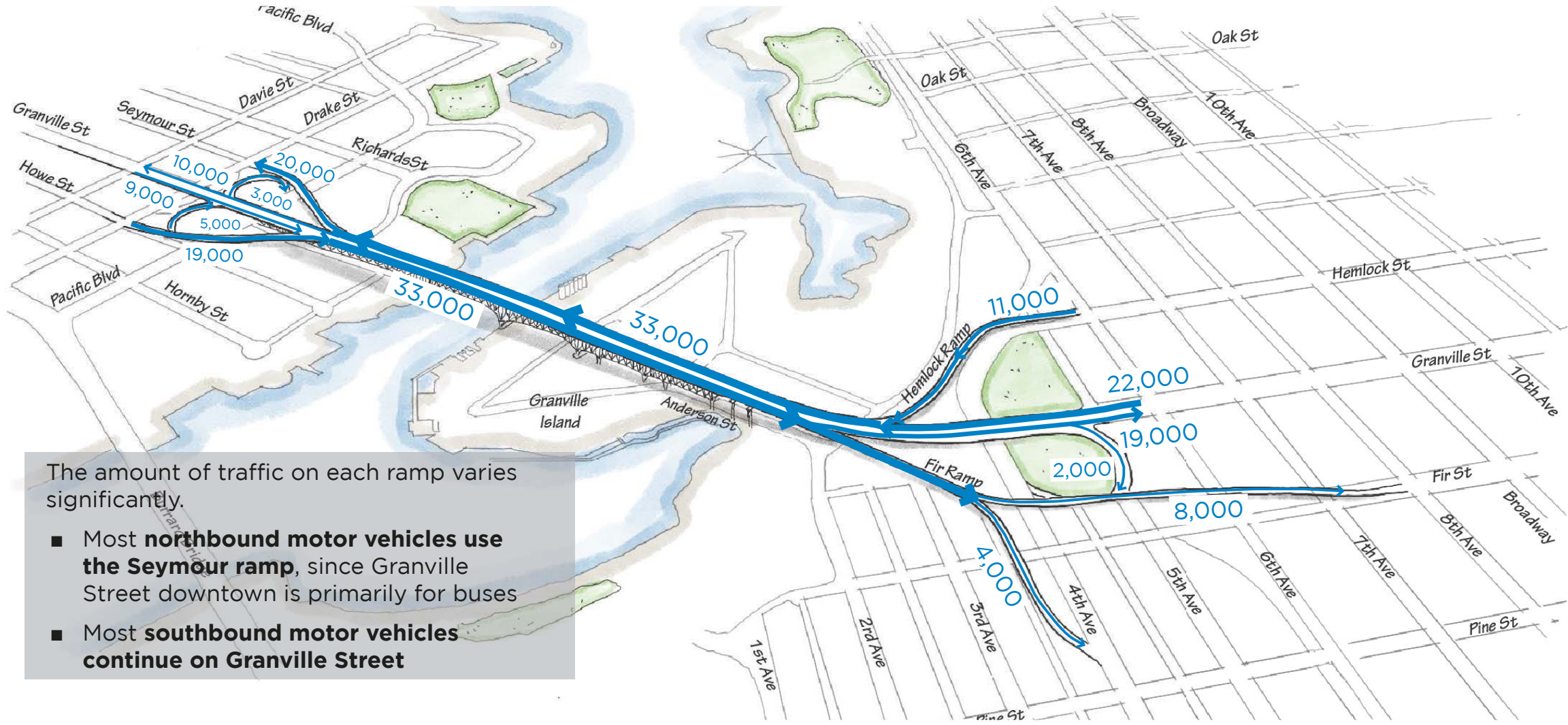
Granville Bridge is a major gateway to and from Downtown Vancouver.

Over **25,000 trips by transit** per day
6 bus routes and almost **80 buses per hour** during peak periods

Over **65,000 motor vehicles** per day

Truck volumes on the bridge are limited on the bridge because of **weight restrictions**

AVERAGE WEEKDAY TRAFFIC ACROSS GRANVILLE BRIDGE



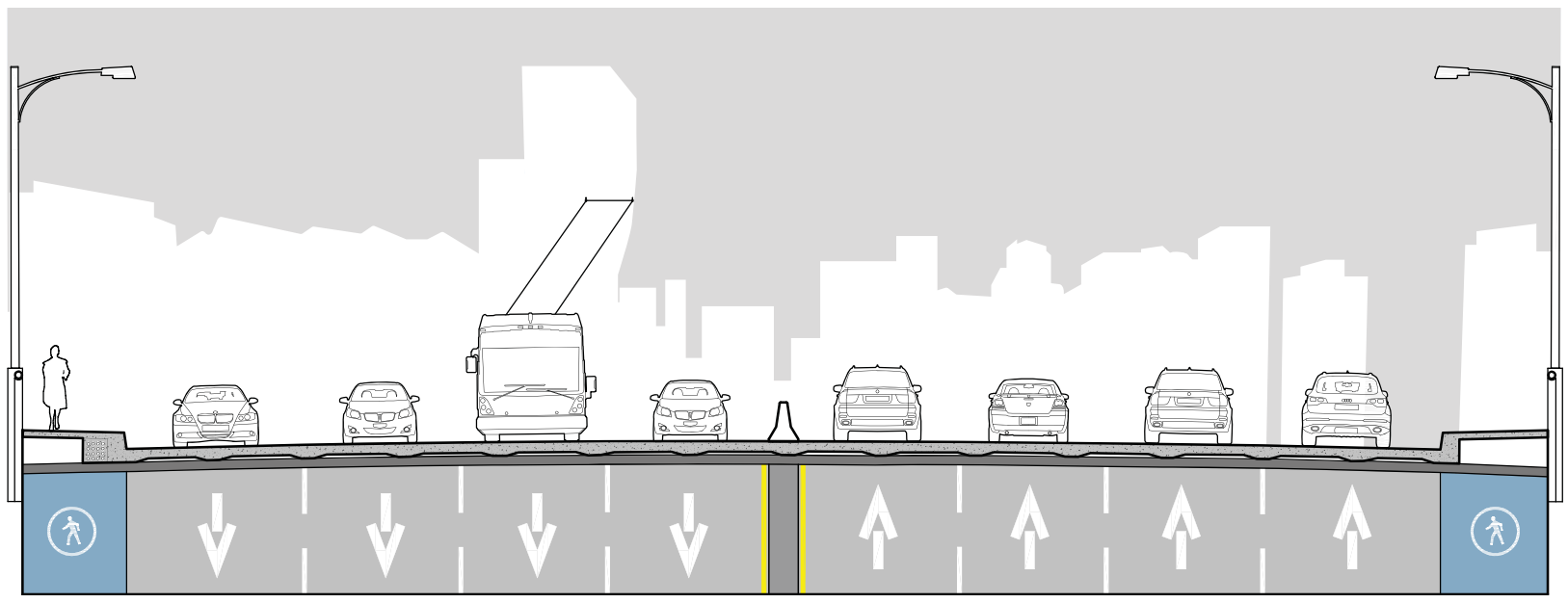
The amount of traffic on each ramp varies significantly.

- Most **northbound motor vehicles use the Seymour ramp**, since Granville Street downtown is primarily for buses
- Most **southbound motor vehicles continue on Granville Street**

HIGH VEHICLE SPEEDS REDUCE COMFORT

Eight wide travel lanes in the middle of the bridge encourage high vehicle speeds.

Data indicates more speeding on Granville Bridge than on the Cambie and Burrard bridges.



Sidewalks are narrow and there are no cycling facilities. For many, this makes it uncomfortable to walk, bike, or roll on Granville Bridge.

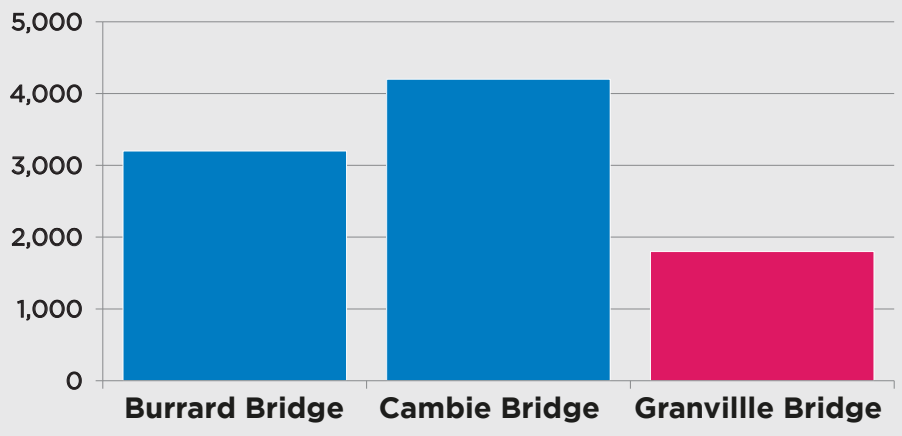
5 BRIDGE USE TODAY
WALKING & CYCLING

GRANVILLE BRIDGE CONNECTOR

FEWER WALKING & CYCLING TRIPS IN AN UNCOMFORTABLE ENVIRONMENT

Fewer people walk and cycle on Granville Bridge compared to other False Creek Bridges. On a typical summer day, the bridge can see:

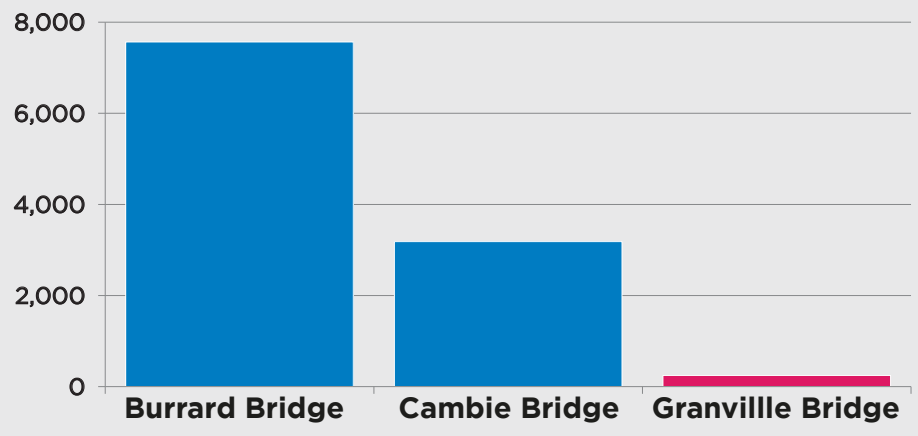
Daily Pedestrian Volumes
(July, Mid-Week)



Source: 2018 City of Vancouver pedestrian volume study

About 2,000 people walk across the bridge daily — less than 50% compared to Cambie Bridge

Daily Cycling Volumes
(July, Mid-Week)



Source: 2018 City of Vancouver automated counter data and Granville Bridge manual bicycle count

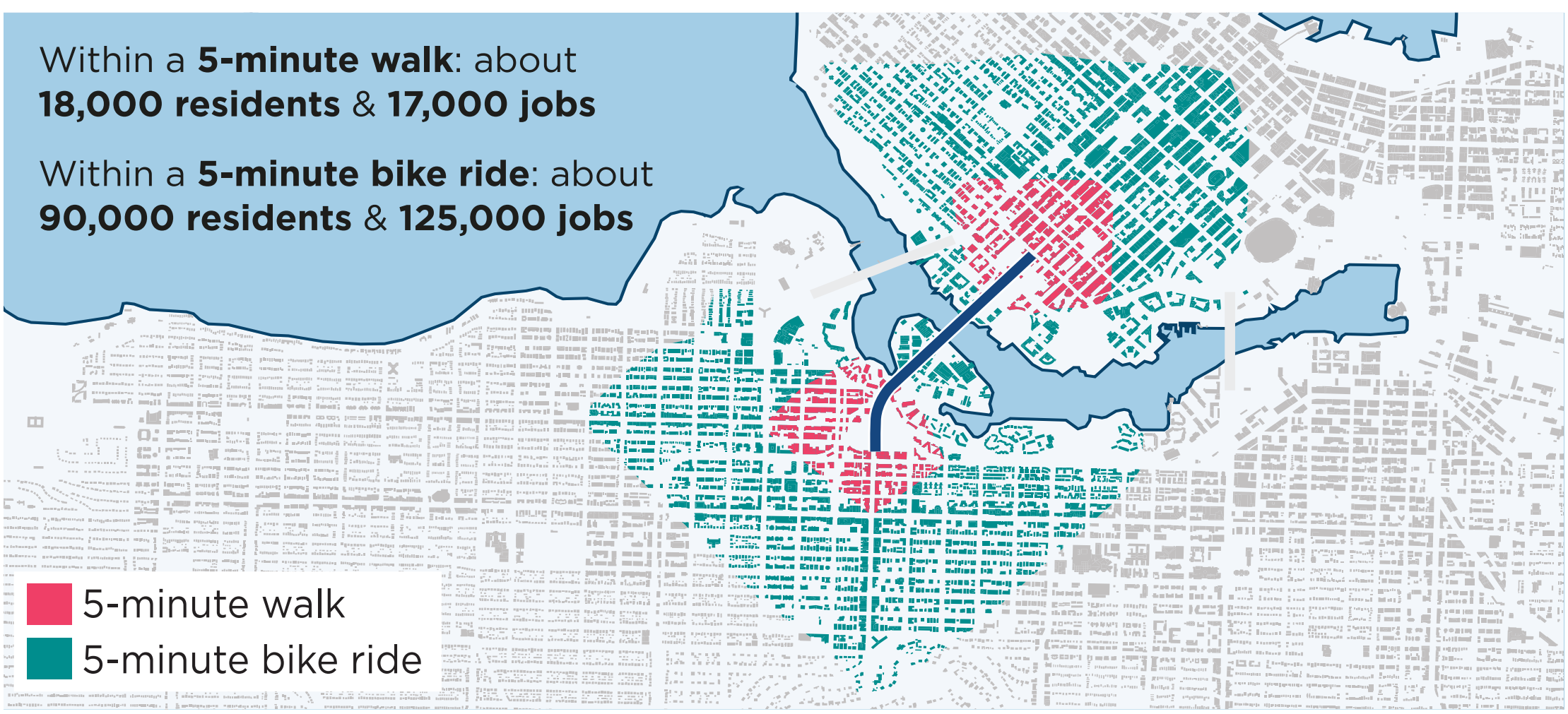
A few hundred people cycle across the bridge daily — less than 5% compared to Burrard Bridge

Fewer people walking and biking on Granville Bridge reflects significant comfort and accessibility challenges.

AN OPPORTUNITY FOR MORE WALKING & CYCLING

An improved bridge path would serve many people living and working nearby.

The project would also serve people further away by **filling a major gap** in the city's walking and cycling networks, and by **creating a special place** people want to visit.



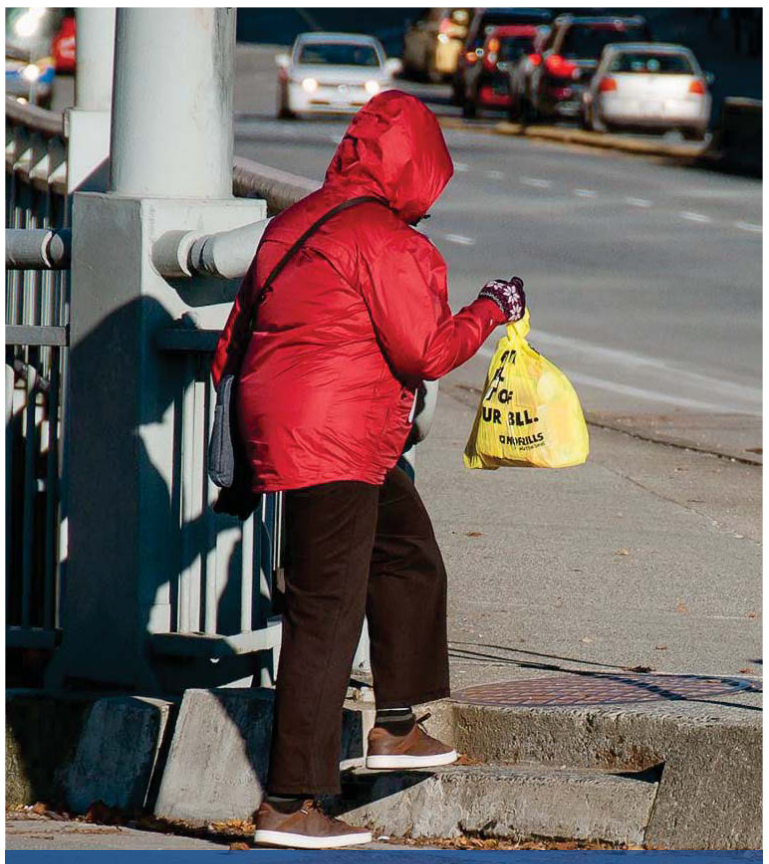
6 CHALLENGES TODAY

GRANVILLE BRIDGE CONNECTOR

Granville Bridge's freeway-style design can create **significant challenges** for people walking, cycling, and rolling across the bridge.

