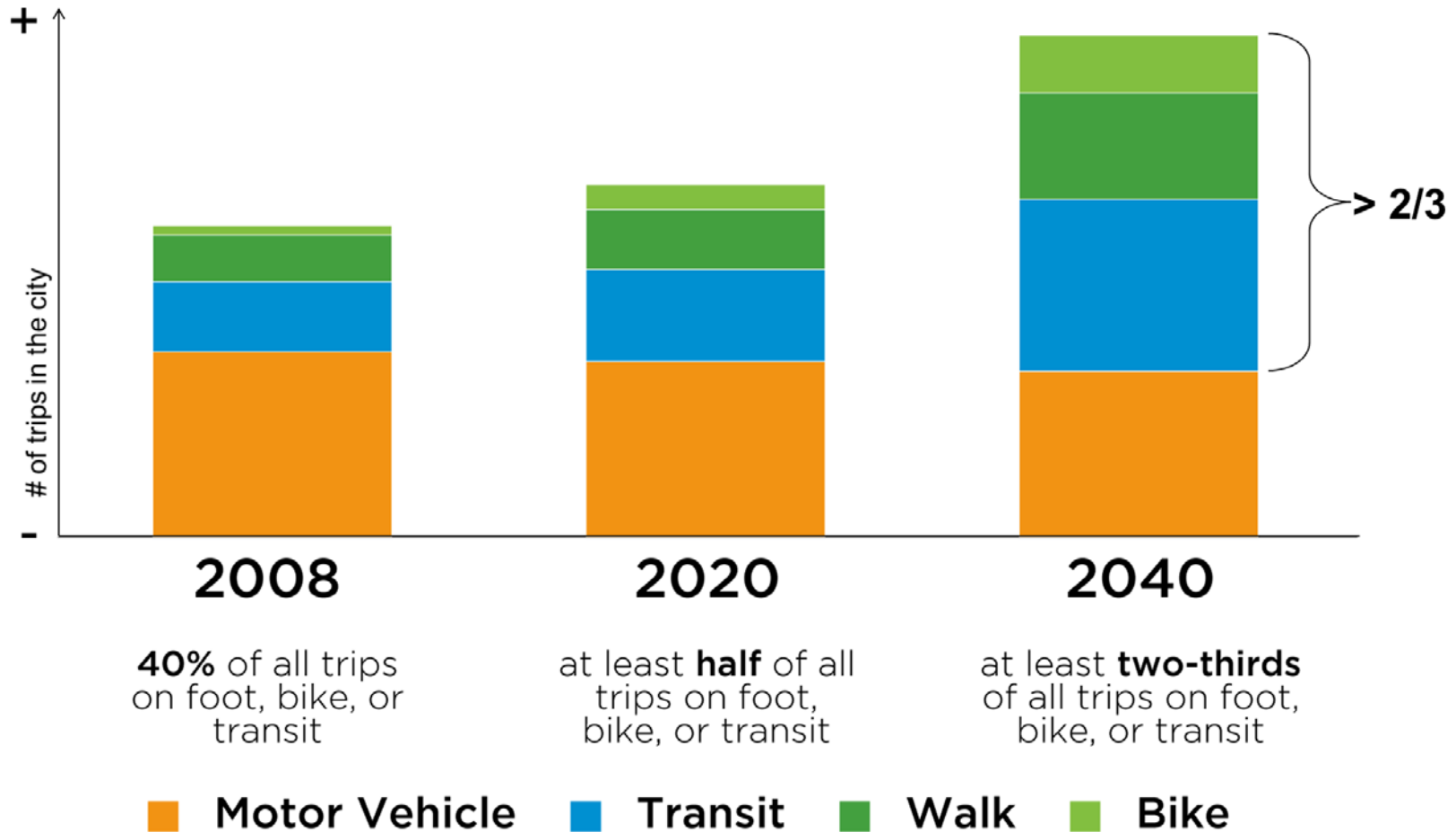




Burrard Bridge Upgrade and North Intersection Project

July 22, 2015
Standing Committee on Planning,
Transportation, and Environment

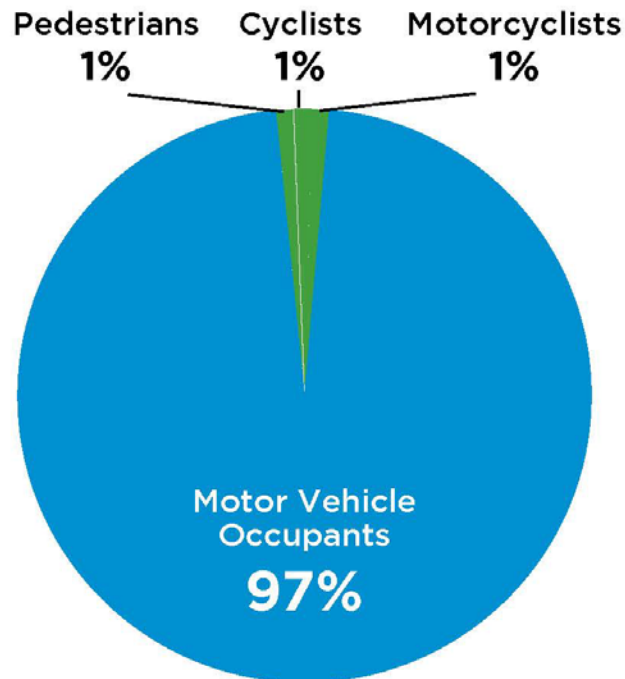
Targets – Moving People



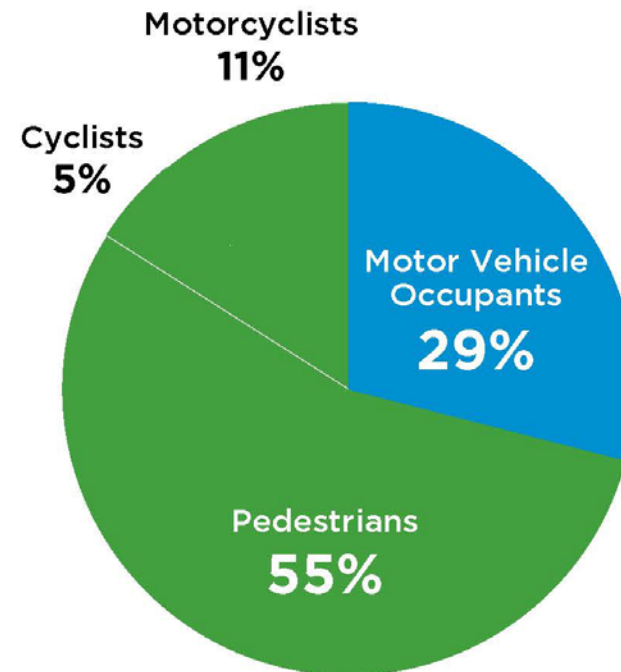
For all trips originating in the City of Vancouver.
Source: 1994, 1999, 2004, and 2008 TransLink Trip Diary Surveys. 1994, 1999, and 2008 data was collected in the Fall, while 2004 data was collected in the Spring and adjusted for seasonal transit variation. 2008 data corrected for removal of 0-4 age group (non included in past survey results). Trips by commercial drivers (couriers, taxis, trucks, and bus drivers) not included.

Vulnerable road users

Pedestrians, cyclists, and motorcyclists are involved in only **3%** of collisions, but account for over **70%** of fatalities.



