

THE FUTURE OF VANCOUVER'S VIADUCTS

Welcome to our information session on the future of Vancouver's viaducts. Over the past two years City staff have been testing the replacement of the Georgia and Dunsmuir Viaducts. We'd like to share our findings with you and invite you to share your opinion.

Why are we here today?

Since 2010, City staff have been exploring opportunities to replace the Georgia and Dunsmuir viaducts with a mostly at-grade street network to allow for a larger Creekside Park, improved walking, cycling, transit, and driving options, a new neighbourhood and housing opportunities on city land.

In September 2015, Council will consider whether to move ahead with removing the viaducts.

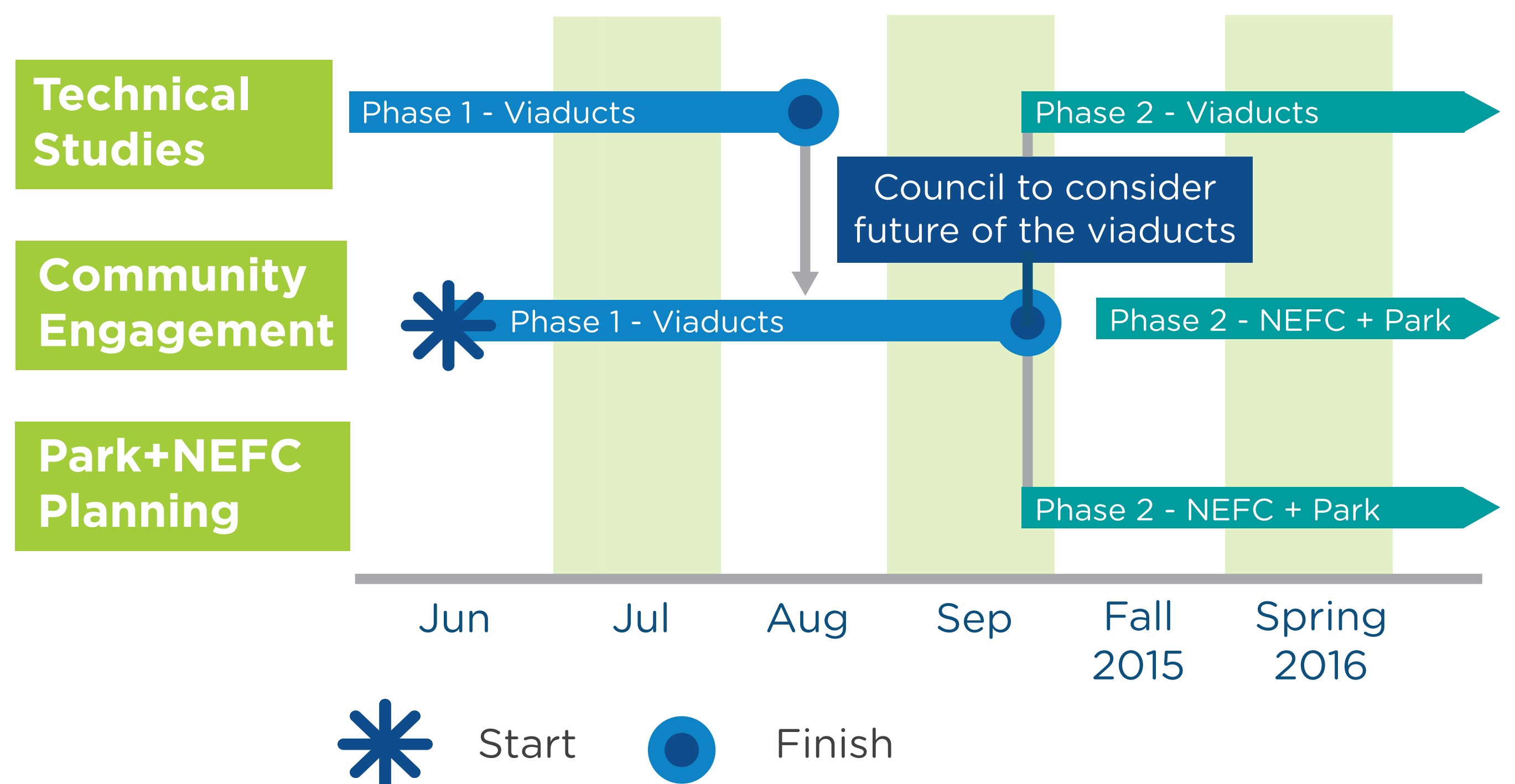


What are we planning?

After Council consider the future of the viaducts in September work on the future neighbourhood and park will begin.

It is important that we hear from the community on what they think are the opportunities and challenges posed by the replacement of the viaducts to inform Phase 2 of this work.

Viaducts Process Timeline

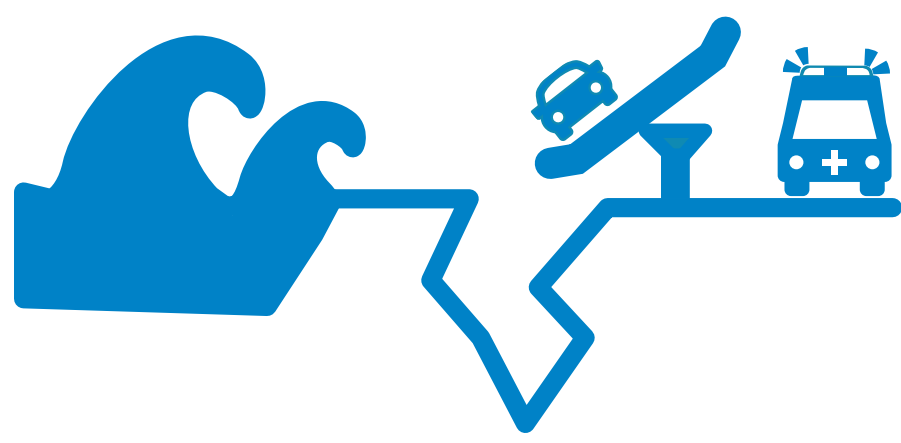


VANCOUVER'S VIADUCTS: THE FINDINGS

There are a number of key findings City staff have learnt from studying the opportunities and challenges of replacing the viaducts.

More Resilient Infrastructure

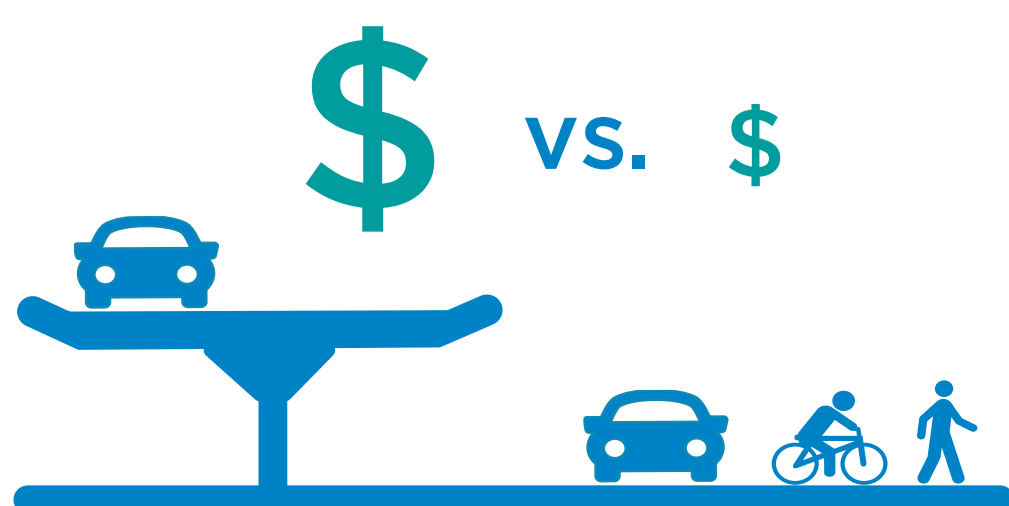
At-grade streets are more seismically resilient.



Streets can be raised to new flood construction levels.

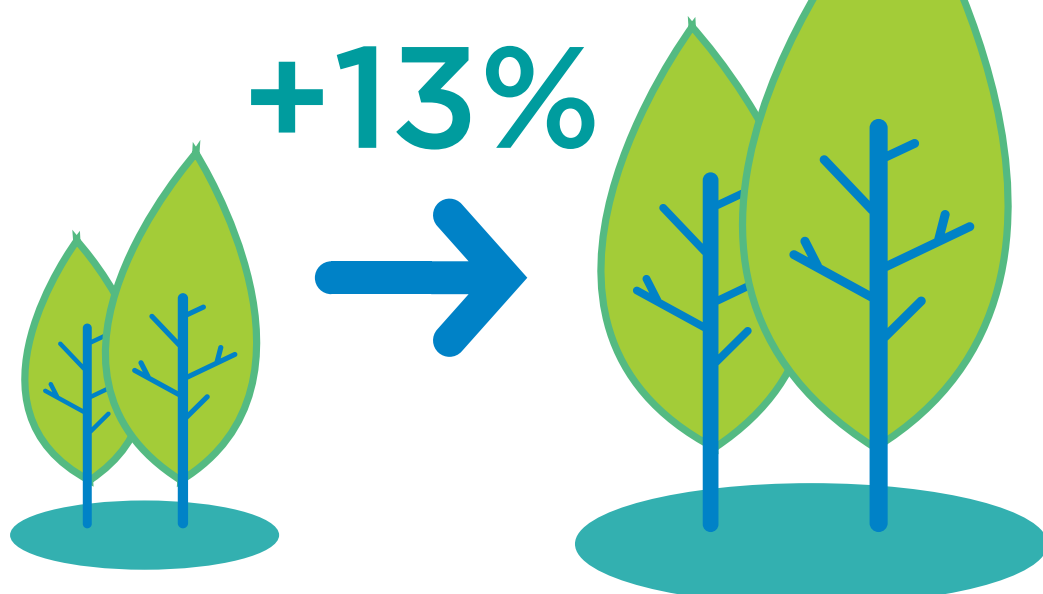
Reduced Maintenance Costs

At-grade streets have up to **5-10 X** lower life cycle costs.



Bigger, Better Park

A larger, more contiguous park space can be achieved. Additional park space is from converted road surface.