Narrow sidewalks

1. People walking must use narrow sidewalks next to high speed traffic



Steps in the sidewalks

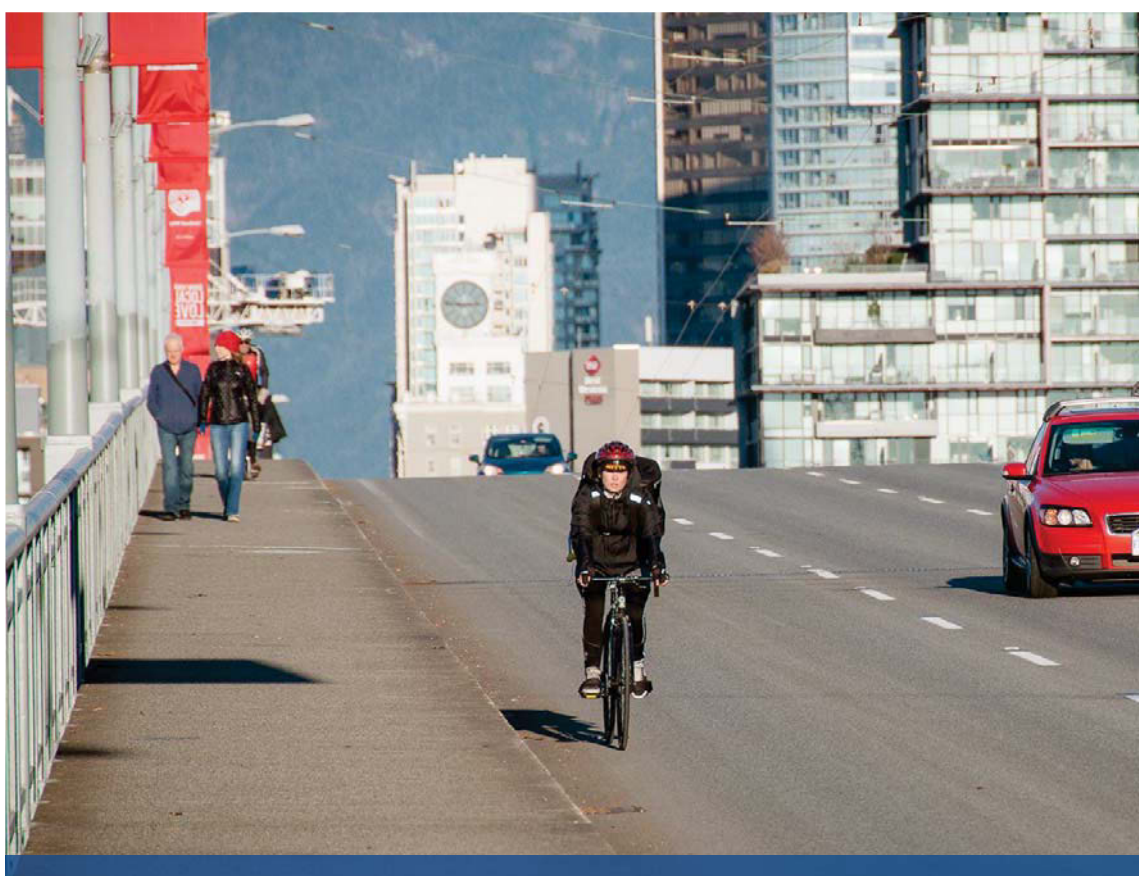
2. Steps at crossings make the bridge inaccessible for people with mobility aids such as wheelchairs

Unsignalized crosswalks

3. Crosswalks without signals at vehicle ramps feel unsafe and contribute to vehicle collisions

Confusing connections

4. Vehicle ramps and signage designed for high-speed motor traffic can make it challenging to reach destinations on either end of the bridge



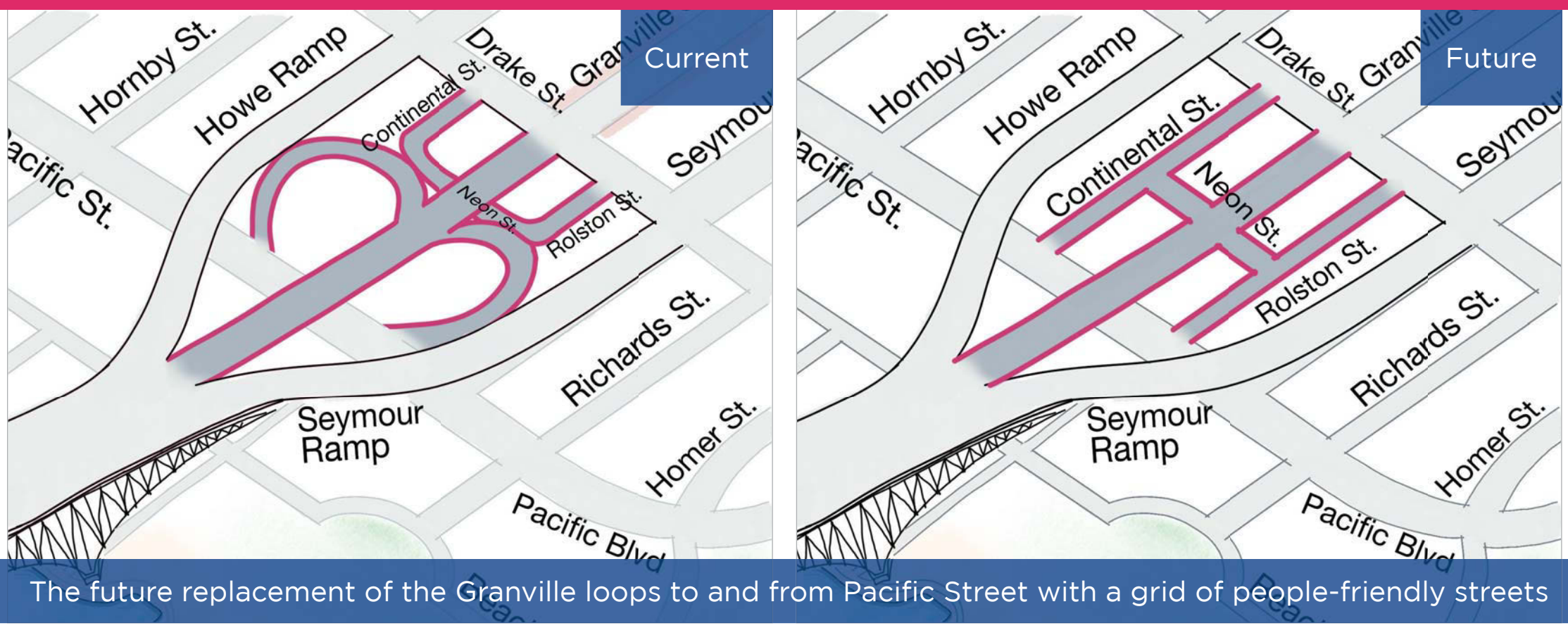
No cycling facilities

5. People cycling either share a travel lane with high speed motor traffic, or mix with pedestrians on the narrow sidewalk

7 RELATED PROJECTS

GRANVILLE BRIDGE CONNECTOR

GRANVILLE LOOPS



The future replacement of the Granville loops to and from Pacific Street with a grid of people-friendly streets

GRANVILLE ISLAND ELEVATOR

A potential future elevator and staircase to Granville Island and Seawall, served by an intersection and bus stops on the bridge deck

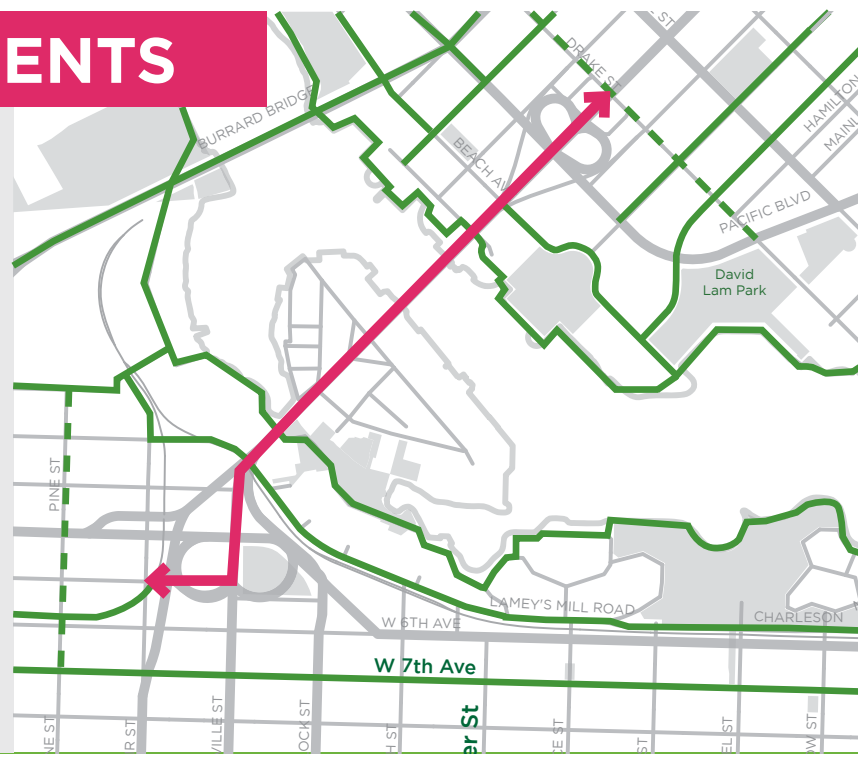
PARK EXPANSION | SKYTRAIN

The future park at W 6th Avenue & Fir Street and the future Granville-Broadway SkyTrain Station

NEARBY CYCLING NETWORK ENHANCEMENTS

Granville Bridge Connector will link with nearby existing and future cycling routes. Together these projects will create an intuitive network that makes it easy to get around.

Future bike routes include **Richards St** (approved), **Drake St** (engagement underway), and the **Arbutus Greenway Seawall Connection** (engagement underway).



8 RELATED PROJECTS
BRIDGE STRUCTURAL & SEISMIC UPGRADES

GRANVILLE BRIDGE CONNECTOR

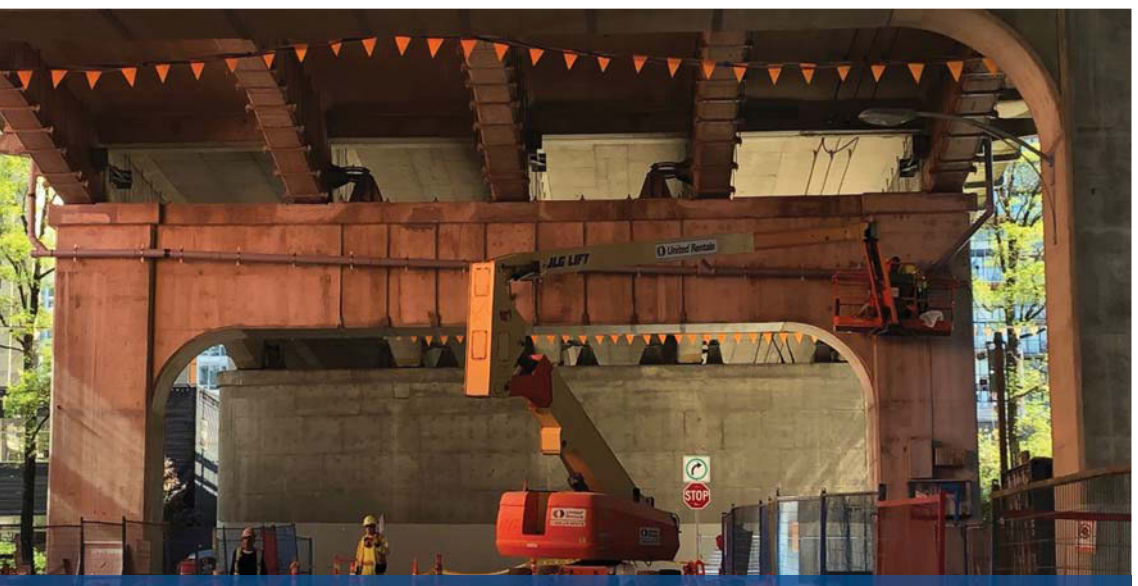
BRIDGE STRUCTURAL & SEISMIC UPGRADES ARE UNDERWAY

Granville Bridge is over 60 years old and showing signs of deterioration typical of aging structures. The City allocated $24M in the 2019-2022 Capital Plan to complete:

- **Seismic upgrades** so that the bridge is resilient in case of a larger earthquake
- **Structural rehabilitation** including replacement of corroded bearings and failed expansion joints

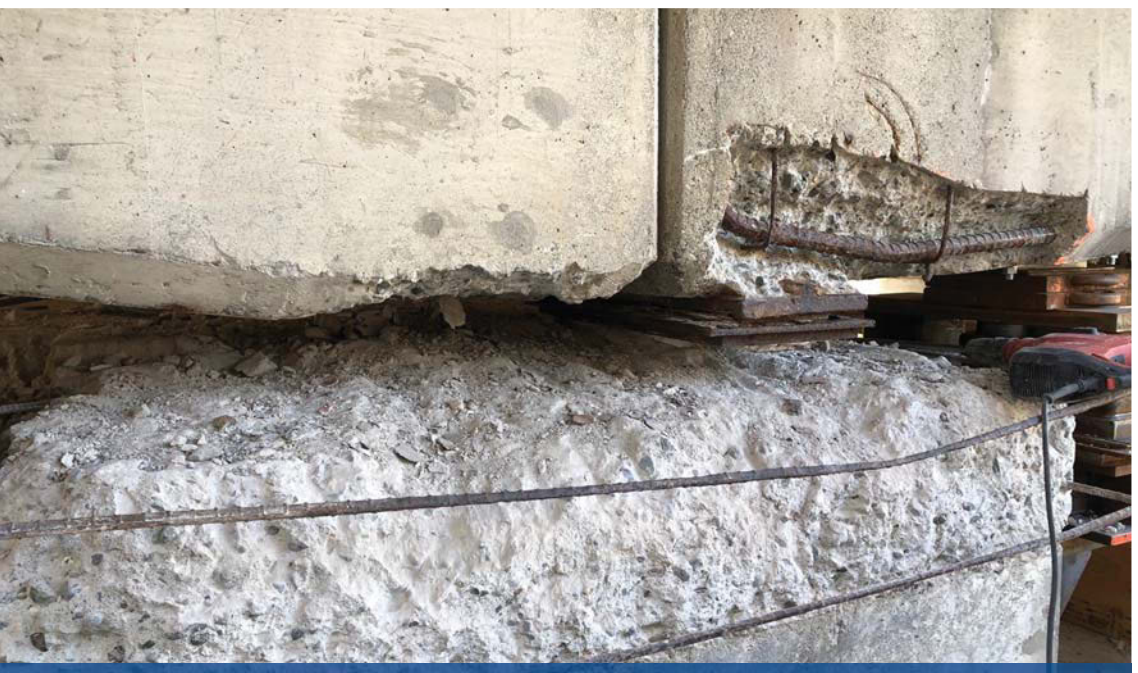
Construction began in October 2018 and will continue until Summer 2021.

Together, these upgrades will keep the bridge (a $300M asset) in good working order for many years to come.