Collisions



Fatalities

False Creek Bridges - Connecting Economic Centres

**Bridges connect BC's
two largest economic
centres & highest
density residential
areas**



Burrard Bridge Corridor - Key Objectives

1. Make needed **repairs** on the Burrard Bridge, including railings, sidewalks, light fixtures
2. Return **walking** to bridge east sidewalk
3. Address **safety** at Burrard and Pacific



Burrard Bridge Corridor - Key Objectives

1. Make needed **repairs** on the Burrard Bridge, including railings, sidewalks, light fixtures
2. Return **walking** to east bridge sidewalk
3. Address **safety** at Burrard and Pacific

While

- Maintaining **motor vehicle capacity** across the bridge
- Minimizing construction impact by **coordinating** utility work
- Respecting the bridge's **heritage** value
- Maintaining **access** to nearby businesses and residents (both during and after construction)

Burrard Bridge Corridor – Overall Project Scope



- Safety improvements
- Active transportation connections

- Coordinated utility work
 - Sewer main reconstruction
 - Water main reconstruction

- Bridge rehabilitation
- Bridge widening

- Bridge rehabilitation
- Lane reallocation

- Coordinated utility work
 - Sewer separation
 - Water main reconstruction

Previous Phase (2014):

- Bearings
- Expansion joints

Current Phase (2016/17)

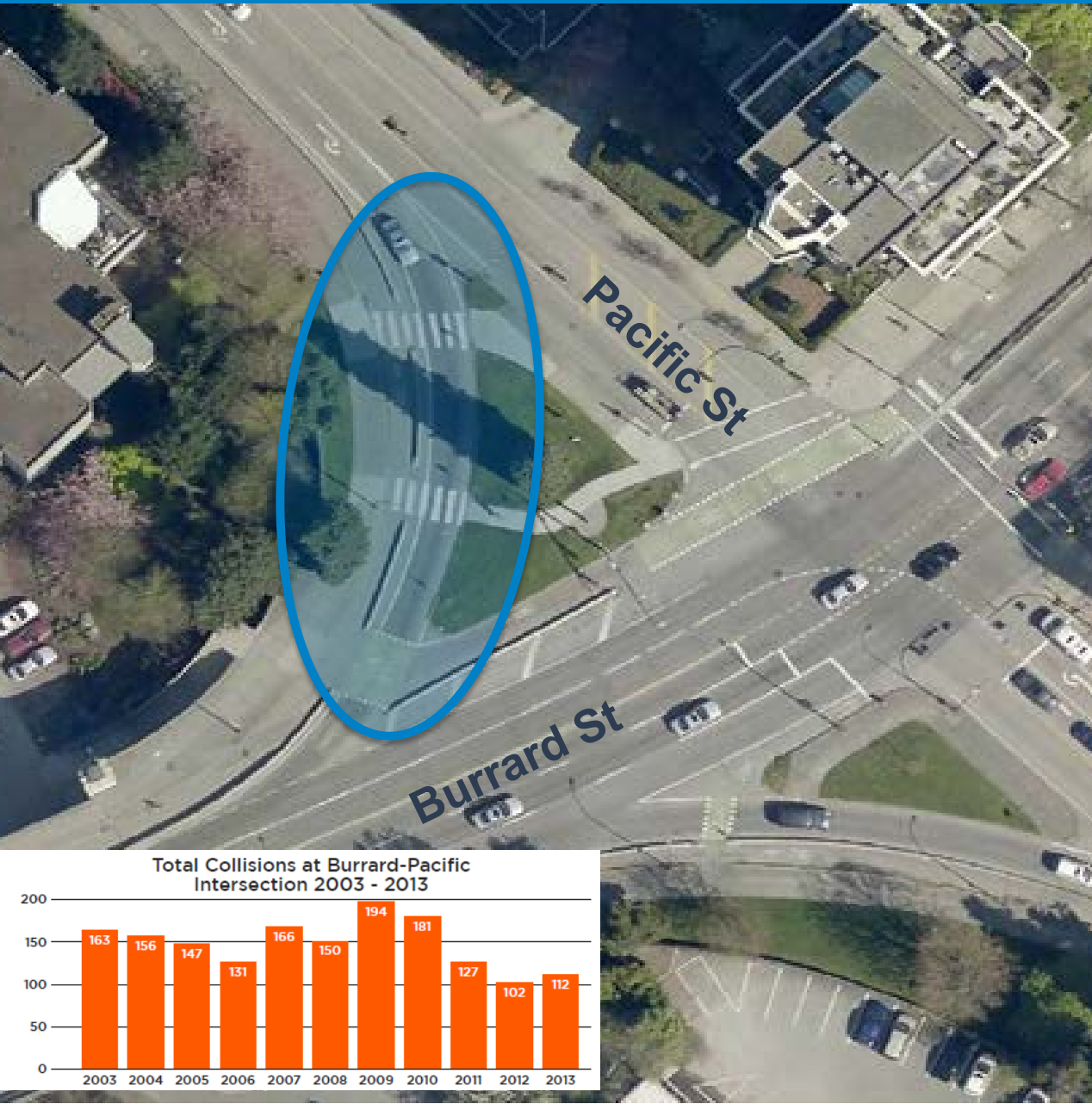
- Concrete handrail replacement
- Lighting & electrical replacement
- Sidewalk overlay
- Concrete repairs (soffits)
- East side duct bank repair
- Access improvements