Maintaining the network capacity

The new proposed network can accommodate

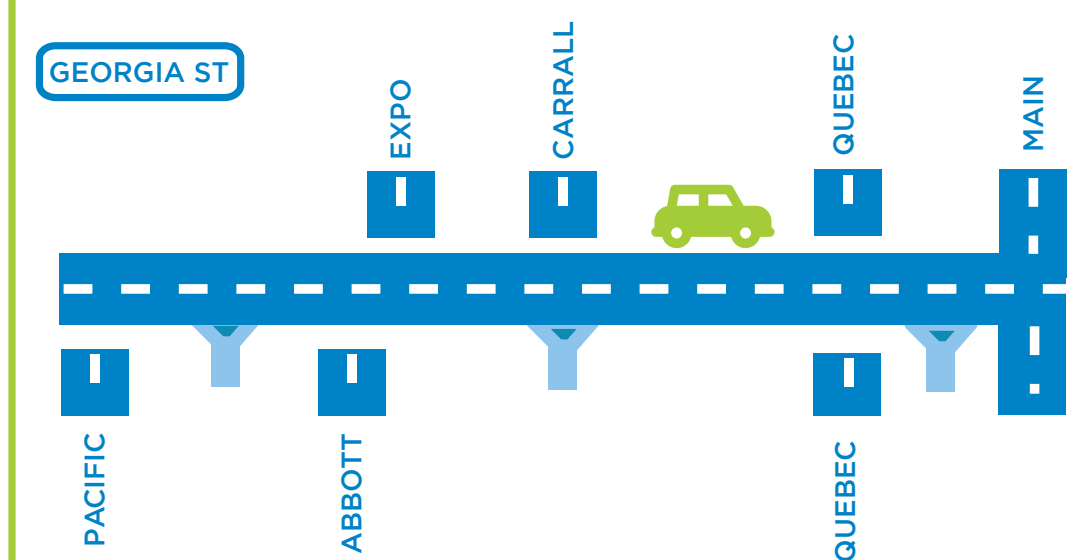
100%

of today's traffic volume. It is also designed to handle future traffic volumes more efficiently.

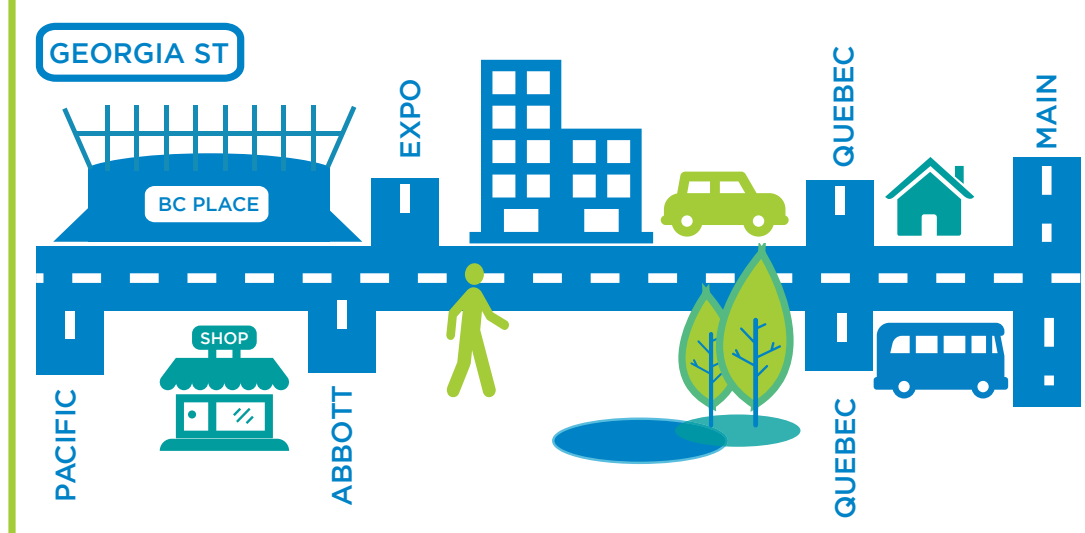
Improved Connections

The future street design improves connections for people, bikes, cars, transit and trucks.

TODAY - DISCONNECTED STREETS

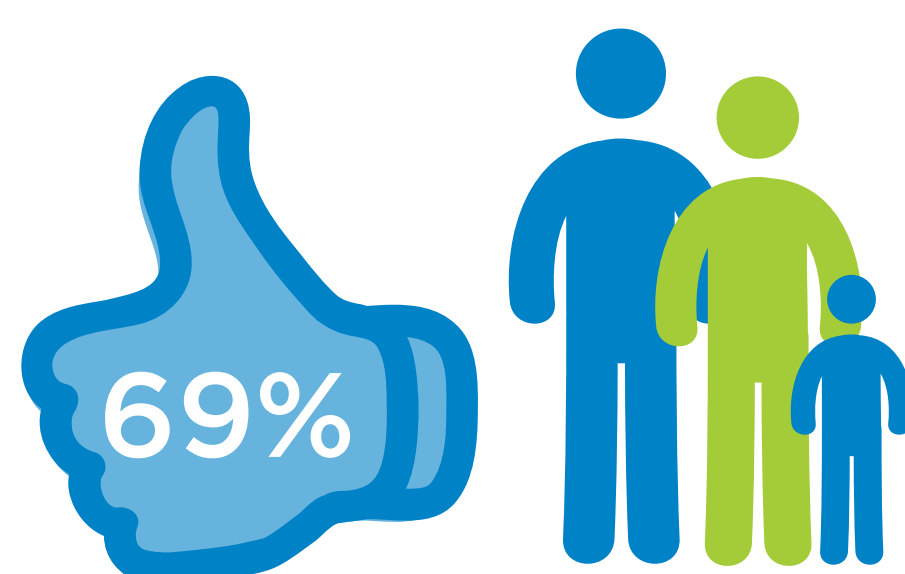


FUTURE - CONNECTED STREETS

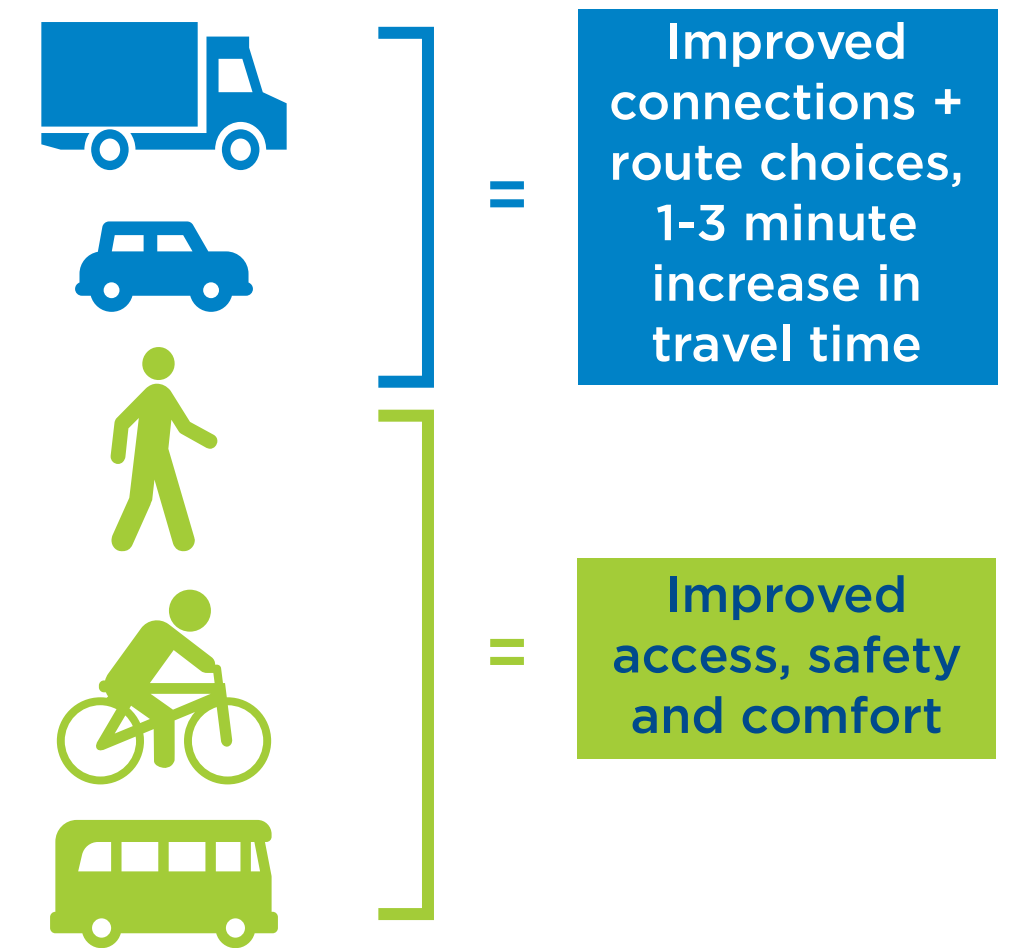


Positive Public Response

69 per cent of people agreed with the proposal to replace the viaducts in 2013.