Drain pipe replacement


Marking concrete for repairs


Lifting bearings for replacement

Filling a crack in the concrete


Upgrades inlcude replacing aging expansion joints


Corroded steel in need of replacement


Concrete in need of repairs

9 WHAT WE HEARD
PHASE 1 OVERVIEW

GRANVILLE BRIDGE CONNECTOR

HIGH PARTICIPATION RATE

Phase 1 (April 2019) focused on:

- Understanding how people experience the bridge today
- Confirming the draft goals
- Gathering hopes, concerns, and ideas about the project

We conducted **open houses**, **workshops**, **walking tours**, and **surveys**, and heard from: representatives from resident and business associations; transportation, seniors, accessibility, and placemaking organizations; emergency service providers; Vancouver Coastal Health; and others.

Over **1,100 people** at public events

Over **5,000 people** via a survey (available online and at public events)

615 people walking across the bridge via an on-site intercept survey

Over **40 stakeholder groups** via focused outreach

KEY THEMES FROM PHASE 1

- **Most people do not feel comfortable walking or cycling across the bridge**
- **Many people avoid walking or cycling across the bridge** even when it would be the most direct route, suggesting a pent-up demand for using the bridge
- **People with mobility challenges and people who cycle find it especially difficult** to use the bridge today
- There is **strong support for the project** from stakeholders and the public
- There is **support for the draft goals**, with many ideas to achieve them
- **Staff used the feedback to revise the draft goals** including adding or strengthening themes related to the climate emergency, public transit, means prevention, environmental considerations, and value for money
- Opinions diverge on the **level of investment required**, with some interested in a once-in-a-lifetime opportunity to create a special place, and others more concerned with safety and transportation functions
- There were **many ideas for alignments** to explore, which staff considered when developing options for the Connector

Visit **vancouver.ca/granvilleconnector** for a more in-depth summary

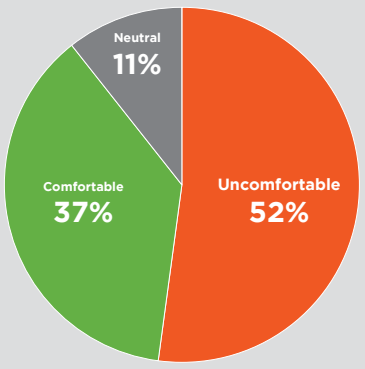
10 WHAT WE HEARD
USING THE BRIDGE TODAY

GRANVILLE BRIDGE CONNECTOR

PEOPLE ARE UNCOMFORTABLE WALKING ACROSS THE BRIDGE

How **comfortable** would you be **walking** across the Granville Bridge...

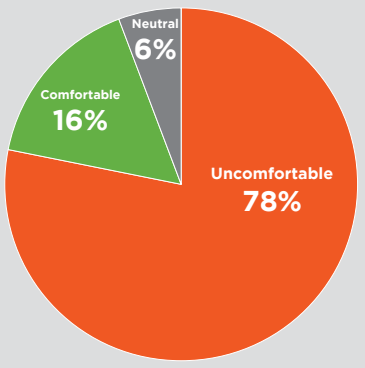
... on your own?



52%
Uncomfortable

5,044 total responses. Chart based on the 96% of total respondents who reported they sometimes travel by walking. Not including 1% of respondents who replied "don't know" and the 2% who did not answer the question.

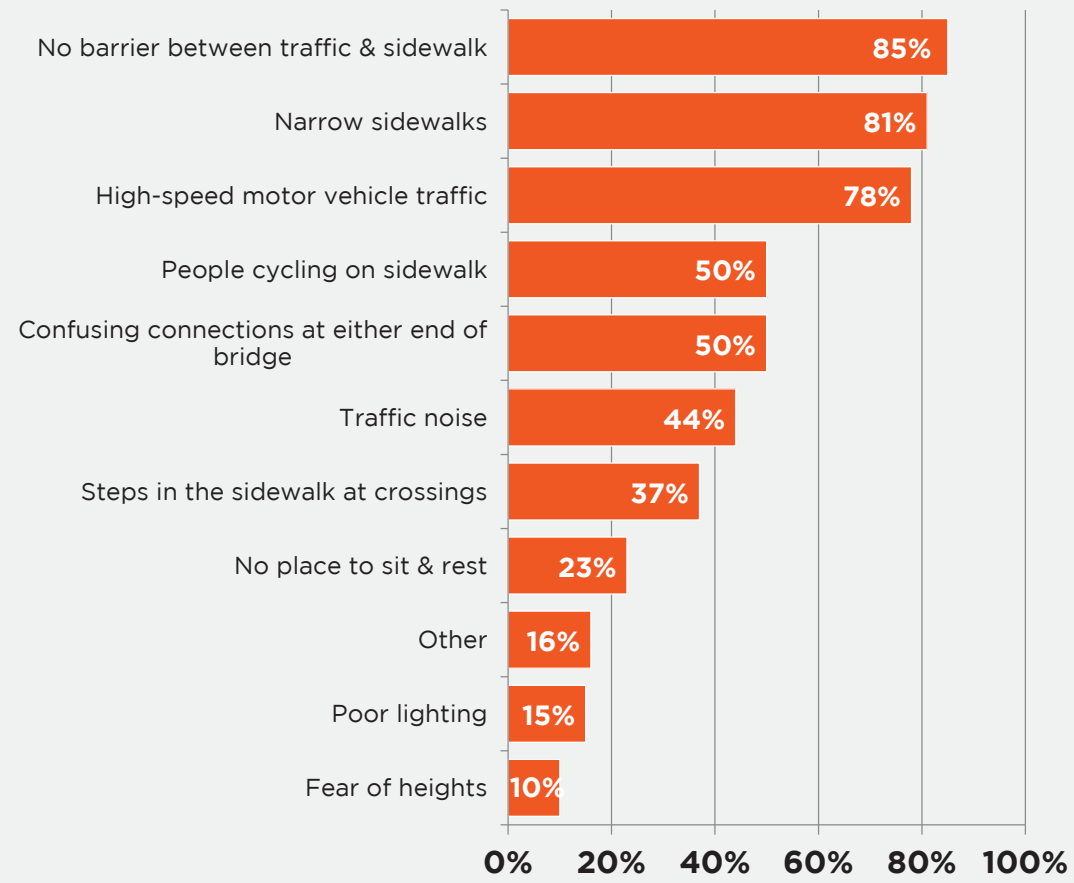
... with a person who needed assistance?



78%
Uncomfortable

5,044 total responses. Chart based on the 96% of total respondents who reported they sometimes travel by walking. Not including 4% of respondents who replied "don't know" and the 4% who did not answer the question.

Reasons people feel uncomfortable walking across the bridge

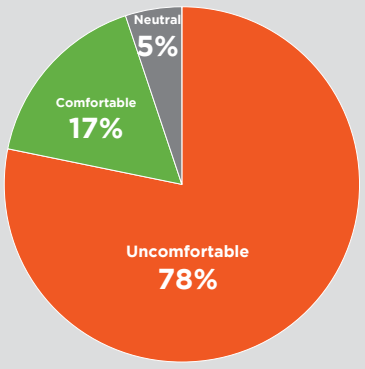


Based on 3669 survey responses from people reporting they would feel uncomfortable walking across the bridge.

PEOPLE ARE UNCOMFORTABLE CYCLING ACROSS THE BRIDGE

How **comfortable** would you be **cycling** across the Granville Bridge...

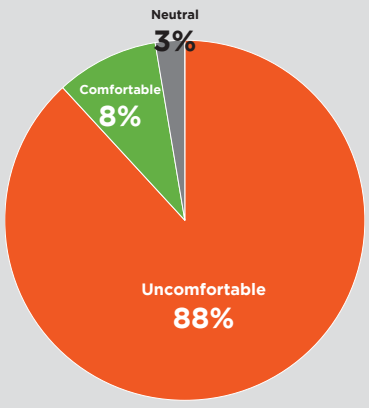
... on your own?



78%
Uncomfortable

5,044 total responses. Chart based on the 80% of total respondents who reported they sometimes travel by cycling. Not including 1% of respondents who replied "don't know" and the 0% who did not answer the question.

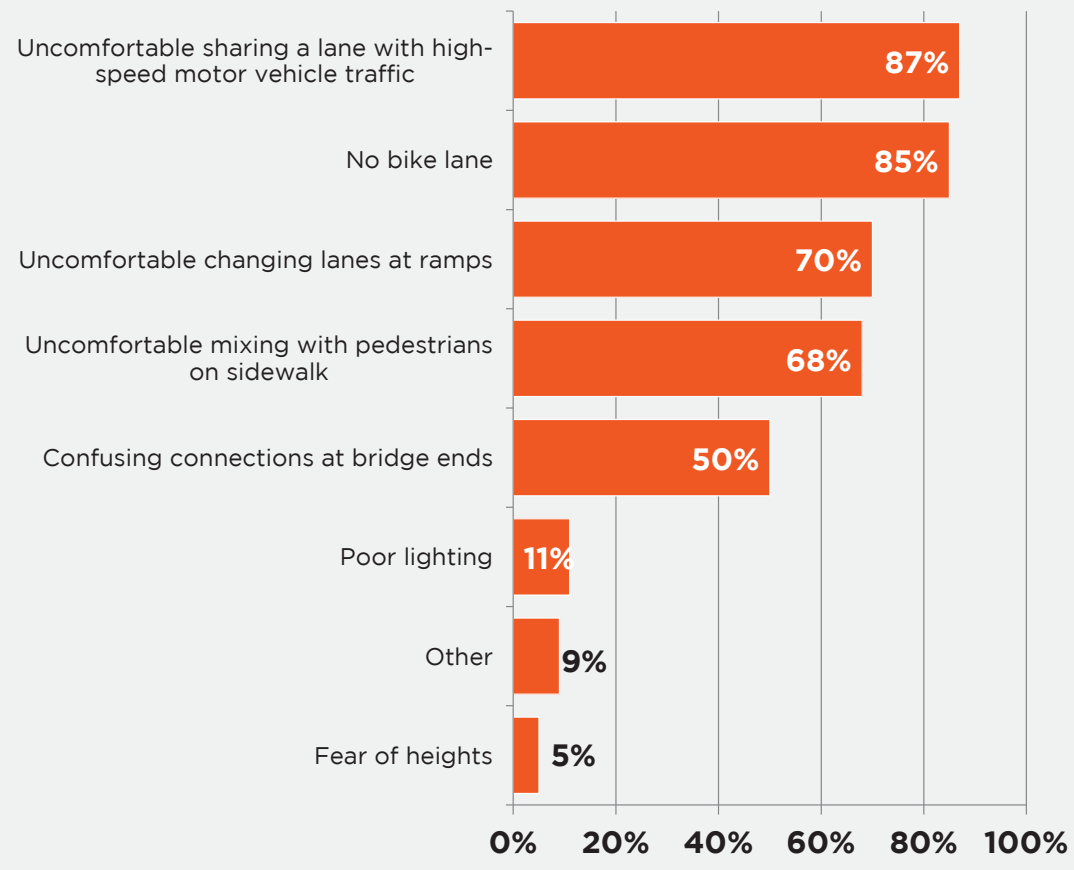
... with a person who is less confident biking?



88%
Uncomfortable

5,044 total responses. Chart based on the 80% of total respondents who reported they sometimes travel by cycling. Not including 4% of respondents who replied "don't know" and the 1% who did not answer the question.

Reasons people feel uncomfortable cycling across the bridge



Based on 3555 survey responses from people reporting they would feel uncomfortable cycling across the bridge.

Visit **vancouver.ca/granvilleconnector** for a more in-depth summary

11 WHAT WE HEARD

GRANVILLE BRIDGE CONNECTOR

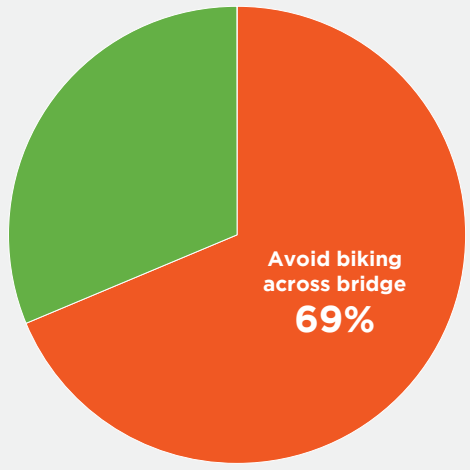
STRONG LATENT DEMAND FOR USING THE BRIDGE

Many people avoid walking or biking across the bridge even when it would be the most direct route.

Do you ever avoid using the Granville Bridge even when it would be the most direct route?

41%
Avoid walking across the bridge

Based on 4912 responses to this question.

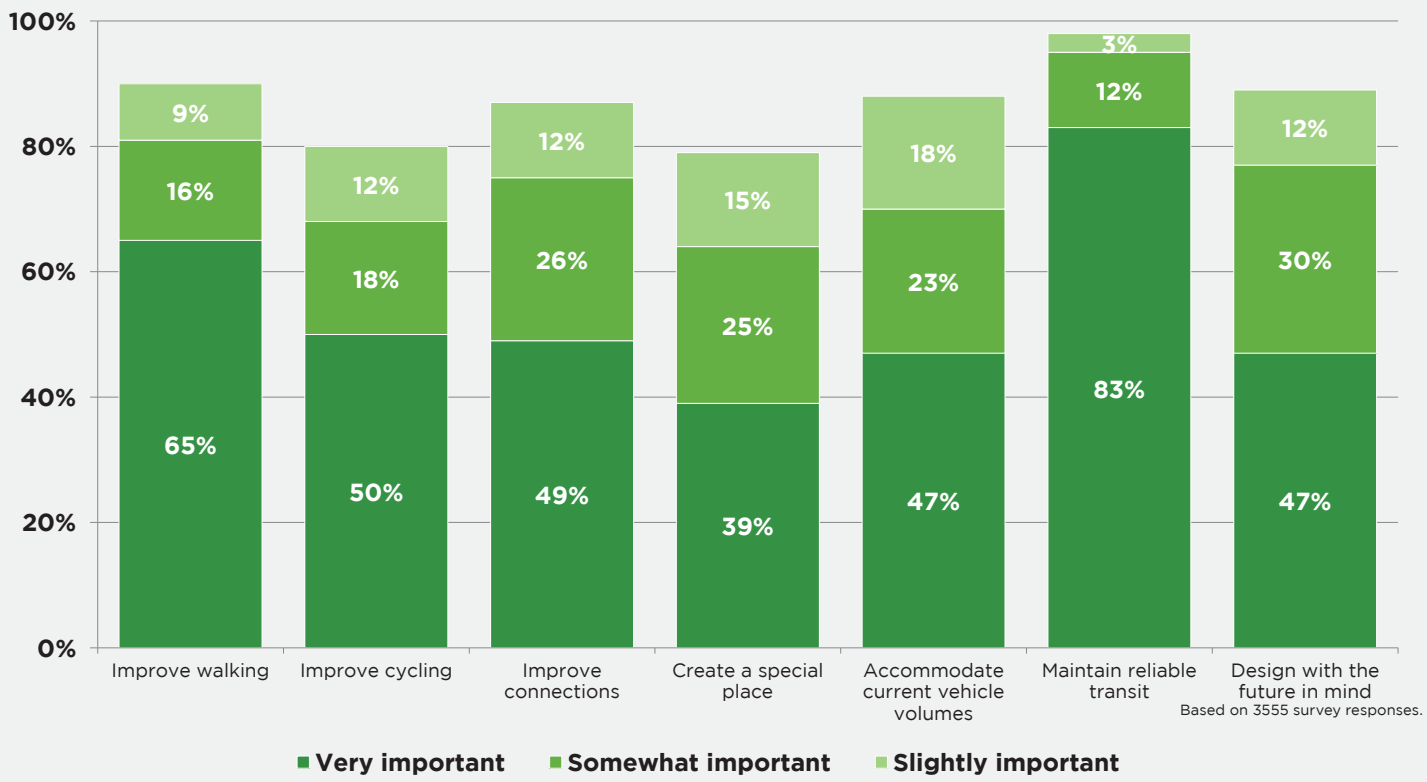


69%
Avoid biking across the bridge

Based on 4106 responses to this question.