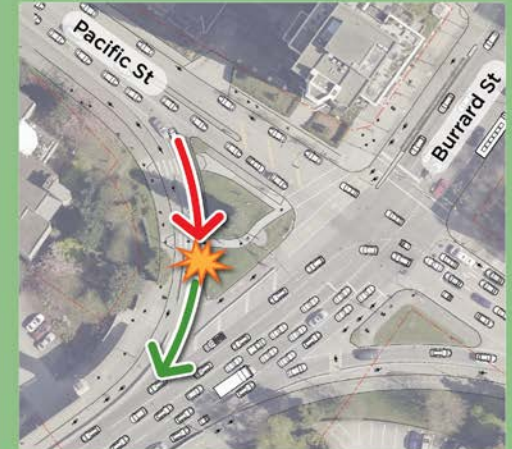
Burrard Bridge – Returning Walking to East Sidewalk



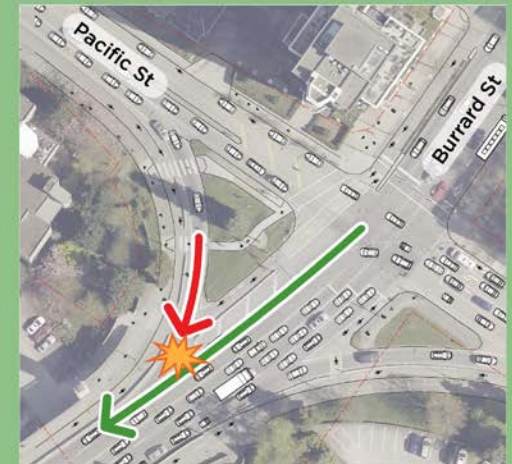
Burrard/Pacific - Safety Improvements



Frequent types of collisions

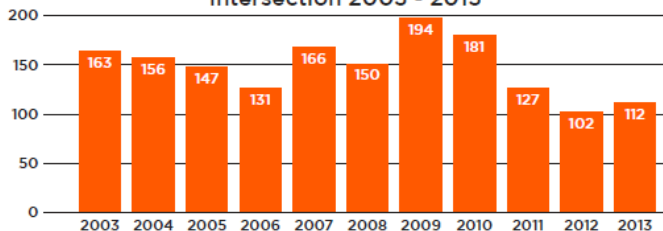


Eastbound drivers turning right from Pacific onto the bridge and rear-ending other vehicles in the slip lane



Eastbound drivers turning right from Pacific onto the bridge and sideswiping other vehicles