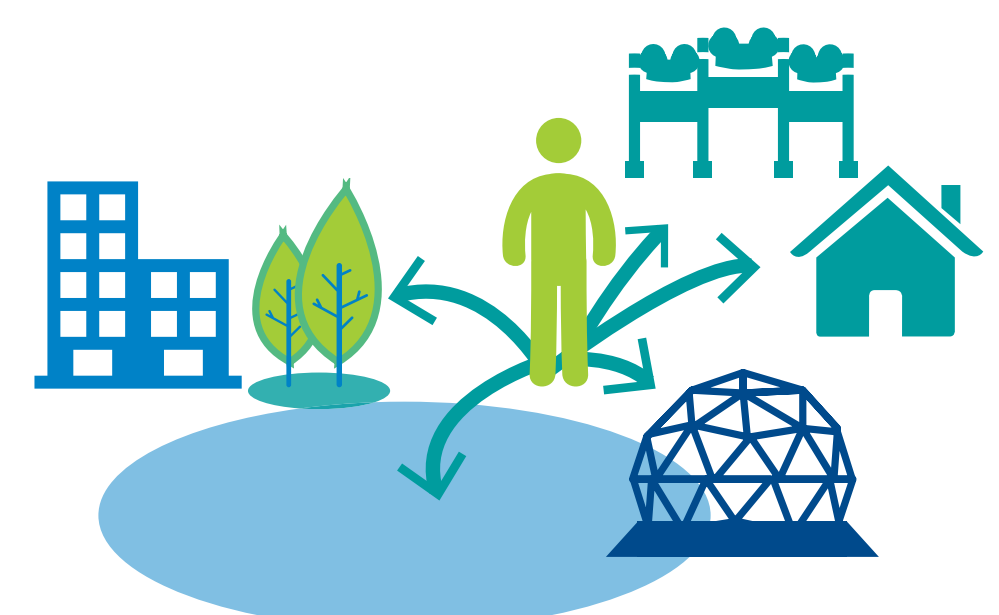


Travel Time, Safety and Comfort

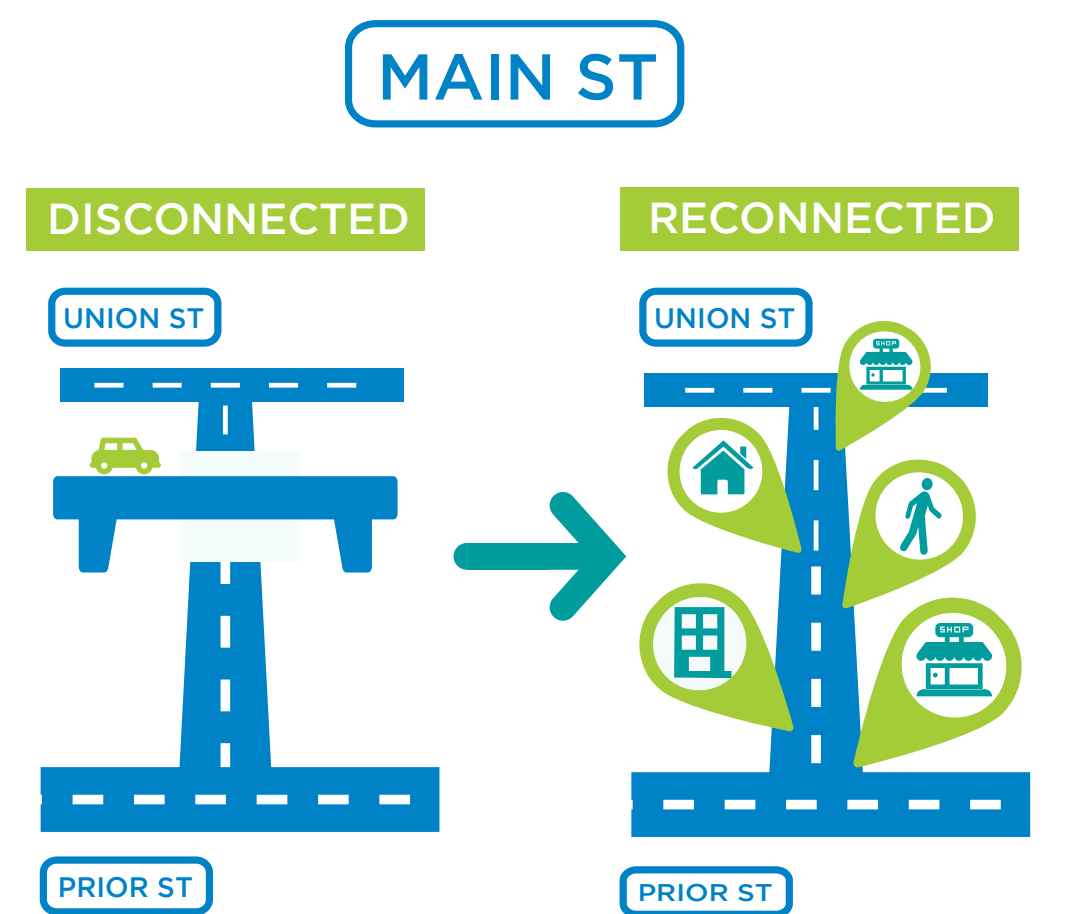


Connections to the Creek

A new street network will reduce barriers and improve connections between neighbourhoods.

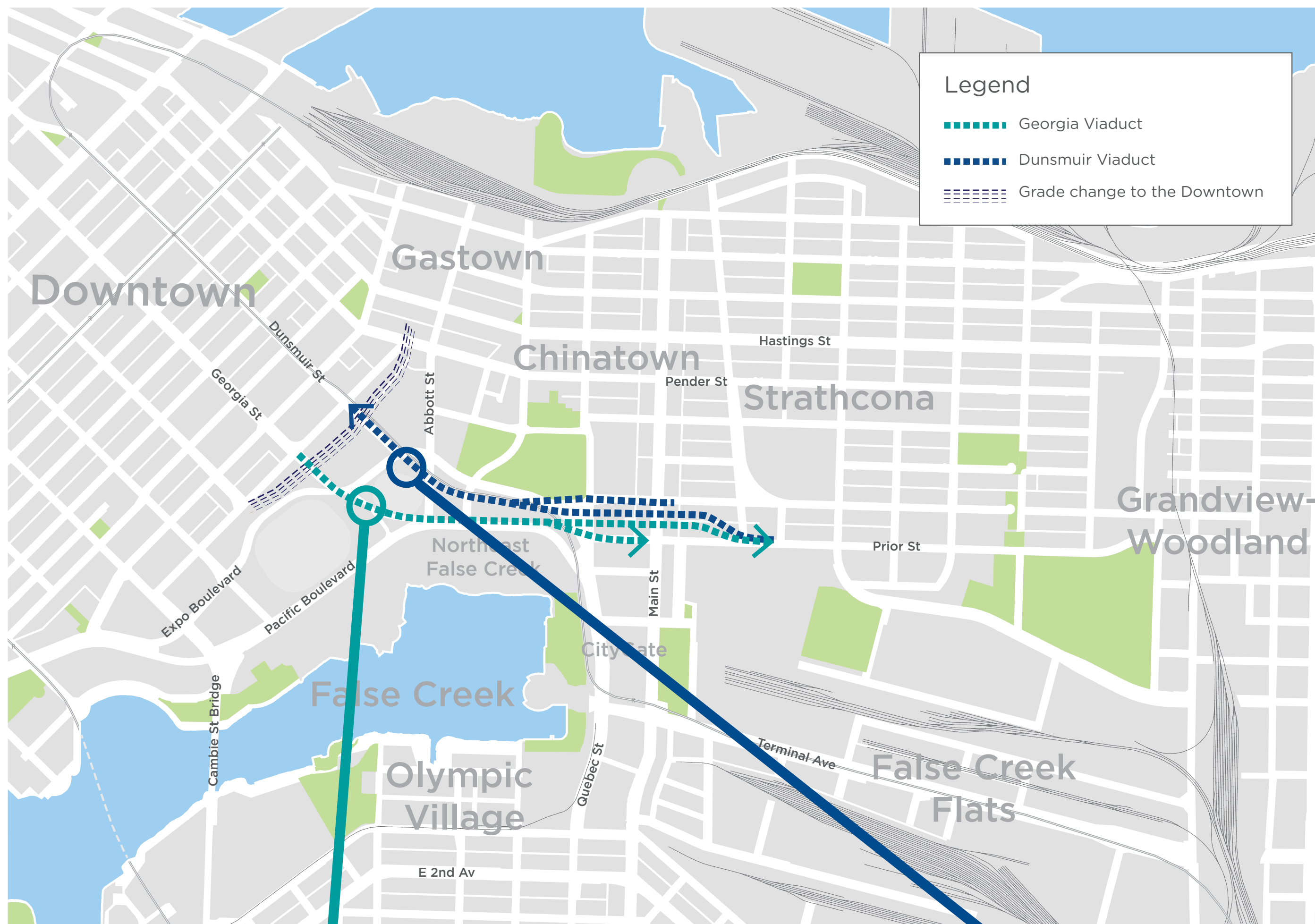


Opportunity to Reconnect Main Street



EXISTING STREET NETWORK

Currently the Georgia and Dunsmuir Viaducts are large, elevated highway structures which bypass the surrounding Northeast False Creek area.