STRONG SUPPORT FOR DRAFT GOALS OVERALL

Survey results indicate that all the Phase 1 draft goals are somewhat to very important.



Based on 3555 survey responses.

REFINING THE DRAFT GOALS

Only about 5% of respondents suggested new themes not covered in the draft goals. These included:

- **Means prevention** (to deter self-harm)
- Recognizing the **climate emergency**
- **Environmental considerations**, such as incorporating rainwater management and protecting cormorant nesting sites
- **Designing for adaptability**, to preserve the ability for future changes to the bridge as the city grows and travel patterns change
- Highlighting the importance of **cost** and **value for money**

The revised goals (see Board 14) capture these themes, and also better emphasize the bridge's importance as a **public transit corridor** and **regional connector**.

Visit **vancouver.ca/granvilleconnector** for a more in-depth summary

12 WHAT WE HEARD
SOME IDEAS & COMMENTS

GRANVILLE BRIDGE CONNECTOR

PROVIDE ACCESSIBLE, SAFE & COMFORTABLE WALKING, ROLLING & CYCLING

- Provide separate space for walking/rolling, slow cycling, faster cycling, and driving
- Use gentle grades, smooth surfaces, and pedestrian ramps
- Provide safe ways for people to cross the on- and off-ramps at each end of the bridge
- Provide benches for people to rest along the way
- Ensure the path feels safe and secure for everyone, even at night

CREATE A SPECIAL PLACE

- Celebrate views
- Create little gathering spaces or ‘moments’ along the way (e.g. lookout balconies, pocket plazas, greenery, space for bike-powered food carts)
- Add interactive or dynamic lighting, rain-activated art, or other artistic elements
- Create a ‘story walk’ to celebrate local artists or tell important stories
- Create gateways at each end to announce the local business areas
- Repurpose the 4th, Fir, or Hemlock ramp to create a car-free special place

TRANSIT & MOTOR VEHICLES

- Improve small ferry service in False Creek (e.g. by adding it to Compass Card)
- Consider whether light rail could be extended across the bridge
- Provide good walking and cycling connections to the future SkyTrain Station at Granville & Broadway
- Don’t mess up traffic - recognize that the bridge provides for important regional movement between the North Shore and Richmond/YVR
- Consider how the project could support a more car-free or car-light future on the bridge and in the downtown, especially in the long-term

IMPROVE CONNECTIONS

- Connect Granville-to-Granville to benefit local businesses and help revitalize the street
- Consider how the ramps could provide additional connections, especially on the south bridge end where they serve different parts of the city and offer gentle cycling grades
- Provide elevators and stairs, not just to Granville Island but also to the Seawall and Vancouver House
- Improve wayfinding

Visit **vancouver.ca/granvilleconnector** for a more in-depth summary

13 PRECEDENTS

GRANVILLE BRIDGE CONNECTOR

HIGH LINE, NEW YORK

BURRARD BRIDGE, VANCOUVER

CANADA LINE BRIDGE, VANCOUVER

BLOOR STREET VIADUCT, TORONTO

TILIKUM CROSSING, PORTLAND

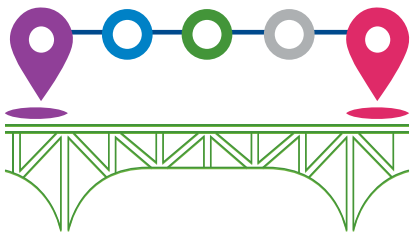
BROOKLYN BRIDGE, NEW YORK

14 REVISED PROJECT GOALS

GRANVILLE BRIDGE CONNECTOR

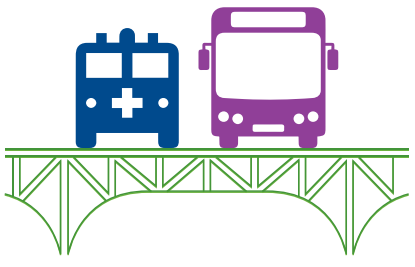
1. Support the City's **climate emergency** efforts by enabling more trips via sustainable transportation

2. Make **walking**, **rolling**, and **cycling** across the bridge **accessible**, **safe**, and **comfortable** for all ages and abilities

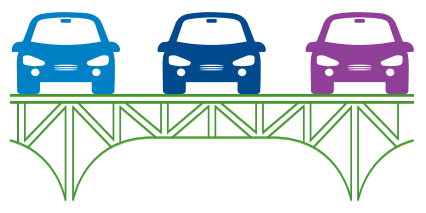


3. Provide direct and intuitive walking, rolling, and cycling **connections** to key destinations and the sustainable transportation network

4. Create a **special place** that provides an enjoyable experience for all



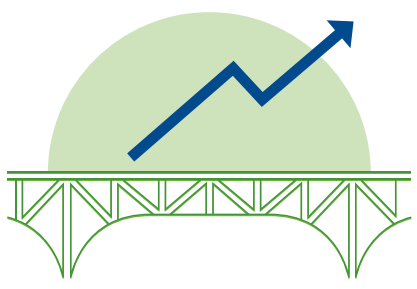
5. Enable **reliable transit** and continued access for **emergency vehicles**



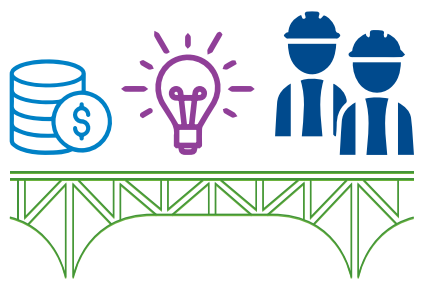
6. Accommodate **motor vehicles**, considering the bridge's role in the regional transportation network

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

15 MEANS PREVENTION

GRANVILLE BRIDGE CONNECTOR

City staff are working with Vancouver Coastal Health and other experts to **install means prevention on the Granville Bridge to deter self-harm**.

Approaches will include:

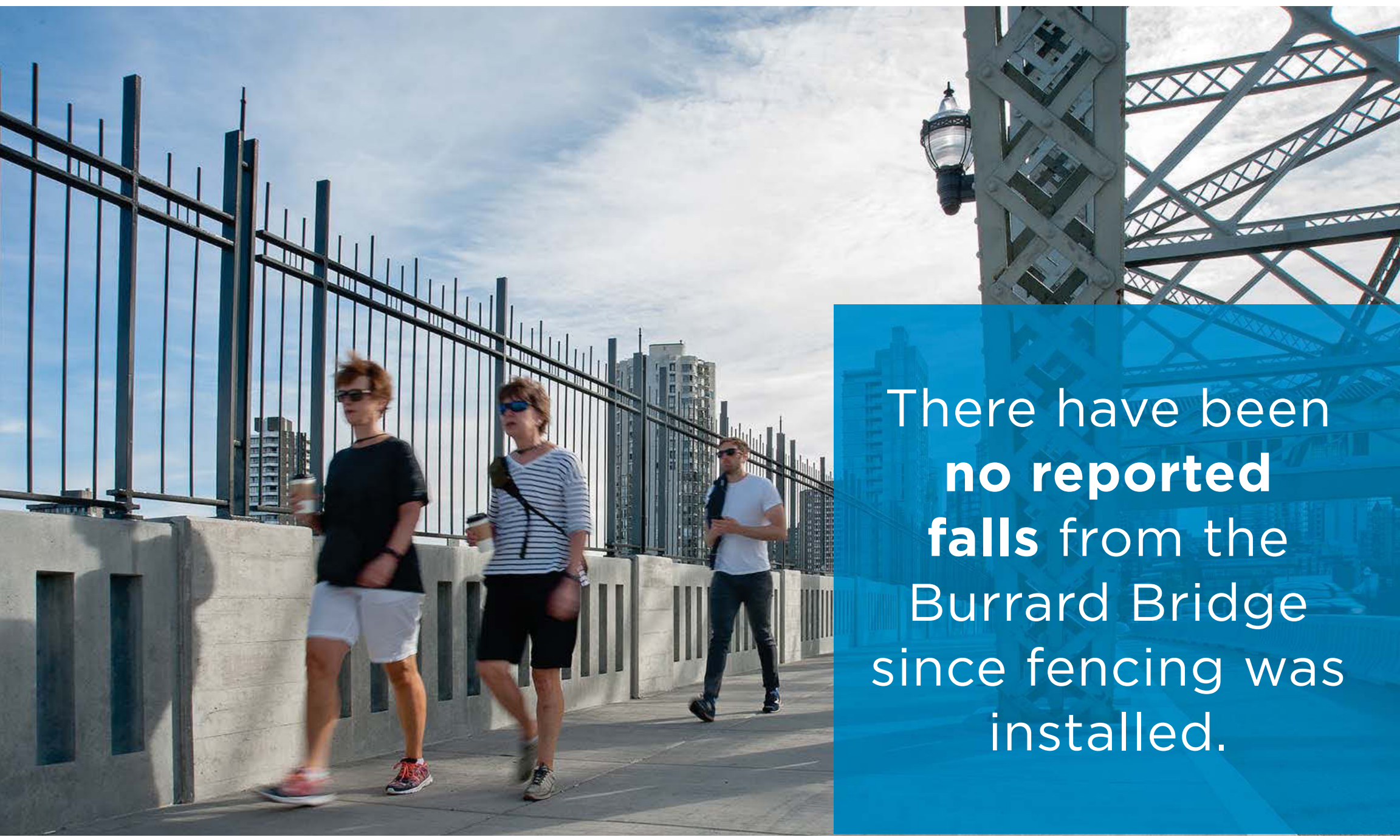
- **physical barriers such as fencing or netting**
- **other measures such as crisis phones**

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.

In recent years, incorporating means prevention into bridges has become standard practice. Recent Metro Vancouver examples on the Ironworkers Memorial Bridge and Burrard Bridge have had a significant positive impact, saving lives while also reducing healthcare and emergency service costs.

Preliminary cost estimates range between $8M-15M. Staff are working closely to coordinate this work with the Granville Bridge Connector. However this work may be phased depending on the option chosen.

Research shows that self-harm attempts from bridges are impulsive. Generally, if someone is prevented from jumping off a bridge, they don't try other means.



A means prevention fence was added to the Burrard Bridge as part of recent upgrades.

Careful design led to a barrier that still allows for excellent views, complements the Art Deco aesthetic of the bridge, and incorporates heritage lighting.

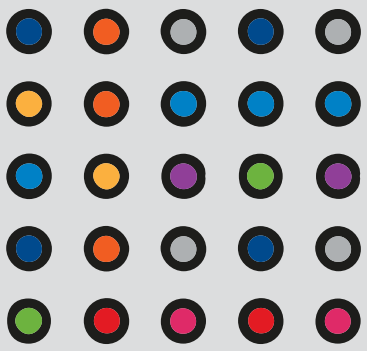
16 DEVELOPING & EVALUATING OPTIONS

GRANVILLE BRIDGE CONNECTOR

Exploring Options

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

EVALUATING CONCEPTS: A TWO-STEP PROCESS



High level screening of long list

1. HIGH LEVEL SCREENING of long list

complete, based on critical flaws and ability to meet baseline criteria:

- 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**
- Integrate **means prevention** to deter self-harm
- Incorporate **rainwater management** and accommodations for **wildlife**

Detailed Evaluation of short list

2. DETAILED EVALUATION of short list

underway, based on criteria derived from project goals:

1. Provide **comfortable walking & rolling**
2. Provide **comfortable cycling**
3. Provide direct & intuitive **walking & rolling connections** to key destinations & the broader public realm
4. Provide direct & intuitive **cycling connections** to key destinations & the sustainable transportation network
5. Create a **special and inclusive place** that provides an enjoyable experience for all
6. Support **reliable transit** service
7. Address **personal security and safety**
8. **Accommodate current motor vehicle volumes**, considering the bridge's role in the regional road network
9. **Integrate with potential future projects**, including flexibility to adapt as the city grows
10. Deliver a **cost-effective** solution

17 SHORTLISTED OPTIONS
INTRODUCTION

GRANVILLE BRIDGE CONNECTOR

Staff have **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

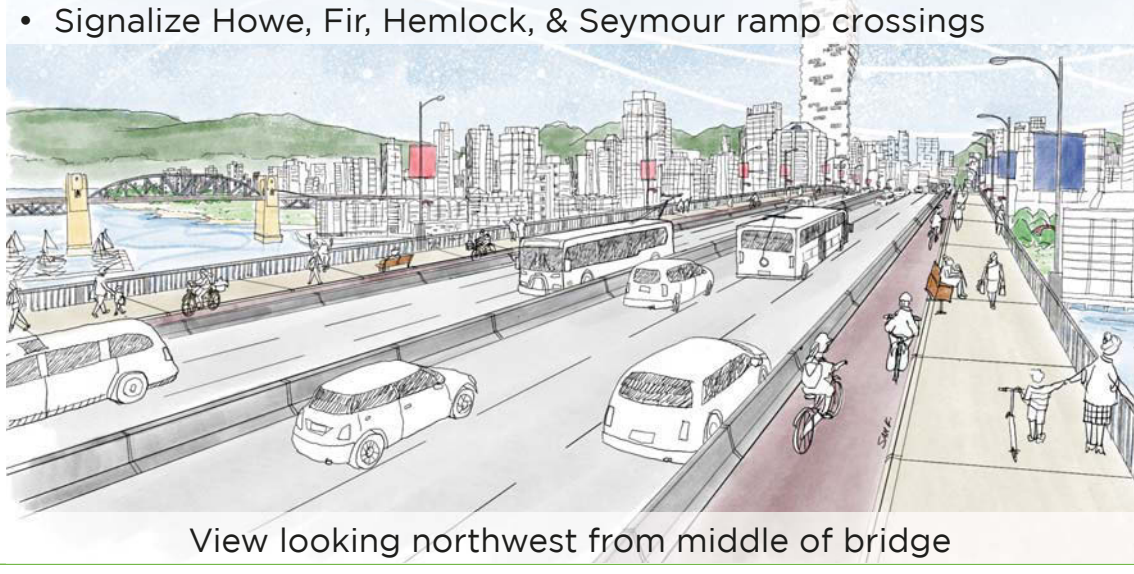
Option 5: Raised Centre

- 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

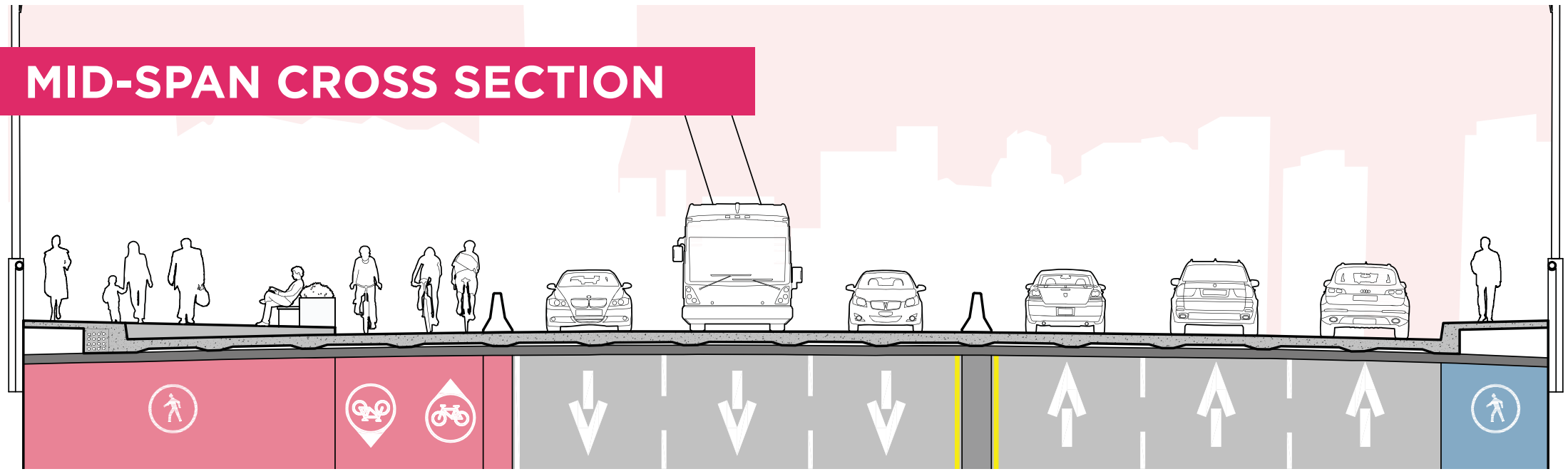
18 SHORTLISTED OPTIONS

GRANVILLE BRIDGE CONNECTOR

1 WEST SIDE

- Wide sidewalk and bi-directional 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



KEY FEATURES

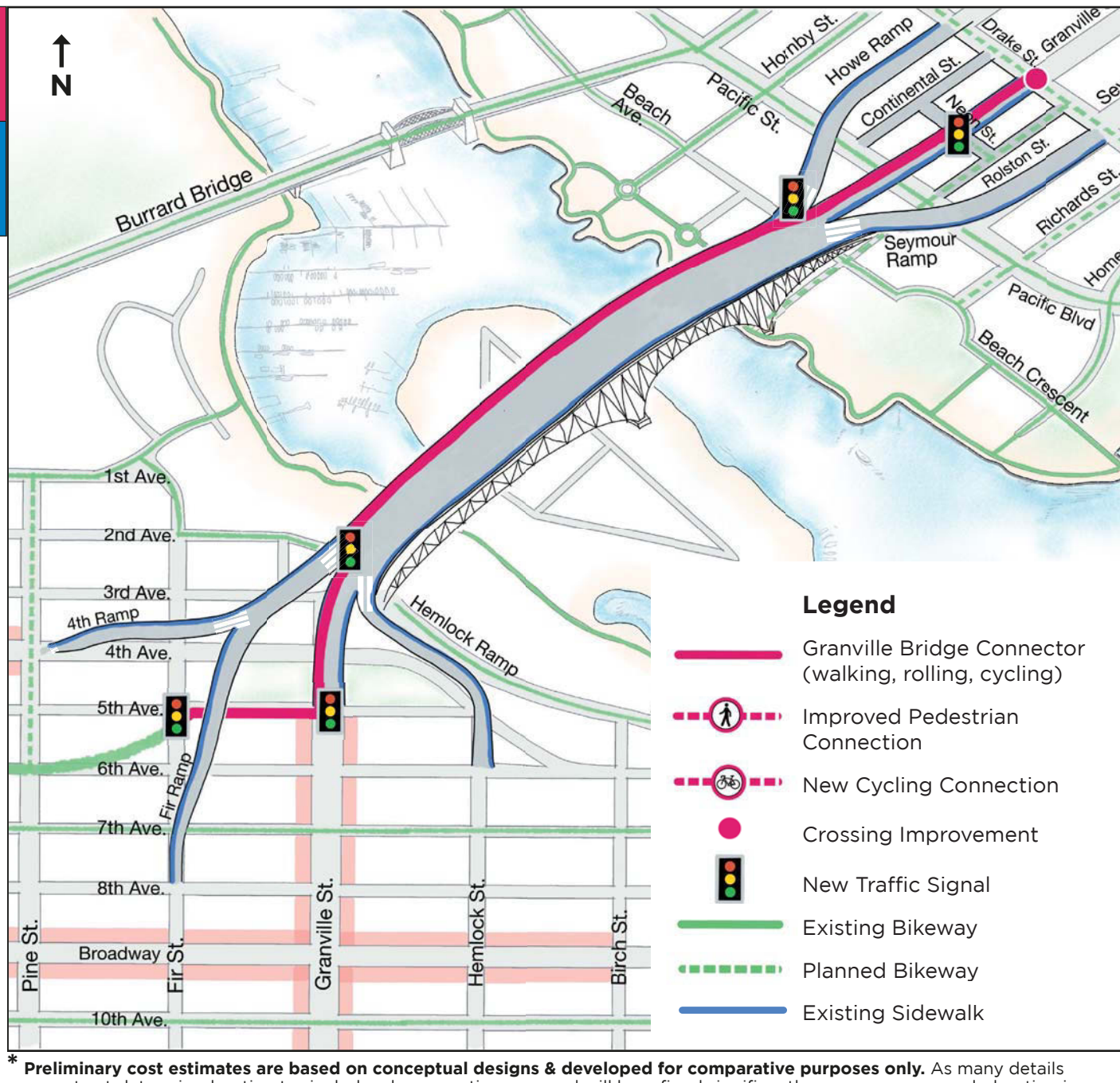
COST: $20M-30M*

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.

Share your thoughts on this option by **September 30**

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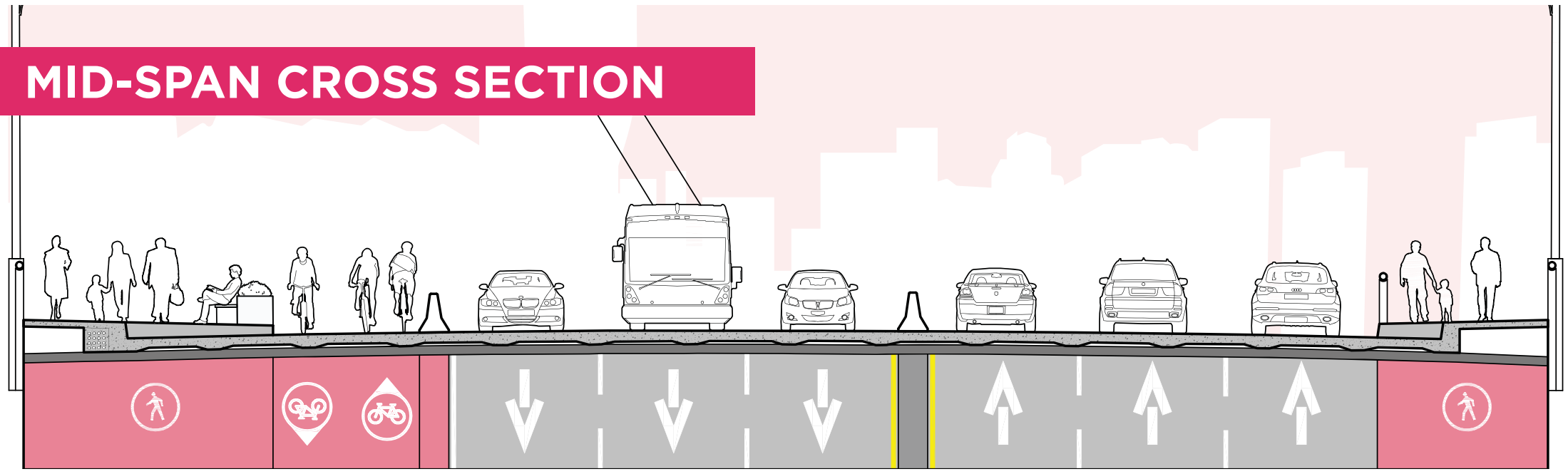
19 SHORTLISTED OPTIONS

GRANVILLE BRIDGE CONNECTOR

2 WEST SIDE +

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

MID-SPAN CROSS SECTION



KEY FEATURES

COST: $30M-40M*

BENEFITS

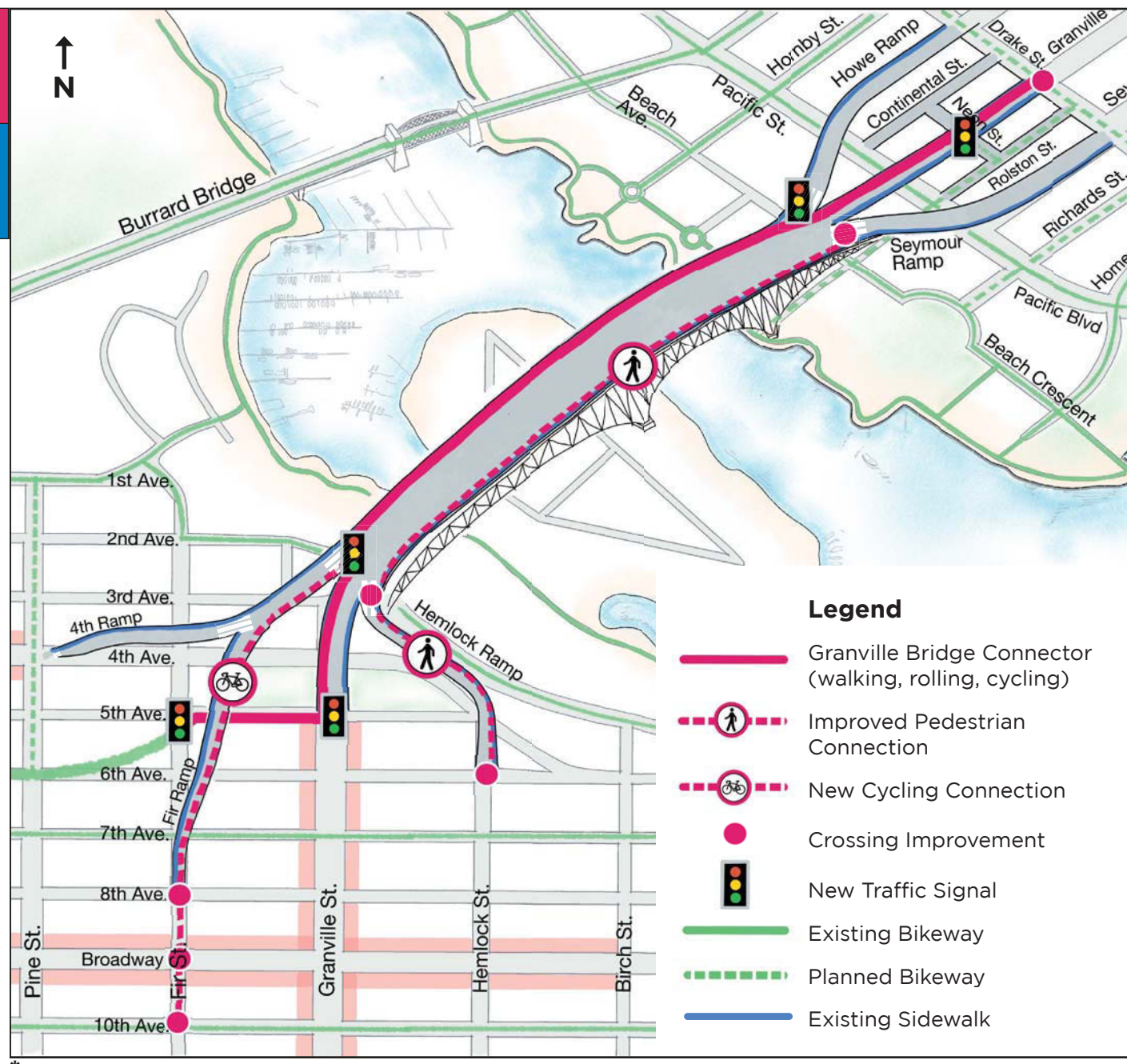
Same as ‘West Side’ option, except:

+ Accessible & wide sidewalks on both sides of bridge, & Hemlock ramp
+ Views to west & east over False Creek
+ Relatively flat bi-directional 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



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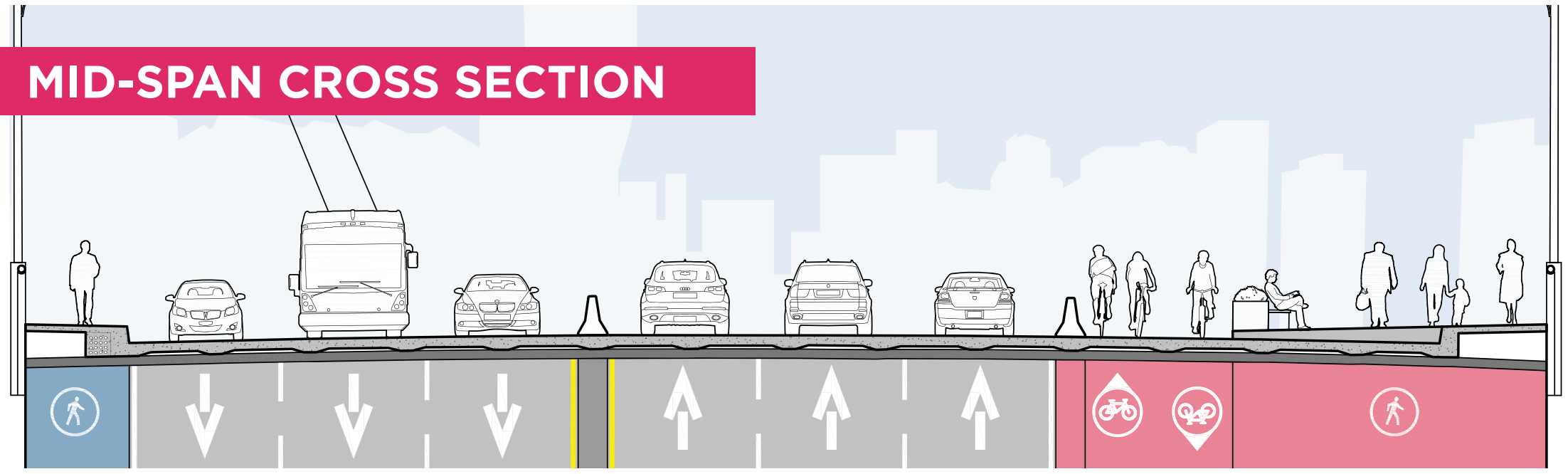
20 SHORTLISTED OPTIONS

GRANVILLE BRIDGE CONNECTOR

3 EAST SIDE

- Wide sidewalk and bi-directional 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