The Viaducts Today

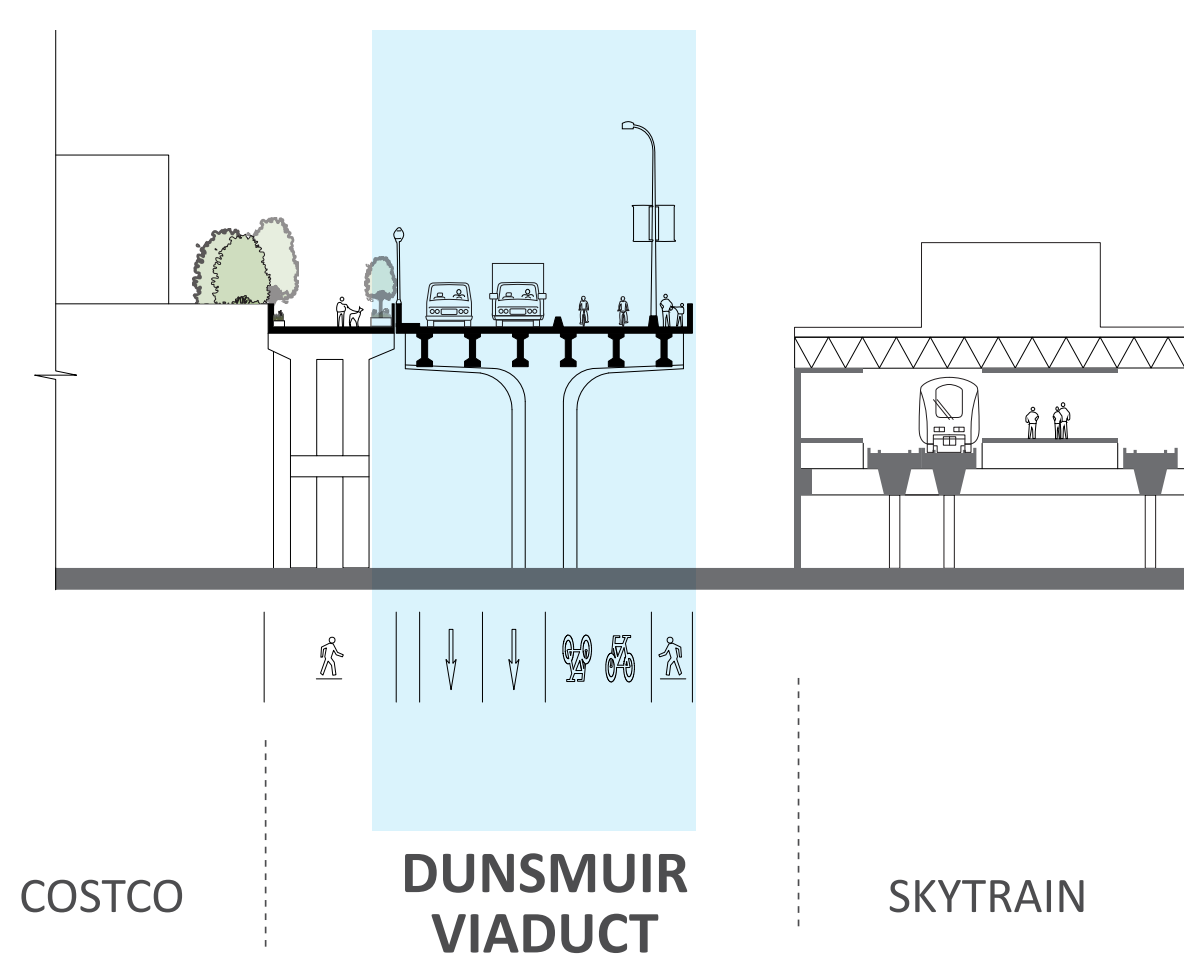
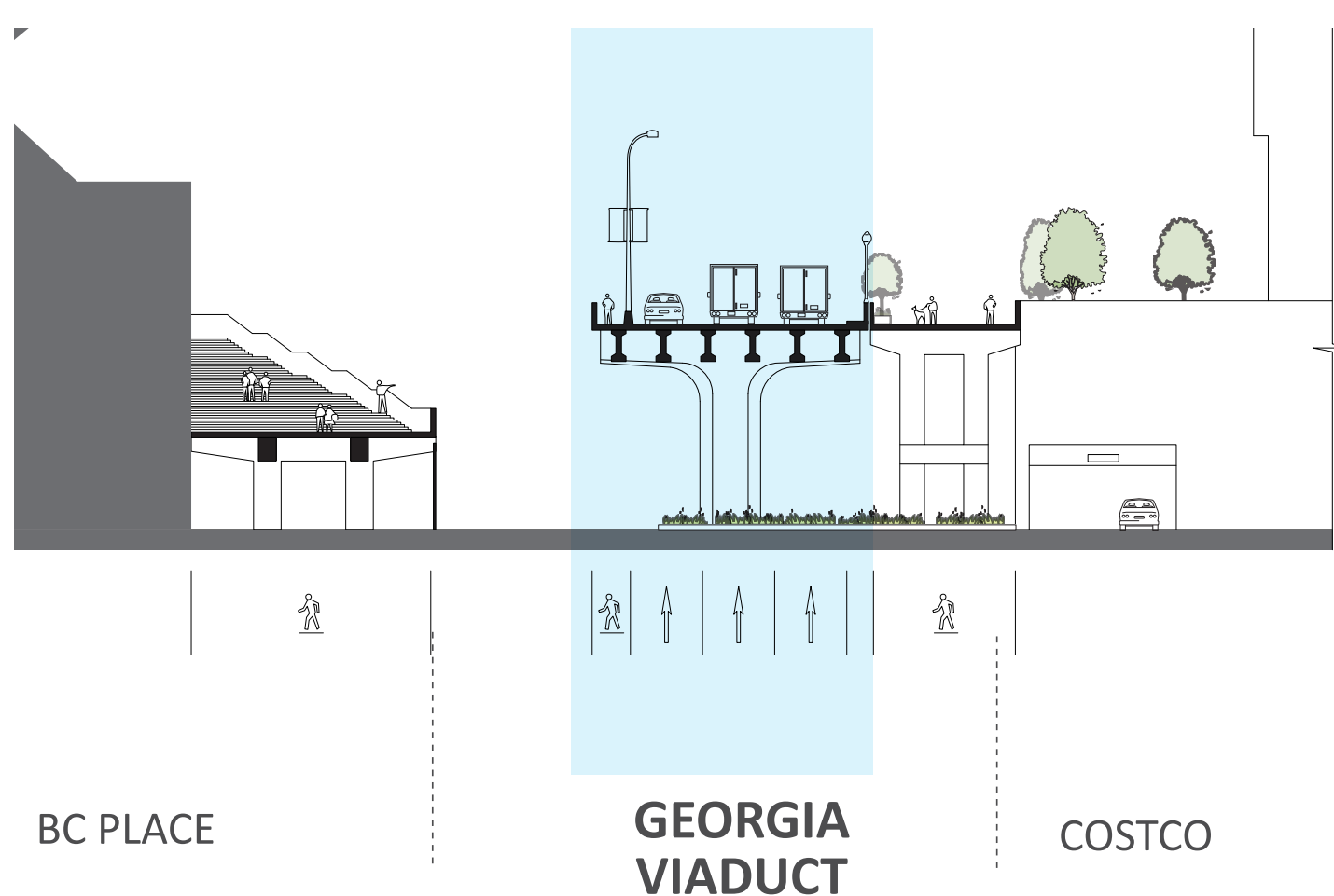
- Viaducts carry approx. 40,000 vehicles per day
- 1/2 of this traffic comes from the Eastern half of Vancouver
- 10% of vehicles entering/leaving downtown
- Seismically vulnerable
- High maintenance costs
- Substandard sidewalk widths

Viaducts Dimensions

- 1,300 metres long each
- 14 metres wide each
- Total area = 36,000m²

Georgia Viaduct

Dunsmuir Viaduct



Existing space allocation on the viaducts



10%
Sidewalks



15%
Bike Lanes



75%
Vehicles Lanes

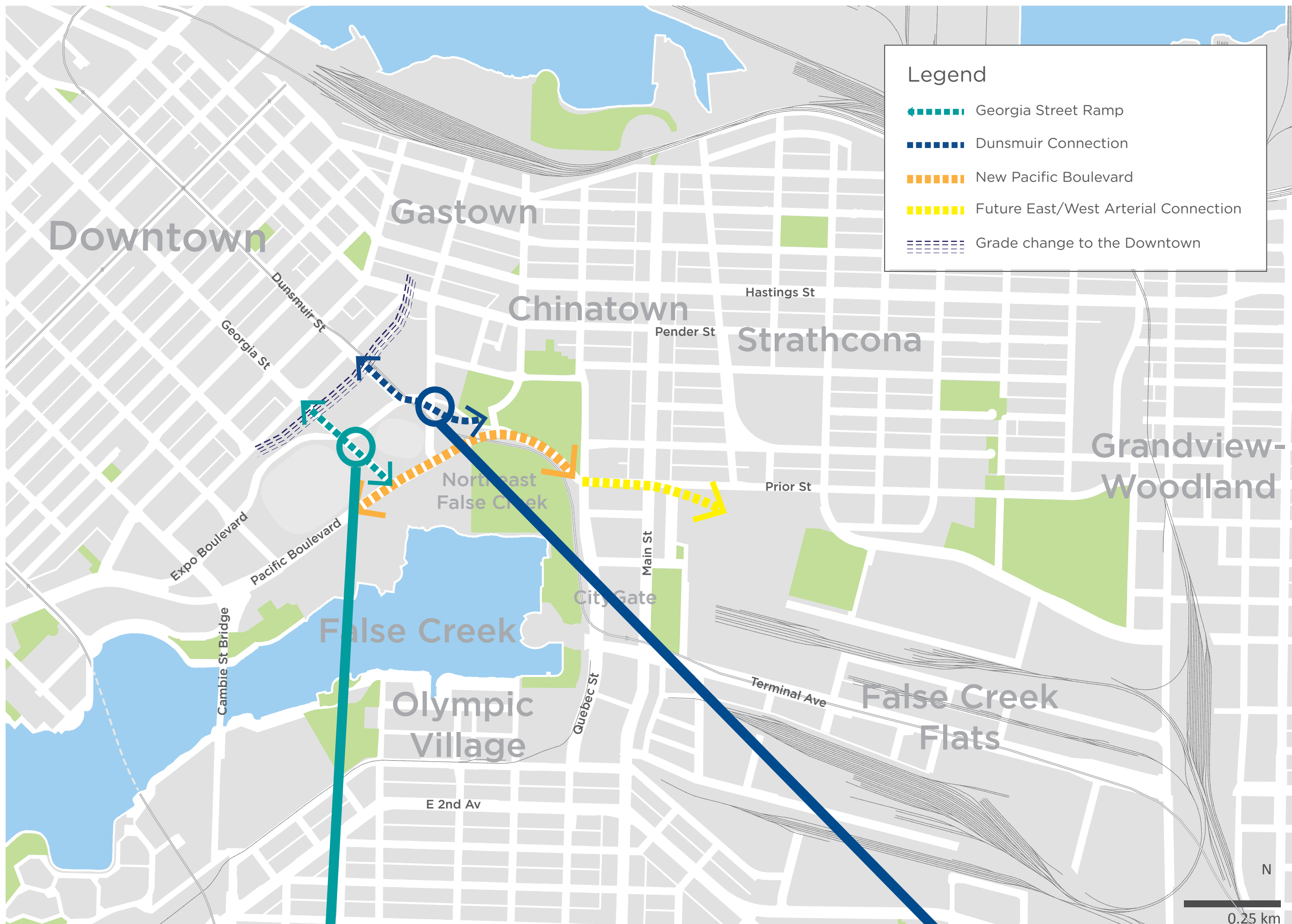
The Case For Removing The Viaducts

The viaducts were originally designed and constructed as part of a freeway network that was never completed, and intended to carry up to 1,800 vehicles per lane per hour; today they carry approximately 750 per lane per hour, during rush hour – less than half. Over the last 15 – 20 years there

has been a measured 20% reduction in vehicular traffic on routes to and from the downtown, while at the same time the city has grown with more jobs, more residents and more transportation trips overall as more people are choosing to walk, cycle and take transit.

PROPOSED STREET NETWORK

The viaducts can be replaced with a new two-way at-grade Pacific Boulevard and a Georgia Street Ramp. This proposed network can accommodate 100% of today's traffic and will reconnect the surrounding neighbourhoods to the downtown and waterfront.