KEY FEATURES

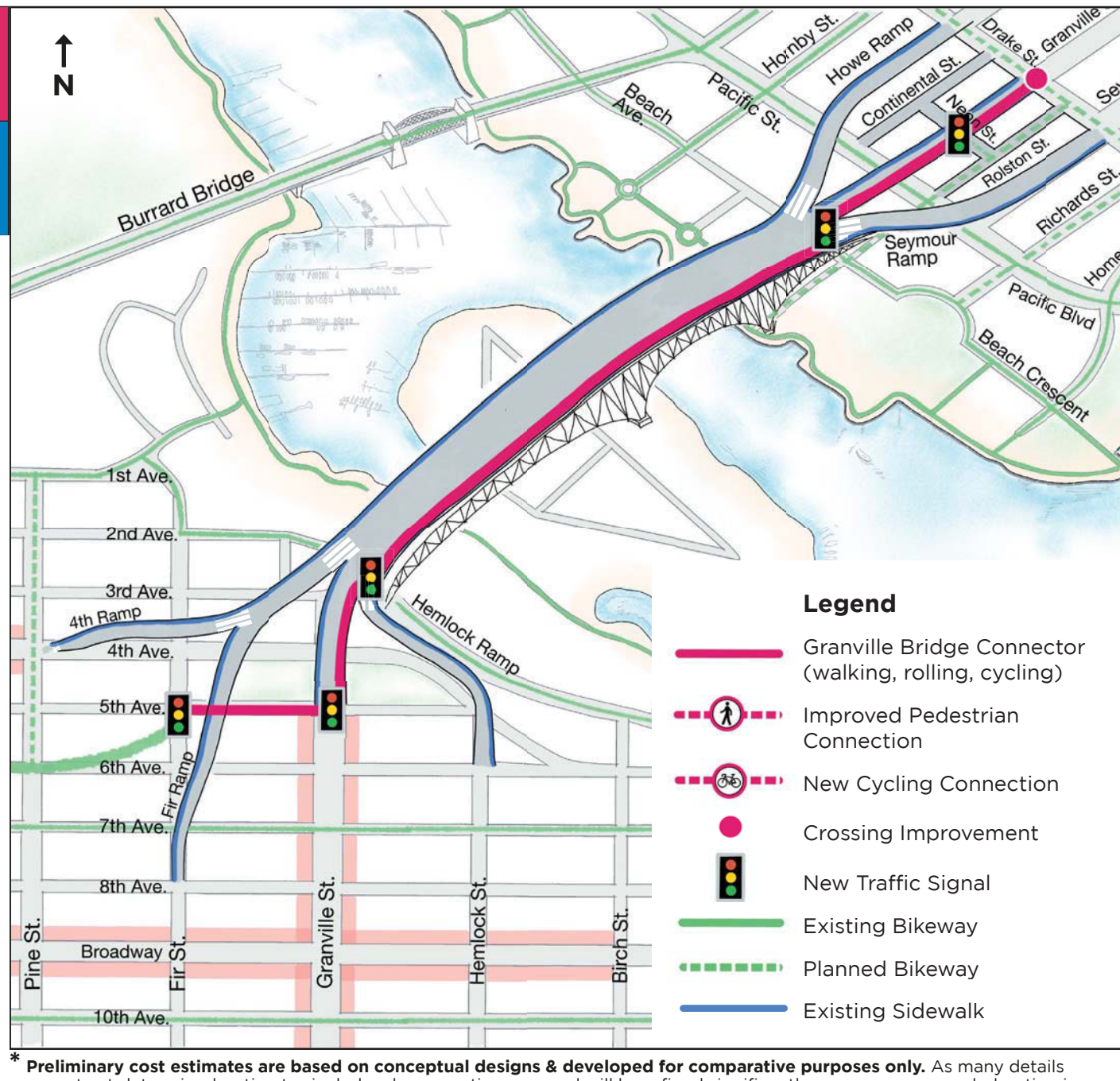
COST: $20M-30M*

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



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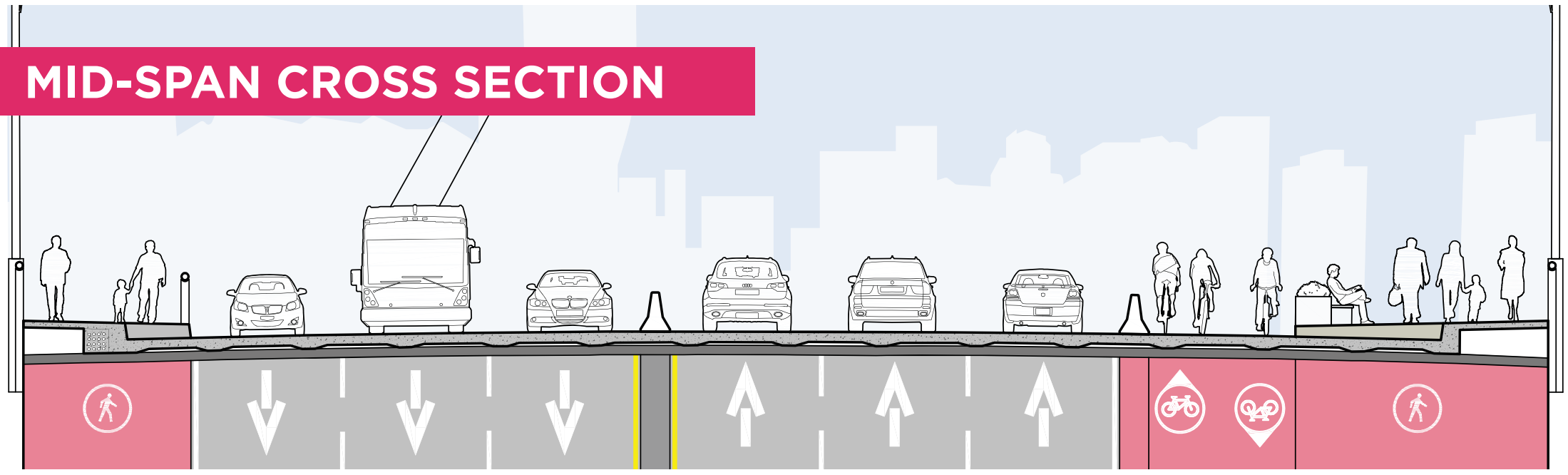
21 SHORTLISTED OPTIONS

GRANVILLE BRIDGE CONNECTOR

4 EAST SIDE +

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

MID-SPAN CROSS SECTION



KEY FEATURES

COST: $25M-35M*

BENEFITS

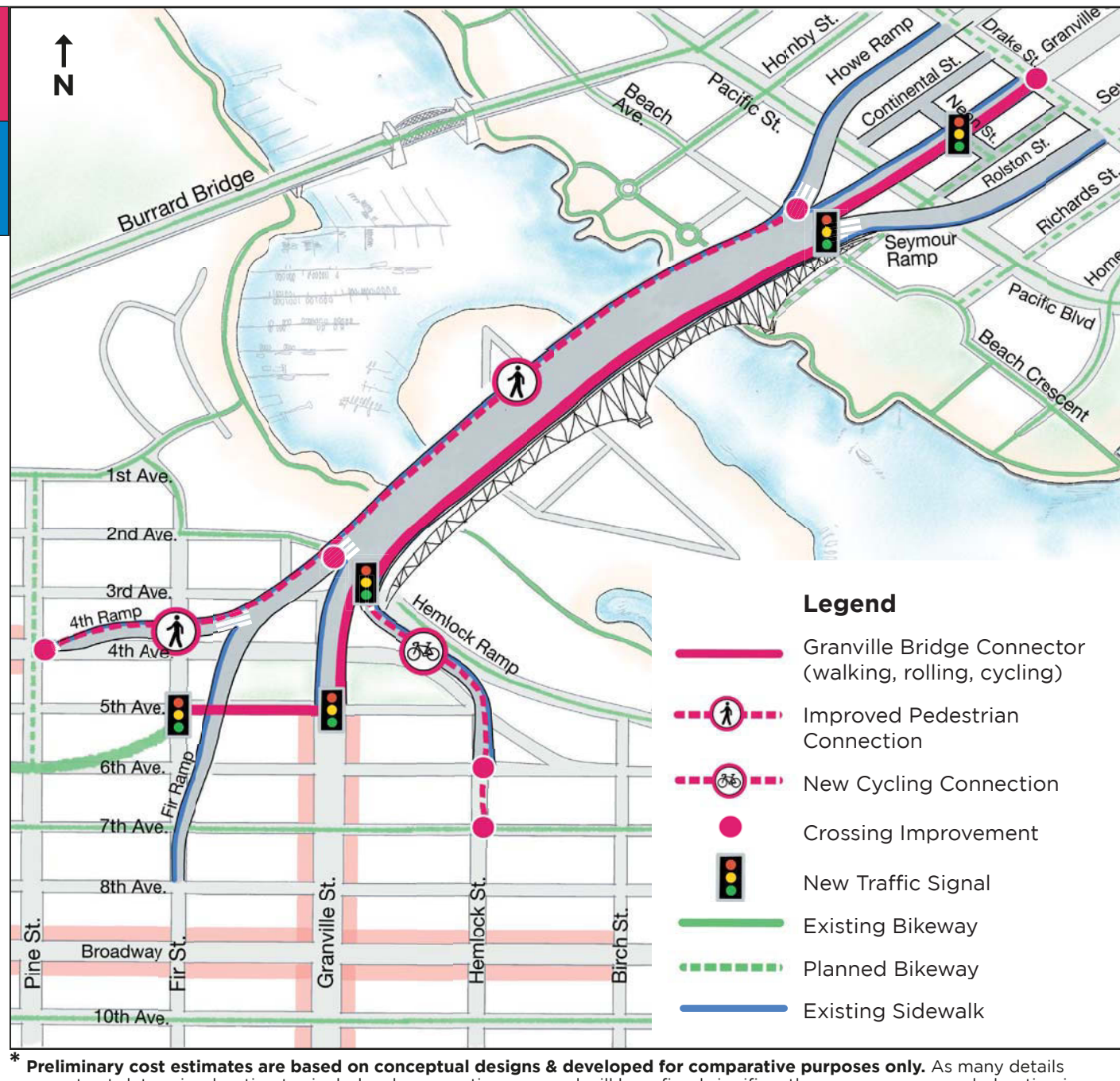
Same as ‘East Side’ option, except:

+ Views to west & east over False Creek
+ Accessible & wide sidewalks on both sides of bridge, and 4th ramp
+ Relatively flat bi-directional 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.

Share your thoughts on this option by **September 30**

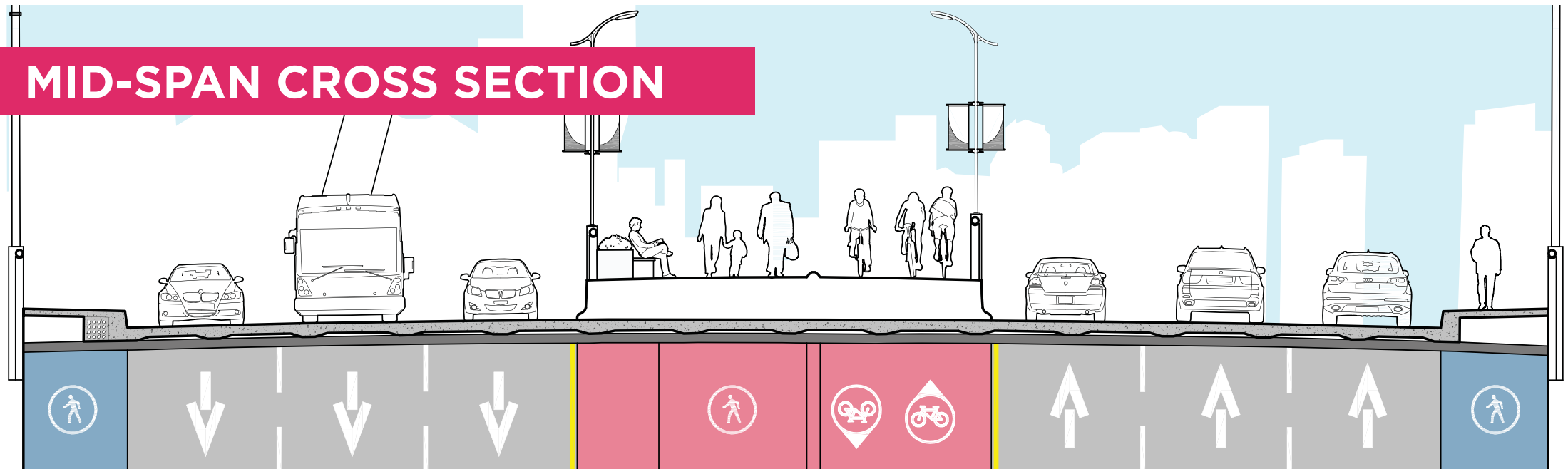
22 SHORTLISTED OPTIONS

GRANVILLE BRIDGE CONNECTOR

5 RAISED CENTRE

- Wide sidewalk and bi-directional 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



KEY FEATURES

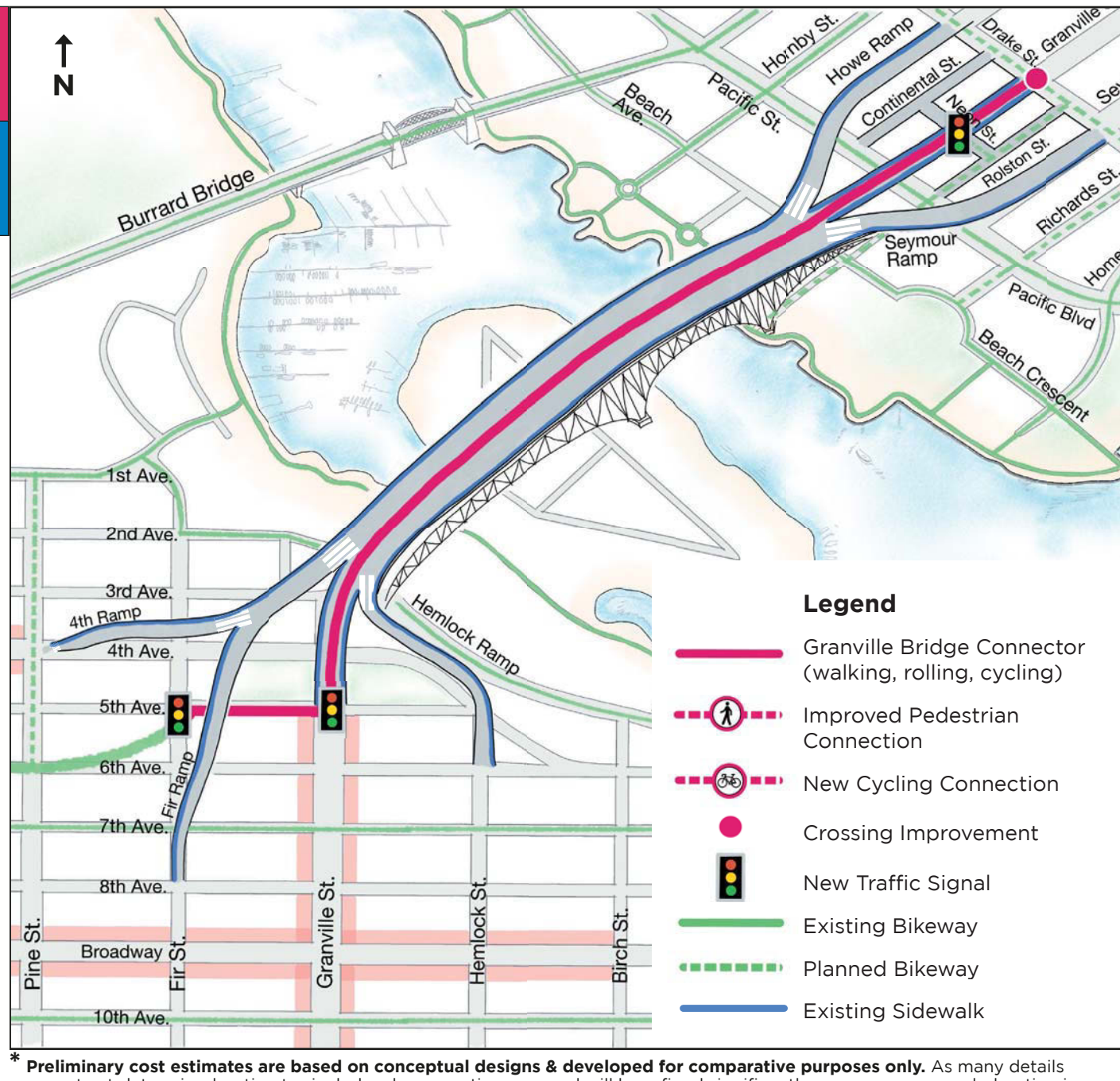
COST: $45M-55M*

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.