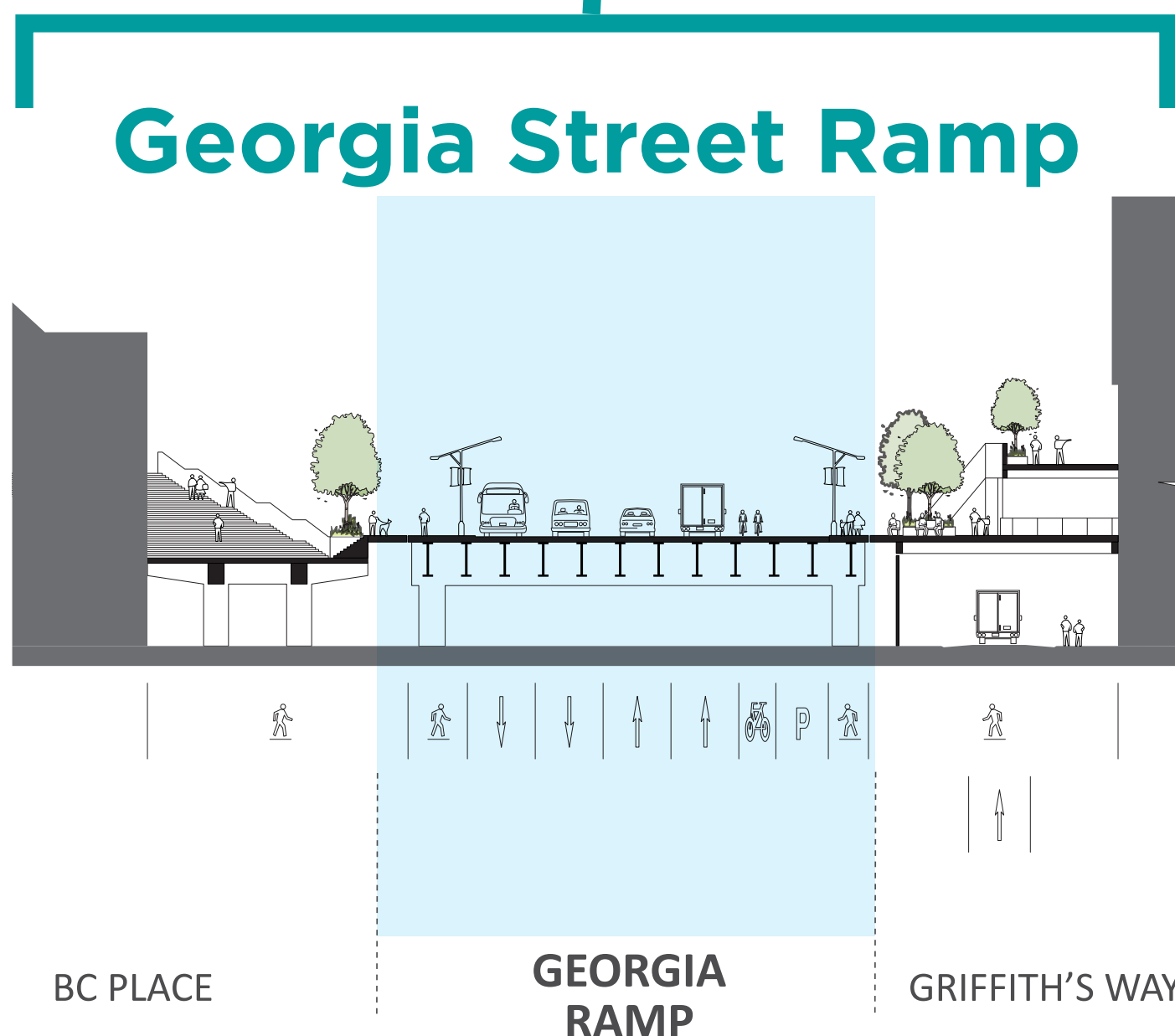


New Network Proposal

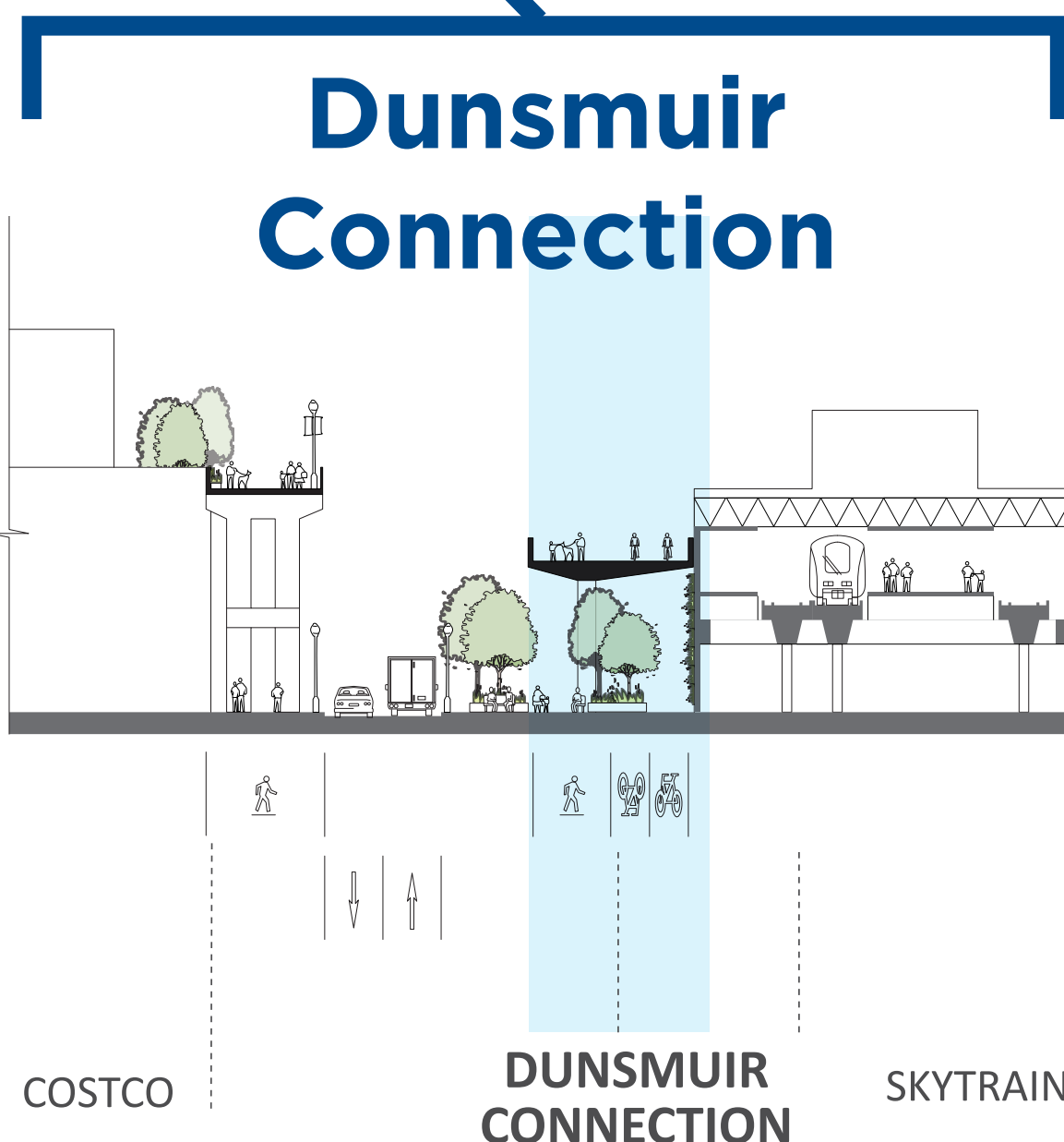
The new Georgia Street Ramp and Dunsmuir Connection will provide direct access from the downtown to Northeast False Creek for all transportation modes, with sufficient capacity for 100% of the demand. The new 2-way Pacific will provide a direct connection to Strathcona and the False Creek Flats. These new streets will be safer and more comfortable for pedestrians and cyclists.

Georgia Street Ramp

- A proposed ceremonial street connecting Georgia Street from the downtown to the waterfront.
- Improved accessibility for all modes of transportation including a gentle 5% slope for pedestrian and cyclist comfort.
- Opportunity for plaza and public space improvements to maximize integration with the adjacent stadium and arena.



Georgia Street Ramp

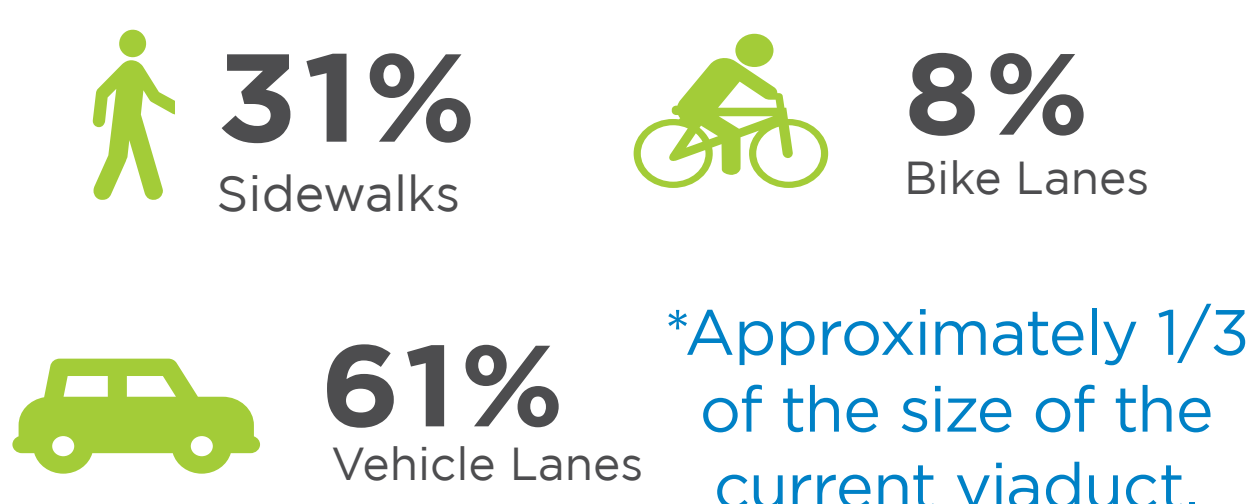


Dunsmuir Connection

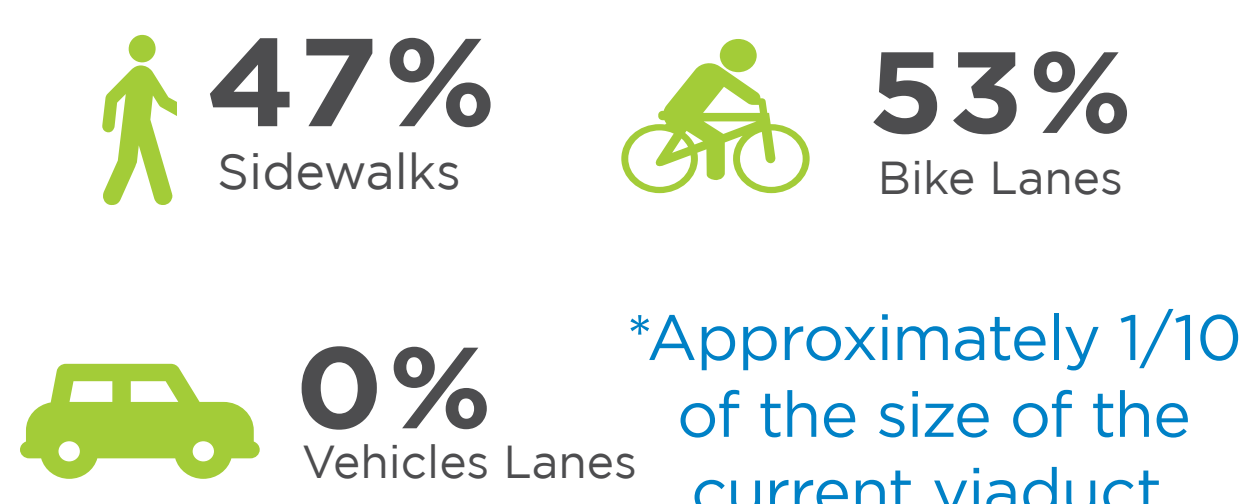
Dunsmuir Connection

- A proposed walking and cycling connection from Dunsmuir Street to the future neighbourhood and park as well as the city's key cycling routes of Adanac/Union, Quebec/Ontario, the Seawall and Carrall St.
- Gentle 5% slope for pedestrian and cyclist comfort, sufficiently accommodating large volumes of event spectators and cyclists.
- Further planning will determine the best design for this connection, including maximizing opportunities for elevated views and park integration while being mindful of costs and impact to existing and future developments.

Georgia Street Ramp space allocation*

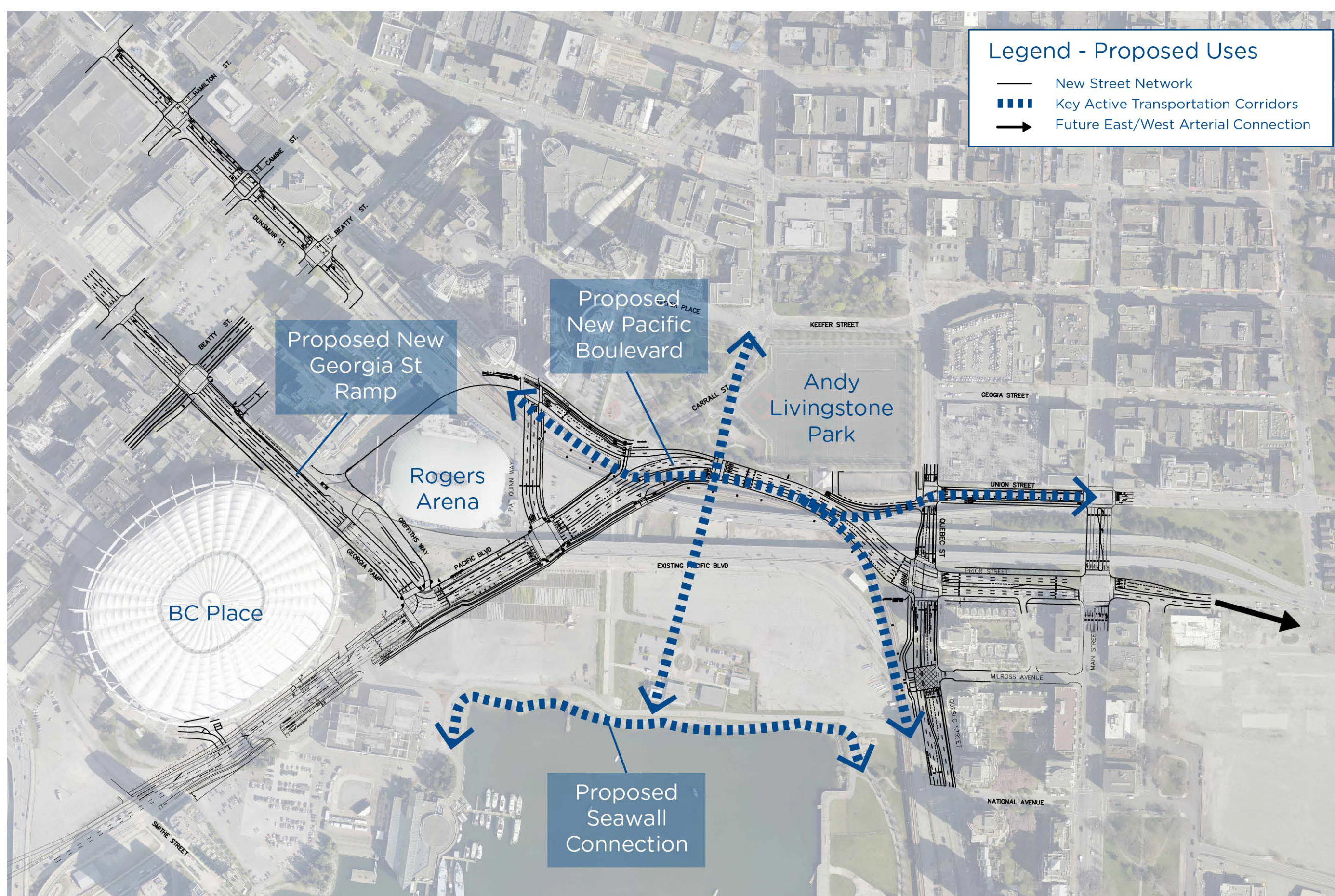
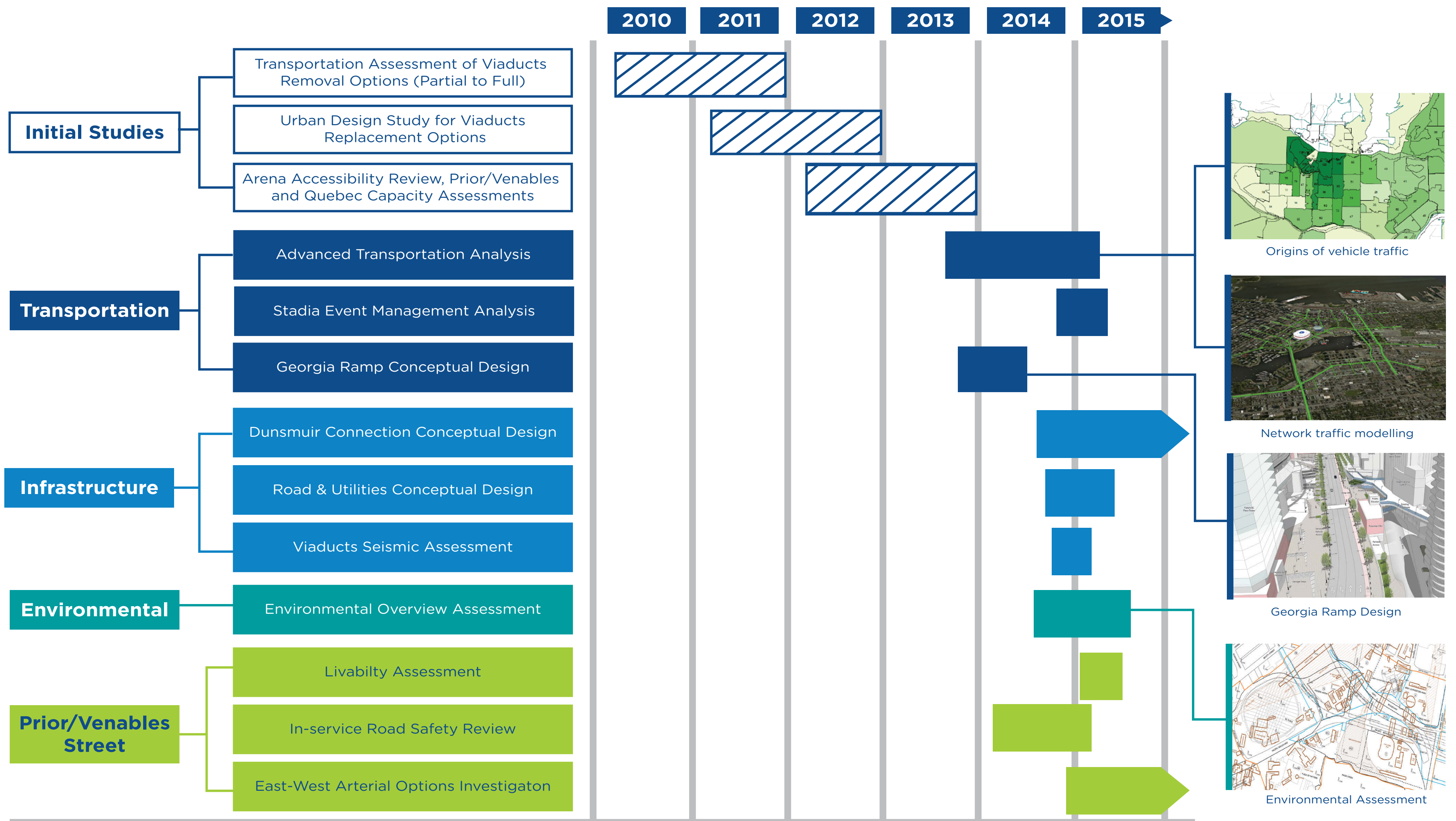


Dunsmuir Connection space allocation*



PROPOSED STREET NETWORK

Over the past few years we have been rigorously testing the proposed network design for the New Pacific Boulevard and Georgia Street Ramp.