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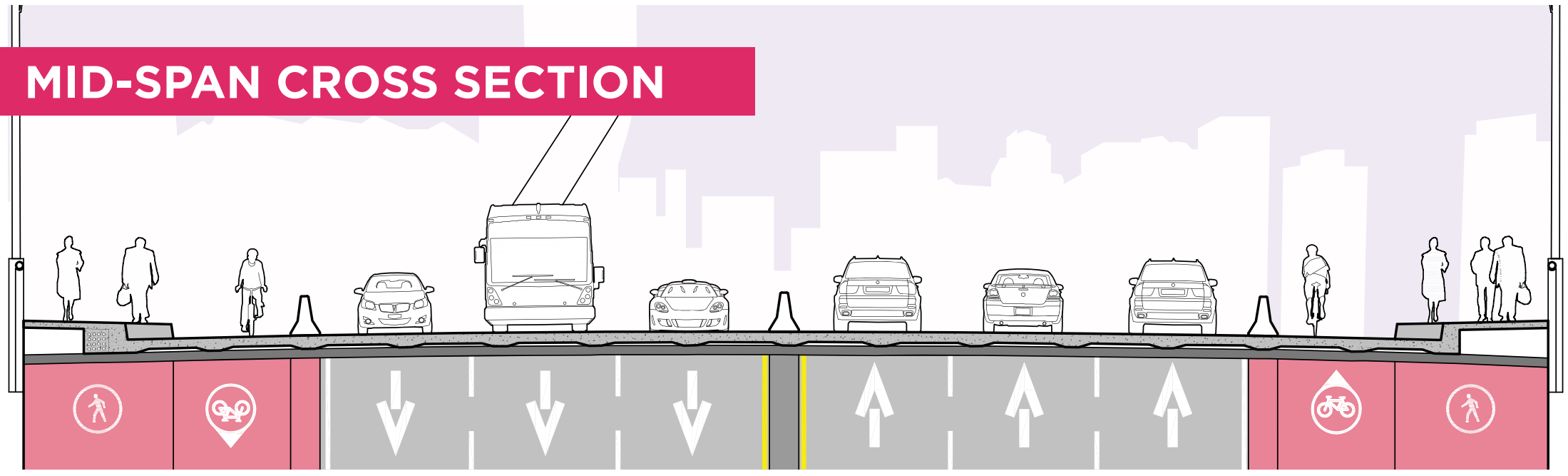
23 SHORTLISTED OPTIONS

GRANVILLE BRIDGE CONNECTOR

6 BOTH SIDES

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

MID-SPAN CROSS SECTION



KEY FEATURES

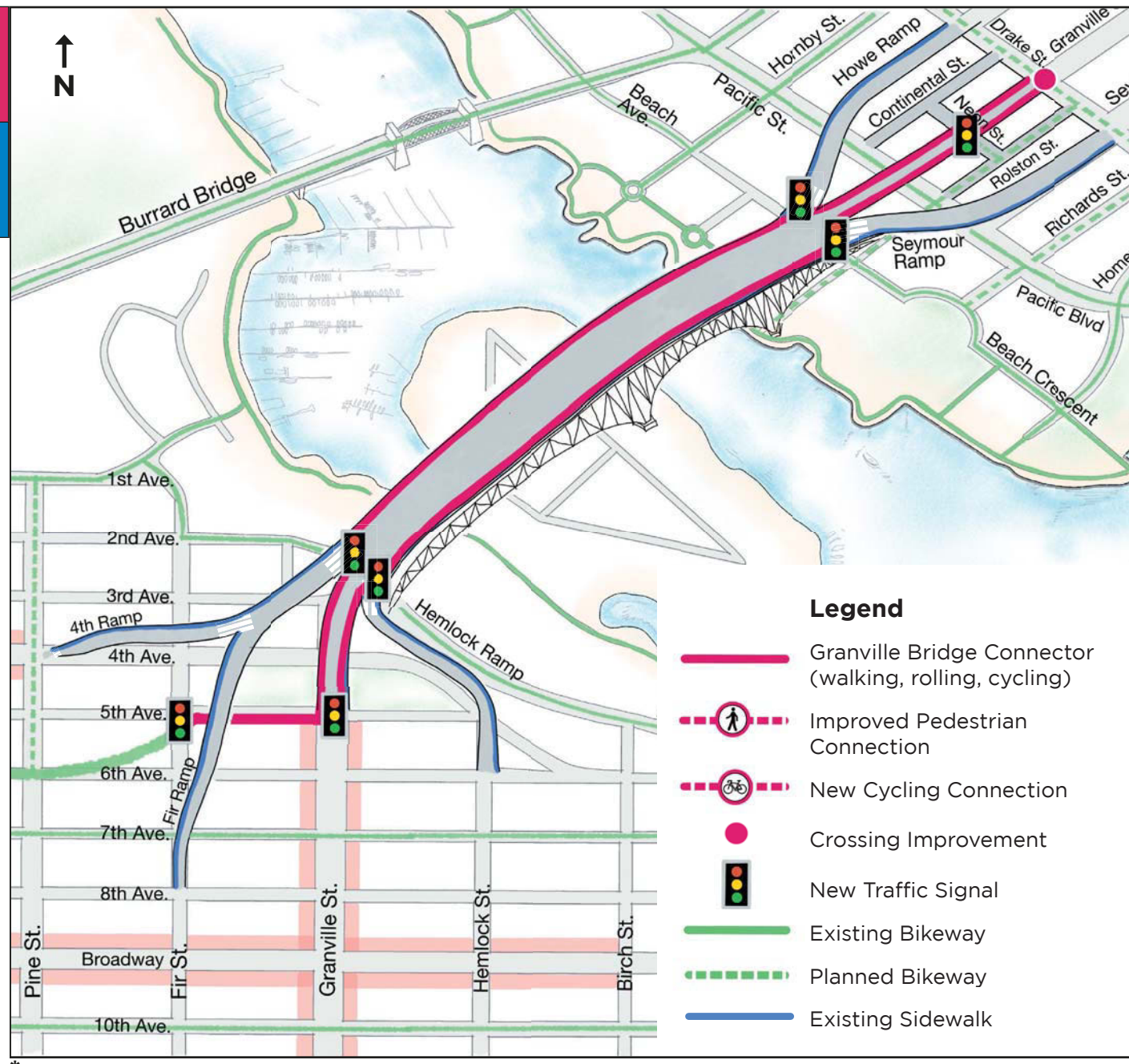
COST: $20M-30M*

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



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Share your thoughts on this option by **September 30**

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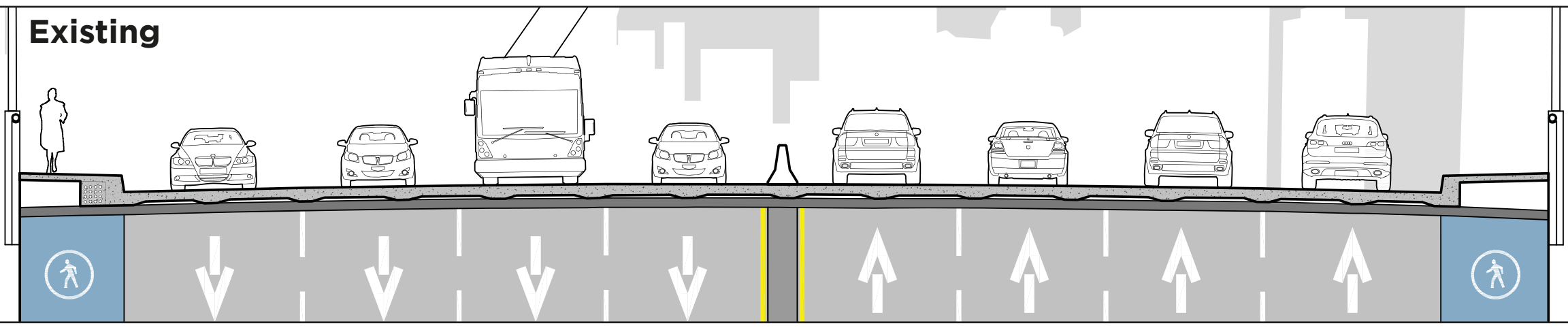
24 SHORTLISTED OPTIONS
CROSS-SECTION COMPARISON

GRANVILLE BRIDGE CONNECTOR

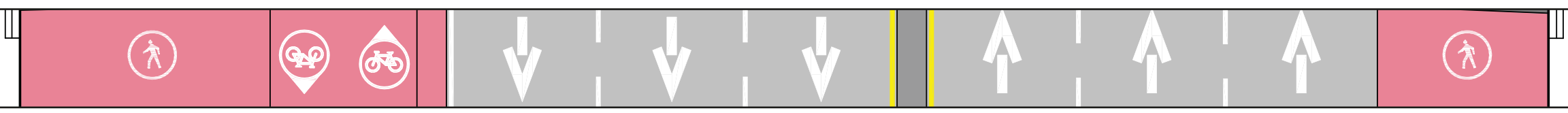
This graphic shows how space would be used in the mid-span of the bridge for different options. In general:

- 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.



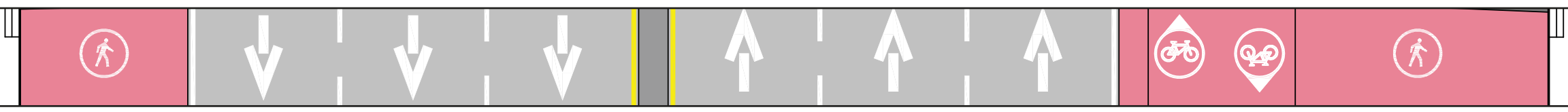
1. West Side

2. West Side +

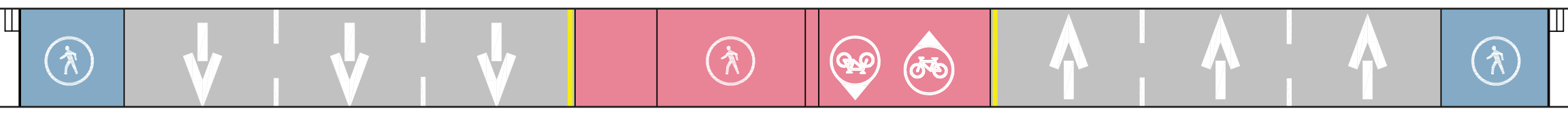


3. East Side

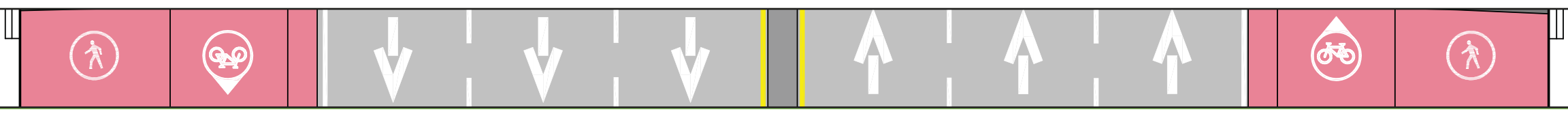
4. East Side +



5. Raised Centre



6. Both Sides



25

COMPARING OPTIONS - LET'S DISCUSS!

PRELIMINARY ASSESSMENT

GRANVILLE BRIDGE CONNECTOR

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

- The grades given to each option above are based on a preliminary staff assessment. Some criteria are subjective.
- Tell us what you think by **completing our survey by September 30**.
- More information is available in our supplemental guide at **vancouver.ca/granvilleconnector**. Copies are also available at this event.

26 ELIMINATED OPTIONS

GRANVILLE BRIDGE CONNECTOR

ELIMINATED OPTIONS

Staff looked at **more than 20 options** leading up to Phase 2. Many were eliminated during the screening process because of **critical flaws** or **inability to achieve project goals**. Others went through a more rigorous internal evaluation process.

Below are some of the more interesting options that generated public discussion, and the reason(s) why they were eliminated.

More information on these and other eliminated options is available in our supplemental guide, available here and online at **vancouver.ca/granvilleconnector**.

WEST SIDE OPTION - CAR-FREE RAMPS VARIANT

DESCRIPTION

Same as 'West Side' option but makes Fir and 4th Ave off-ramps car-free public spaces with walking and cycling connections

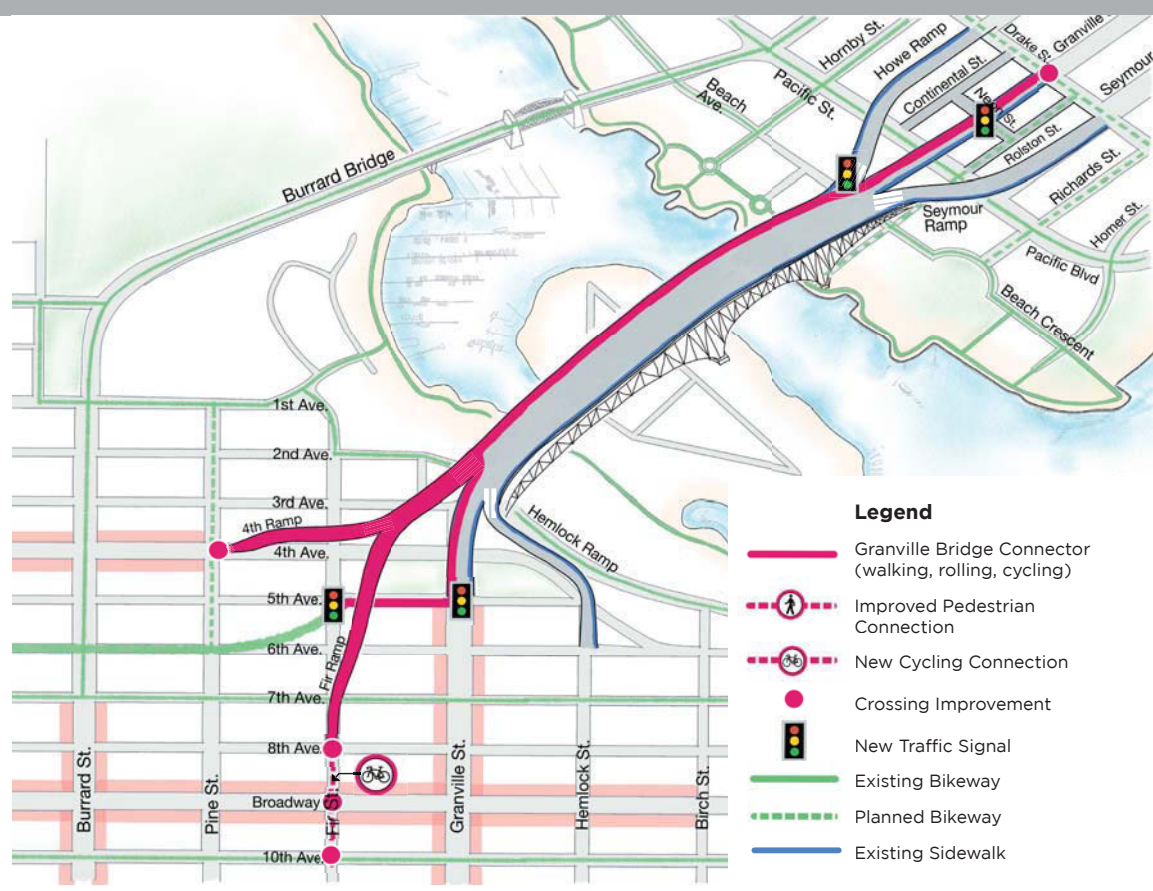
COMMENTS

Significant public space and active transportation benefits

REASON ELIMINATED

Very significant impacts to transit, Fire and Rescue Services, and general traffic

Vehicles currently using ramps would be diverted to Granville St or other streets



This option would make the Fir and 4th ramps car-free public spaces with walking and cycling connections.

The result could be a special public space, somewhat inspired by projects like The High Line in New York City or the 606 in Chicago.

Car-free ramps would be challenging to deliver today because of traffic impacts.

However, they could be explored as future add-ons to shortlisted 'West Side' and 'West Side +' options if traffic conditions change.