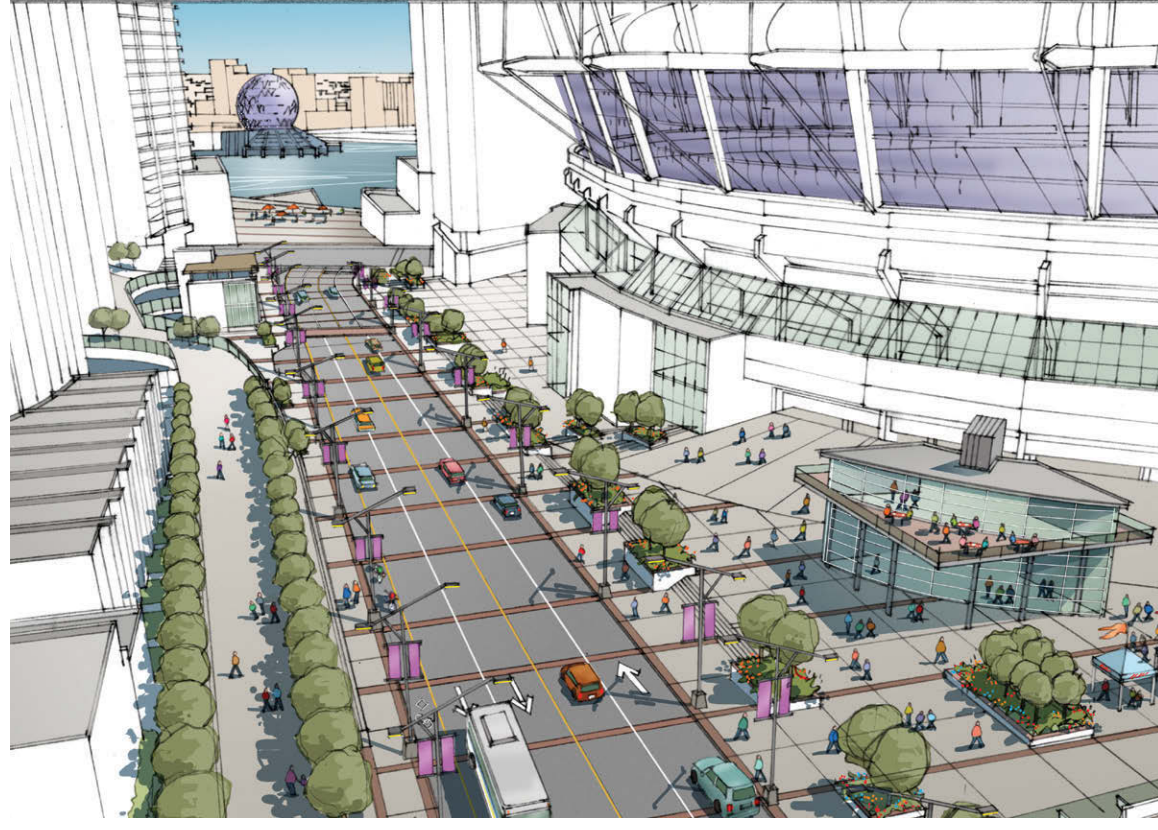


Proposed Network

City staff have been exploring the opportunities and constraints of the viaduct removal. The results these studies is the conceptual proposal shown here to the left. This design, which includes replacing the viaducts with an at-grade Pacific Boulevard and Georgia Street Ramp, can accommodate 100% of today's traffic volume.

The work is not finished yet. If Council agrees in principle to the proposed design, additional detailed design and community consultation will be undertaken as we move forward into Phase 2 of the planning work, later in 2015.

TECHNICAL STUDIES + FINDINGS



Movement and Access to Downtown

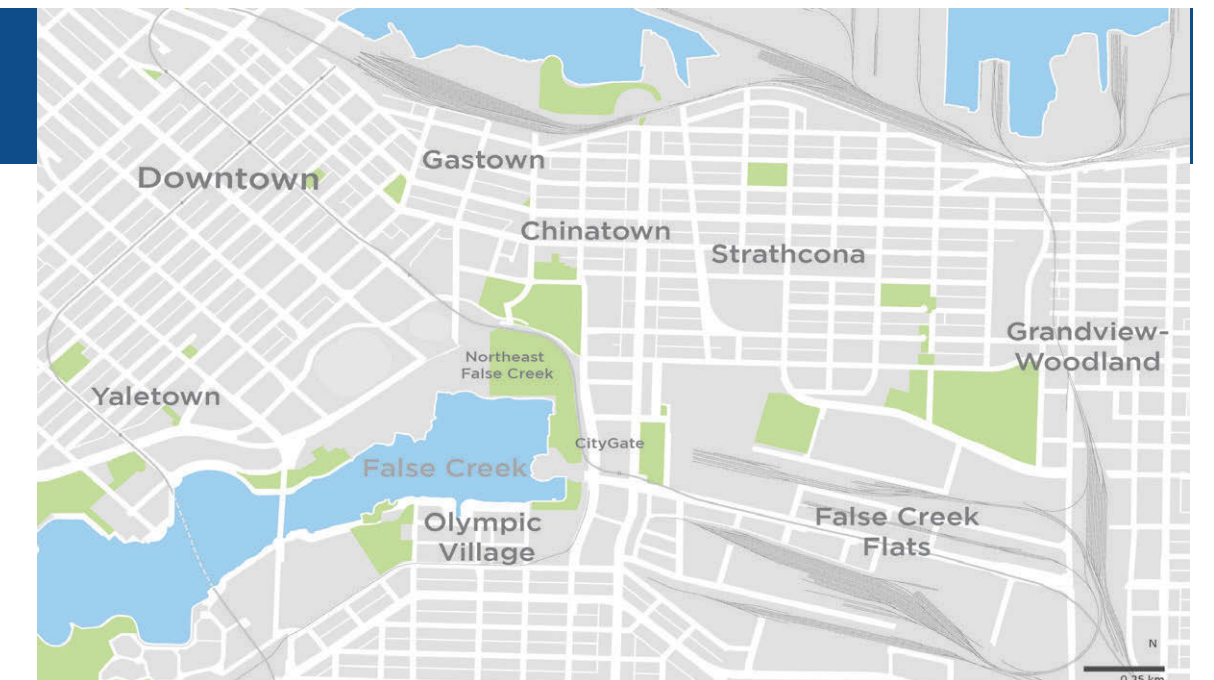
- The replacement network has sufficient capacity for 100% today's vehicular demand
- New bi-directional Georgia Street Ramp, provides 4 vehicular lanes to access downtown from NEFC (compared to 5 on current viaducts today)
- New roads designed for full size trucks and transit buses
- Marginal travel time increase for vehicles (1-3 mins depending on route), with new connections and route choice
- Safer, more comfortable and efficient pedestrian and cyclist routes
- Opportunities for improved transit routing
- Improved access to the future neighbourhood and waterfront park

Study: Advanced Transportation Analysis & Georgia Ramp Conceptual Design

Neighbourhood Impacts

- Replacement network has sufficient capacity for 100% today's vehicular demand
- No net increase in vehicle volumes expected in neighbouring communities
- Better performance for future vehicular demand compared to today's network (more route choices, more two-way streets, new direct connection from downtown to NEFC)

Study: Advanced Transportation Analysis



Events at Rogers Arena & BC Place

- Draft event management traffic plans have been developed to ensure equivalent available curb side uses and on-street truck staging areas
- The replacement street network has been designed to accommodate all required truck sizes and movements
- Pacific Boulevard/ Expo Boulevard can remain open during construction of the new road network

Study: Advanced Transportation Analysis & Stadia Event Management Analysis

Construction Impacts

- Construction is expected to take 24 months
- Traffic impacts can be minimized by converting Dunsmuir Viaduct to two-way operation while the new Georgia Street Ramp is constructed
- There are sufficient staging areas and suitable construction methodologies to ensure Pacific Boulevard/Expo Boulevard can remain open
- Full truck access provided to the stadia and local business operations during construction

Study: Georgia Street Ramp Conceptual Design, Dunsmuir Connection Conceptual Design & Roads and Utilities Conceptual Design



Prior Street/Venables Street Corridor

- The corridor has seen an approximate 20% decline in traffic since 2000
- The replacement network is expected to result in a reduction in vehicle volumes and speeds on the corridor
- City of Vancouver has implemented a number of safety improvements along this corridor since 2012, including increasing pedestrian walk times at key intersections, new signal displays and installation of countdown timers
- An independent review of the type and frequency of collisions along the corridor concluded that there is nothing inherent in the engineering design or operation of the street that would be considered a safety concern that requires immediate rectification
- Staff continue to monitor the corridor along with the rest of the city street network, and will implement improvements on a city-wide priority basis
- Any capacity reduction measures in the absence of a new arterial connection e.g. Malkin Avenue, would be counterproductive and lead to increased conflicts on other streets such as Hastings Street or Union Street
- Analysis of replacement arterial options for Prior Street/Venables Street is ongoing

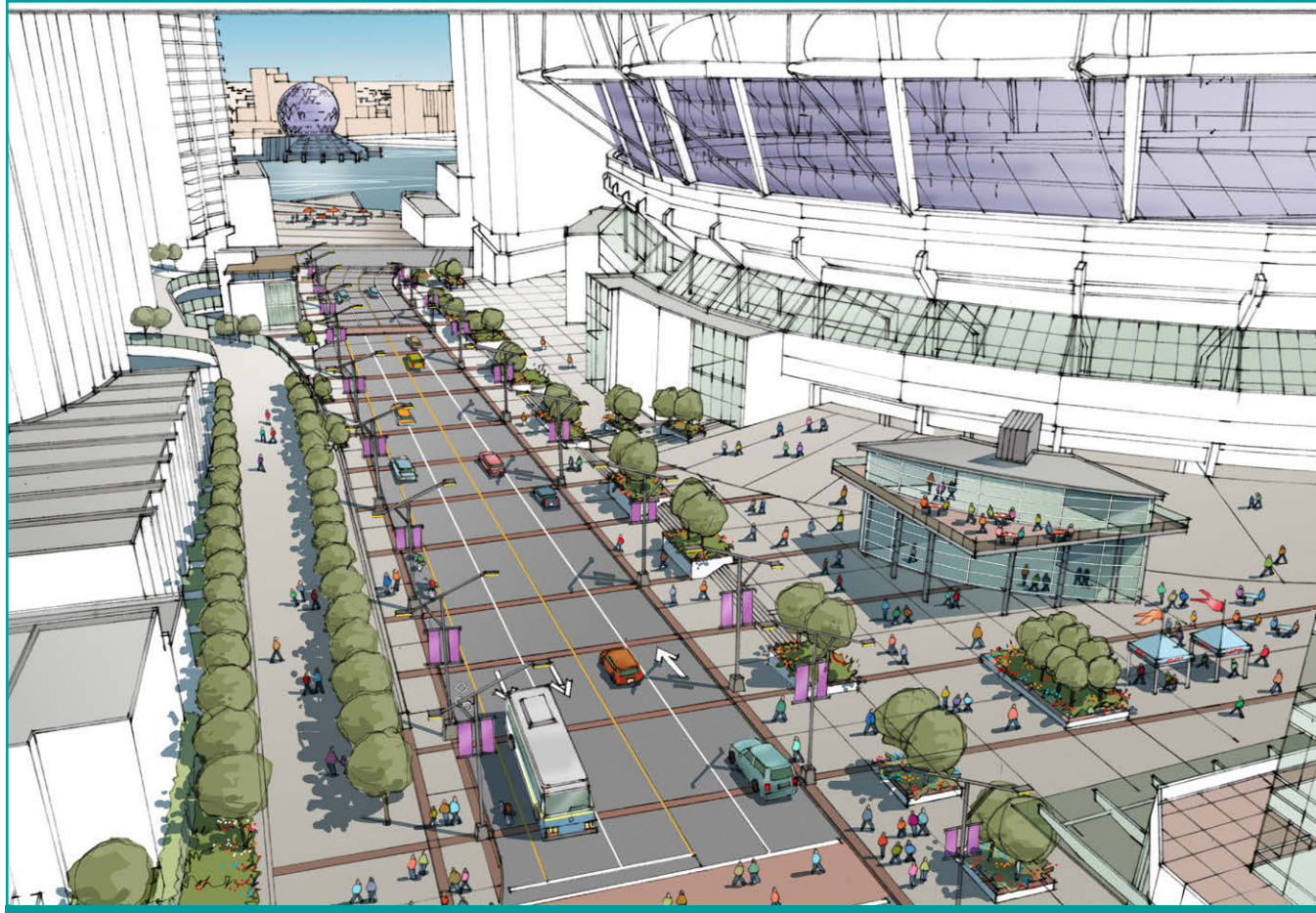
Study: Livability Assessment, In-service Road Safety Review & East-West Arterial Options Investigation

Cost

Further results to be released - September 2015

PHASE 2: FUTURE PLANNING OPPORTUNITIES

If Council approve in principle the replacement of the Georgia and Dunsmuir Viaducts, new opportunities shown below will be explored in more detail.



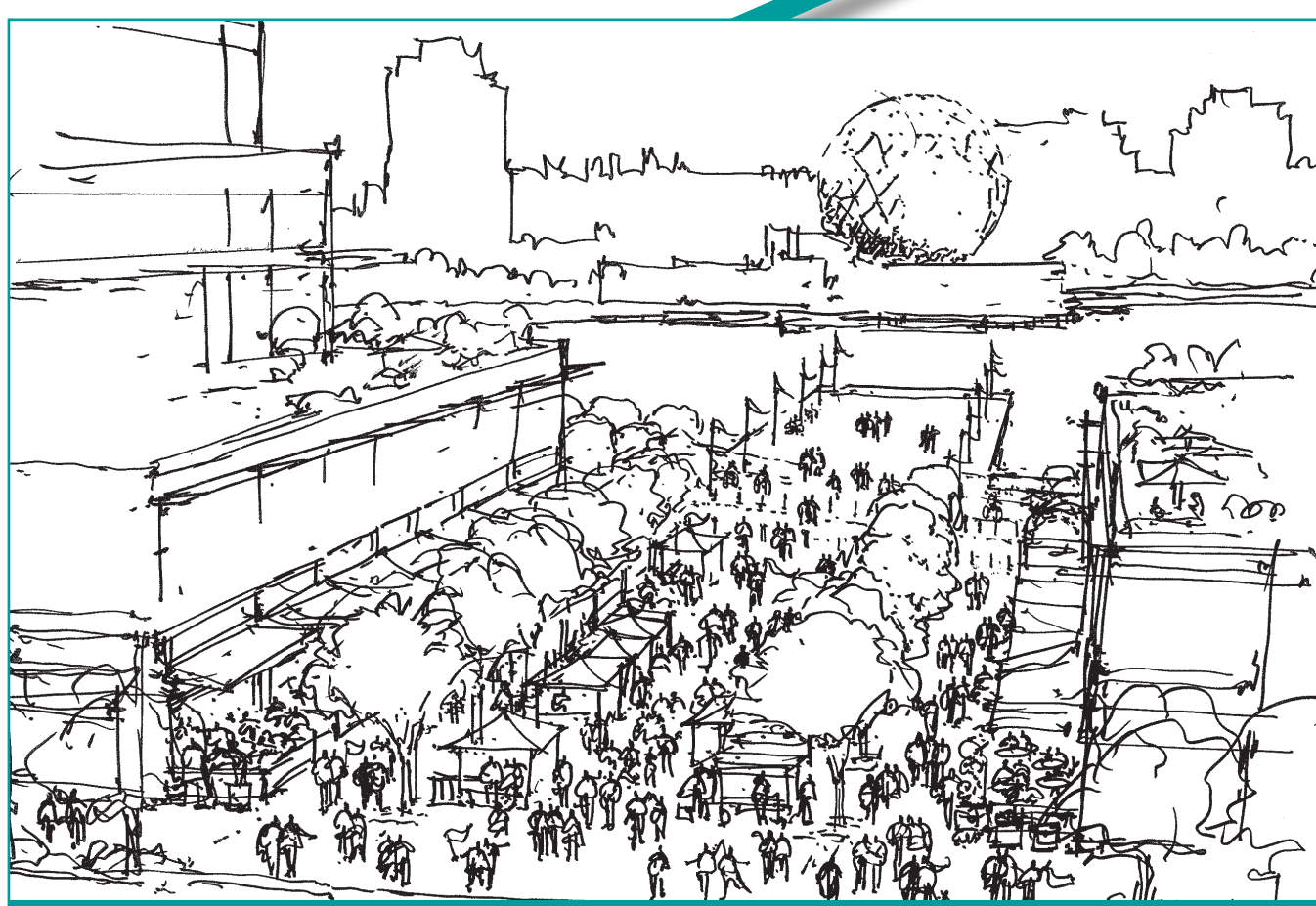
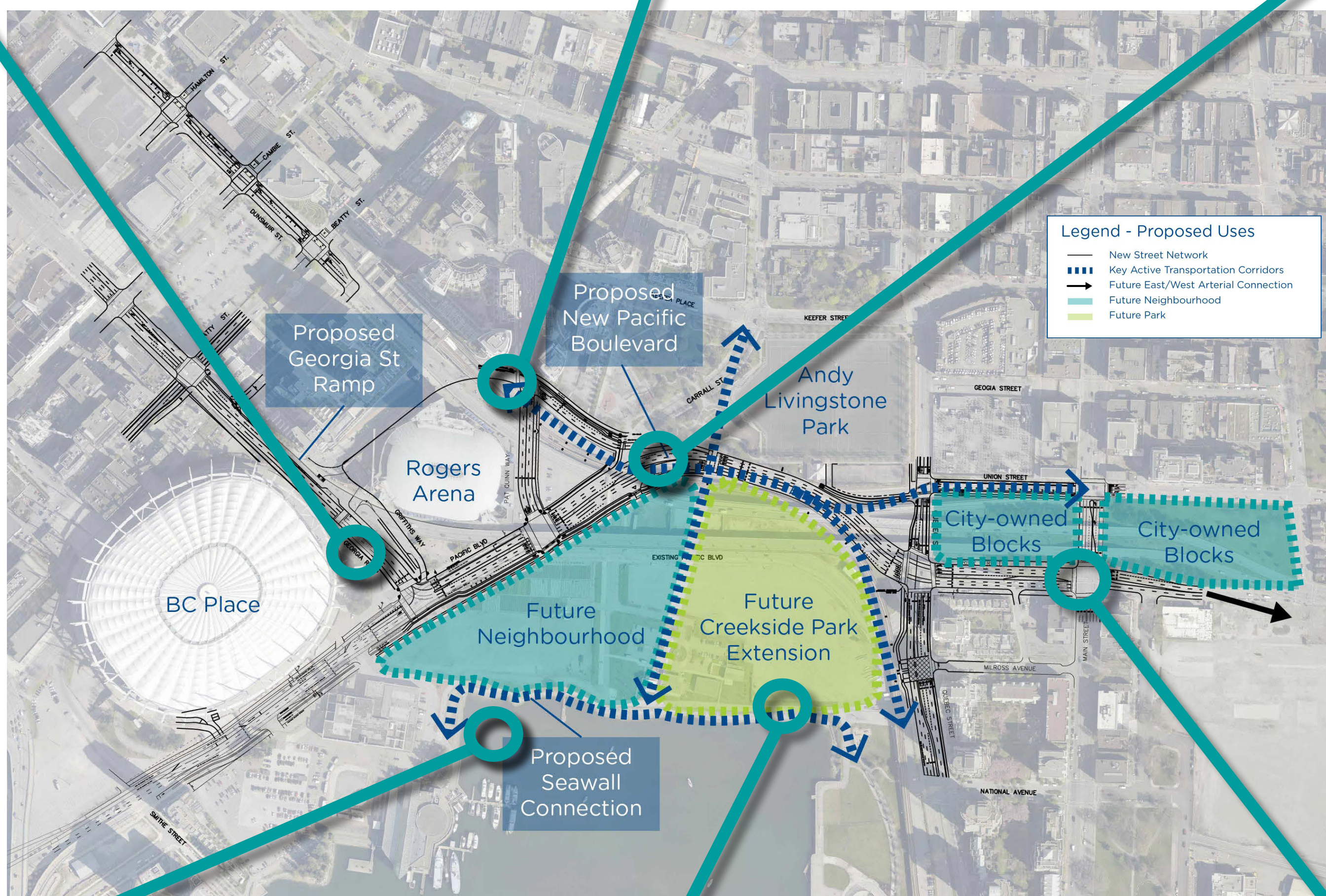
W Georgia Street Ramp
Extending W Georgia St to the waterfront



Dunsmuir Connection
A cycling and walking connection



New Pacific Boulevard
A great street for all modes



Georgia Street Wharf
An active waterfront zone



Creekside Park Extension
A city-wide destination park



Reconnected Main Street
New shops and affordable housing opportunities