For more information on these and other options, view our supplemental guide at **vancouver.ca/granvilleconnector**

27 ELIMINATED OPTIONS

GRANVILLE BRIDGE CONNECTOR

RAISED CENTRE OPTION - FOUR LANE VARIANT

DESCRIPTION

Same as 'Raised Centre' option but reallocates four traffic lanes instead of two

Results in a wider path, but with only four travel lanes on the bridge deck

COMMENTS

Increased width on some portions of the path would enable more public space

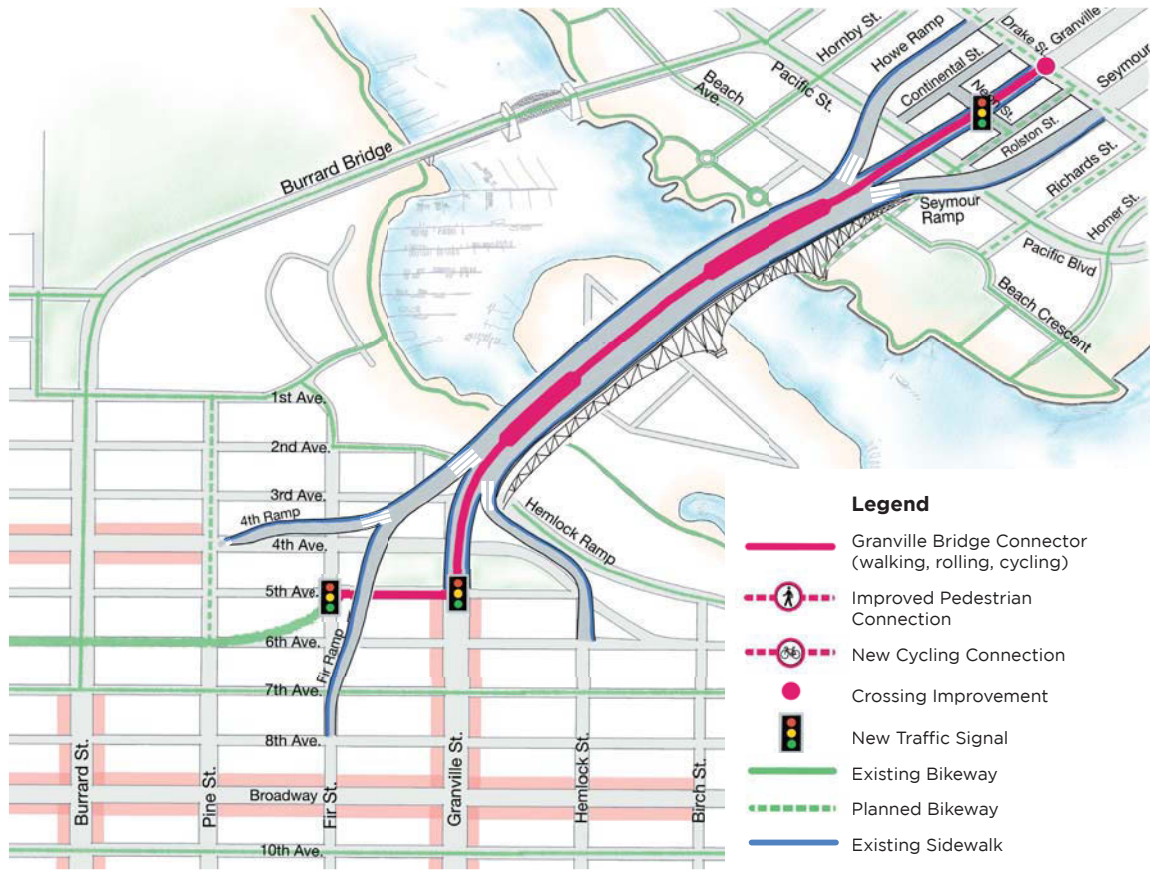
Only achieves extra width for 1/4 of bridge length because path would narrow:

- Near the middle of the bridge to accommodate potential bus stops for a Granville Island elevator
- At ramps to allow for vehicle and bus movement

REASON ELIMINATED

Very significant traffic delays in northbound direction on Granville St

Significant impacts to transit and emergency services



BOTH SIDES OPTION - "FOLLOW THE RAMPS" VARIANT

DESCRIPTION

Same as 'Both Sides' option but continues paths along on-/off ramps instead of connecting to Granville St

COMMENTS

Avoids need to cross ramps at either end of bridge

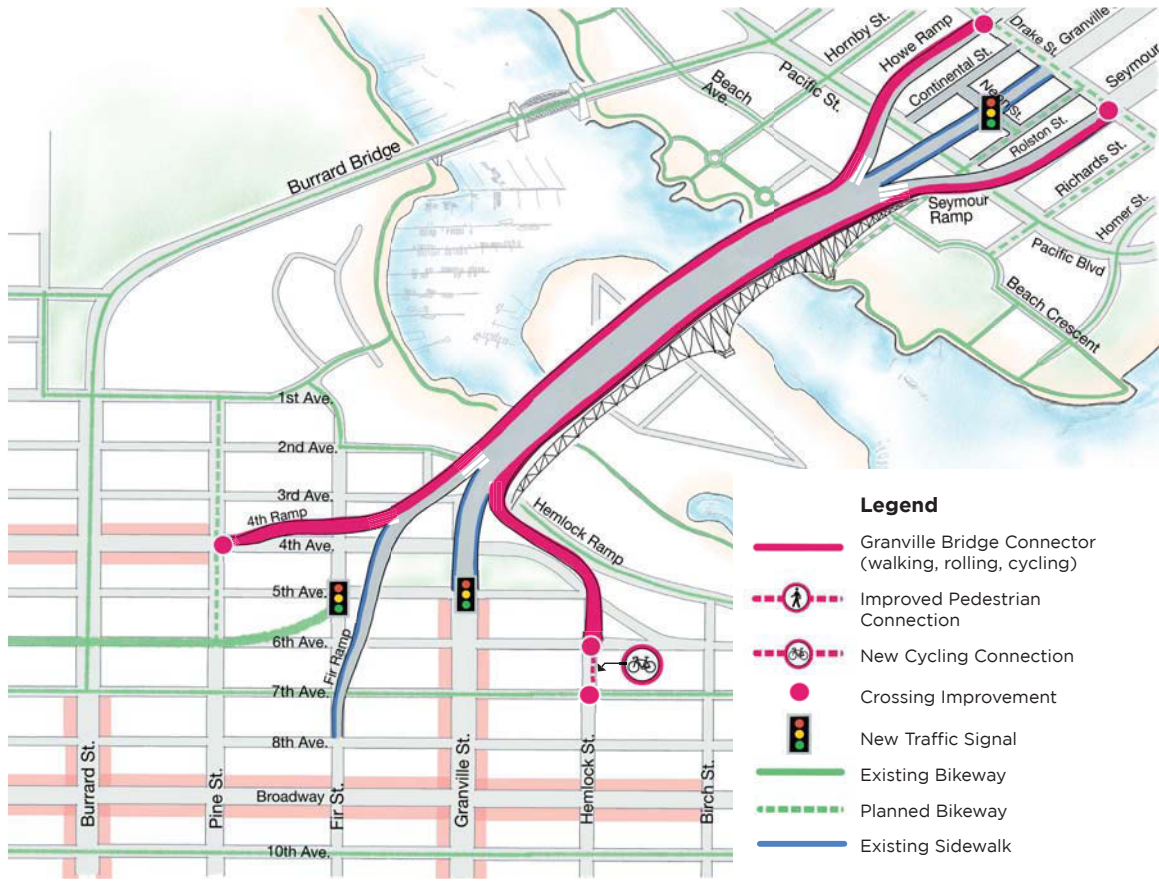
Requires making 4th and Hemlock ramps car-free, and narrowing Seymour and Howe ramps to a single traffic lane

REASONS ELIMINATED

Very significant traffic delays in both directions

Significant impacts to transit and emergency services

Does not provide direct connections to Granville Street downtown or South Granville business area



For more information on these and other options, view our supplemental guide at **vancouver.ca/granvilleconnector**

28 ELIMINATED OPTIONS

GRANVILLE BRIDGE CONNECTOR

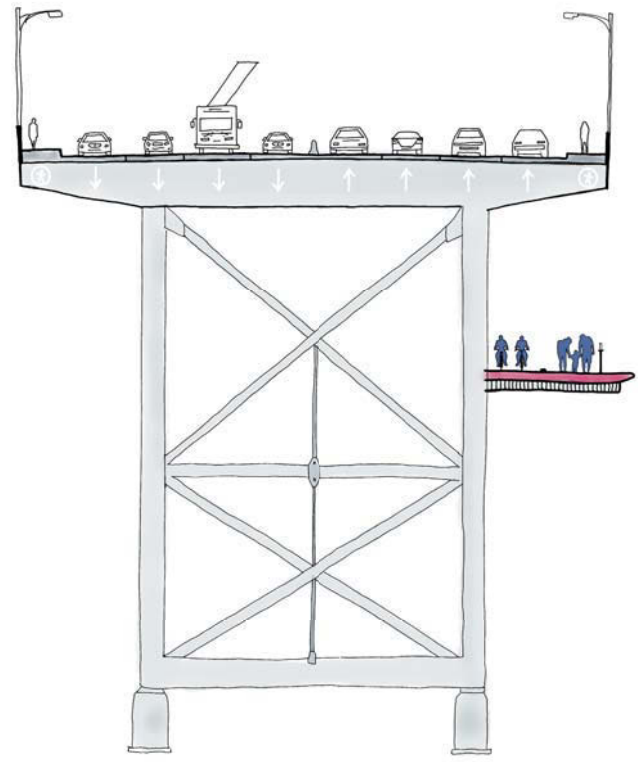
UNDERSIDE OPTION

DESCRIPTION

New structure underneath the bridge deck, cantilevered off the east side

Connect near Granville at 5th Ave (south end) and to Beach Cr or Pacific St (north end)

Direct connections to the seawall were also explored



COMMENTS

Minimal impact to traffic

Significant alignment constraints due to limited land available

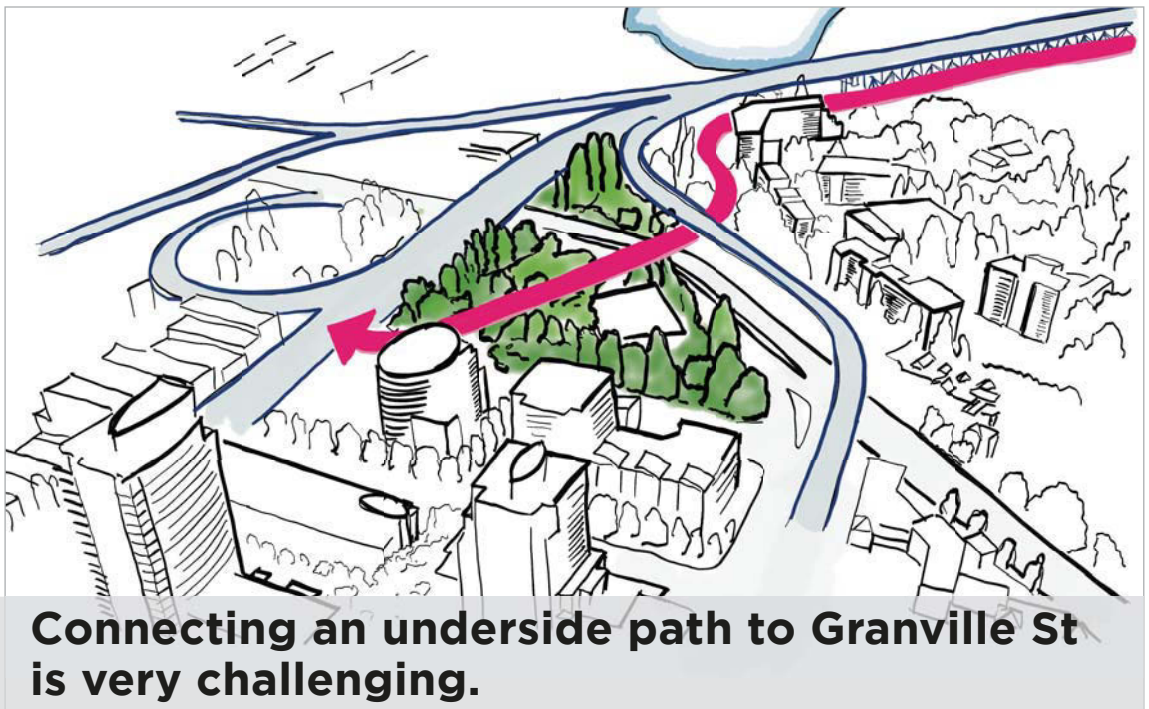
REASONS ELIMINATED

Significantly more expensive than other options ($150M+)

Steep connections at either end of path

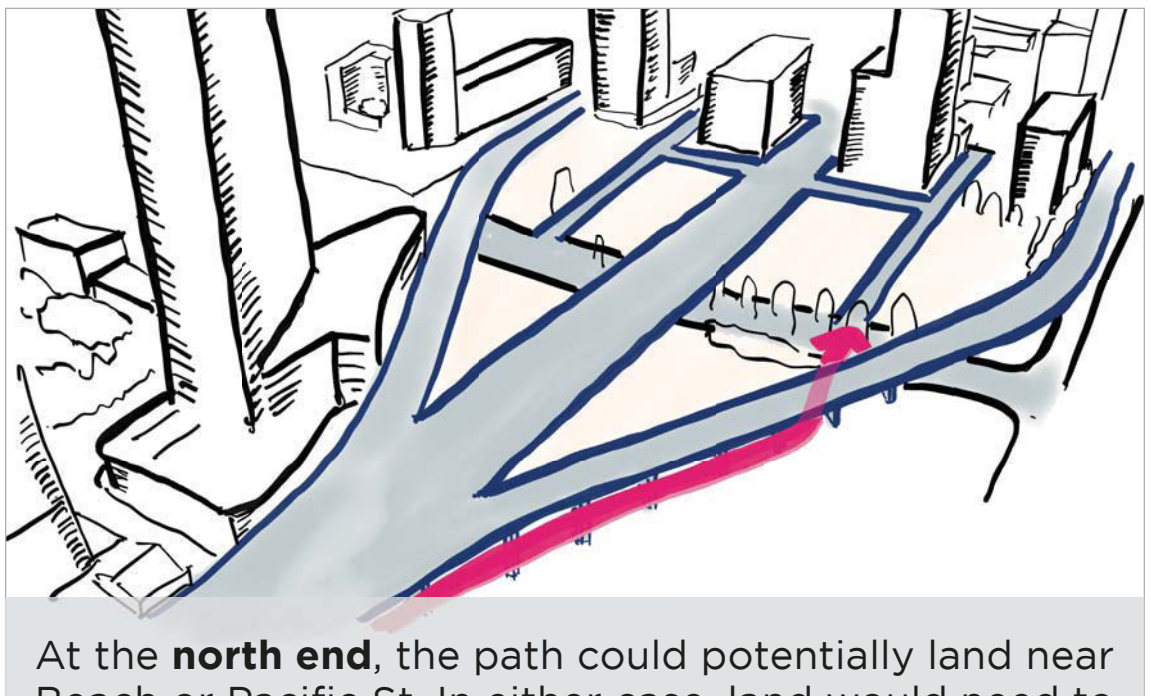
Personal security concerns using the path

Challenging emergency services access



Connecting an underside path to Granville St is very challenging.

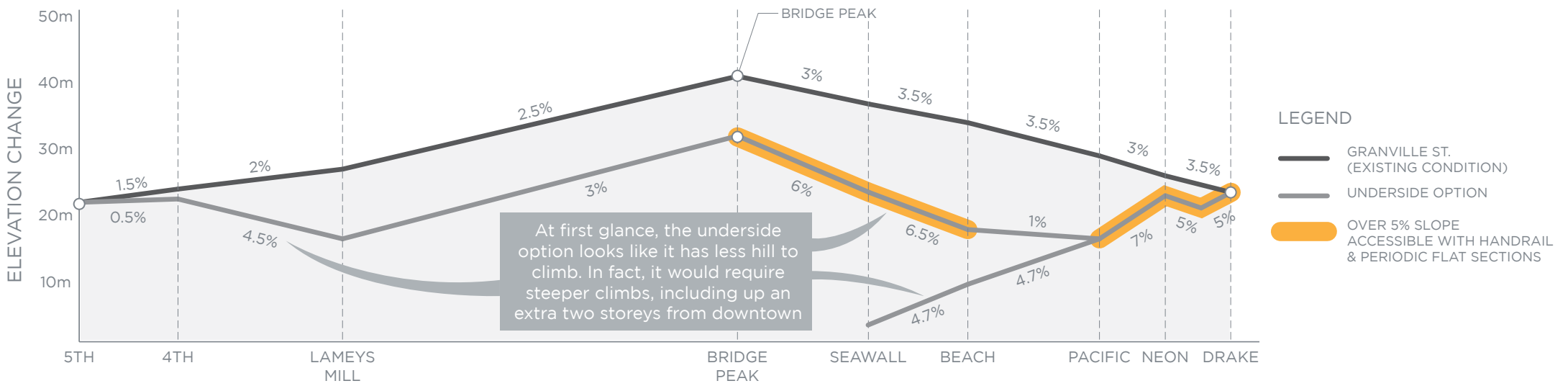
At the **south end**, the path must 'thread the needle', going under the Hemlock on-ramp, and over Lamey's Mill Road. There would also be significant impacts to mature trees.



At the **north end**, the path could potentially land near Beach or Pacific St. In either case, land would need to be acquired and it is a steep slope up to downtown.

Over False Creek, the path must be high enough to allow boats to pass under.

UNDERSIDE ROUTE DIFFICULTY ANALYSIS



For more information on these and other options, view our supplemental guide at **vancouver.ca/granvilleconnector**

SHARE YOUR INPUT

This is Phase 2 of a three-phase engagement process.

In Phase 1 (Spring 2019), you helped us refine the project goals and generate ideas for the path.

In this phase, we are **reporting back on what we heard in Phase 1 and sharing different options for you to review**. **Your input will help us refine options for the path.**

Later this year there will be opportunities to review preferred option(s). Staff plan to present recommended option(s) to City Council in early 2020.

Remember to fill out a survey here today or online by September 30.

Get involved in other ways:

Sign up for the newsletter to stay informed

Sign up for a workshop to discuss options in more detail

For more information:

vancouver.ca/granvilleconnector

granvilleconnector@vancouver.ca