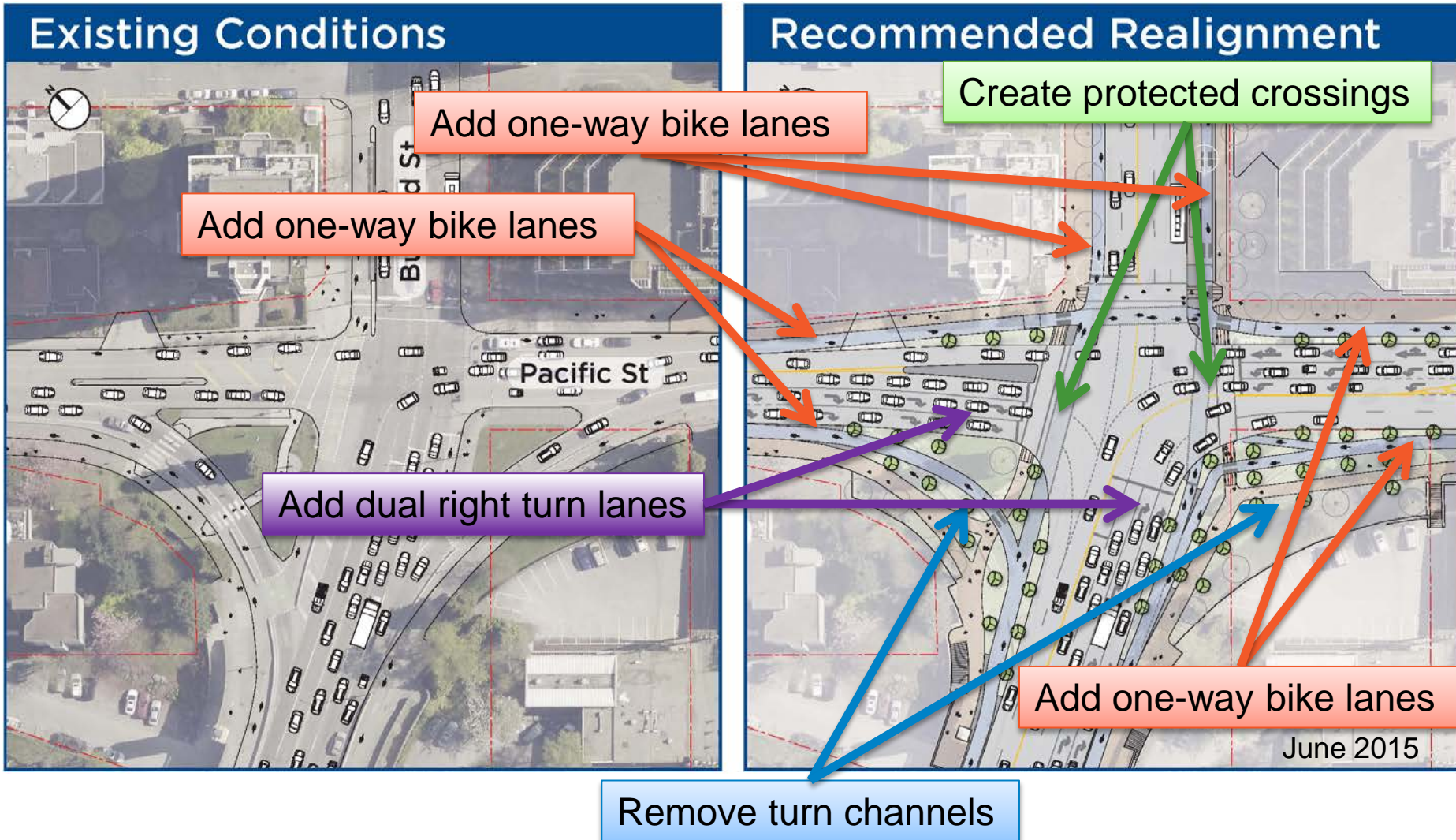
Total Collisions at Burrard-Pacific Intersection 2003 - 2013



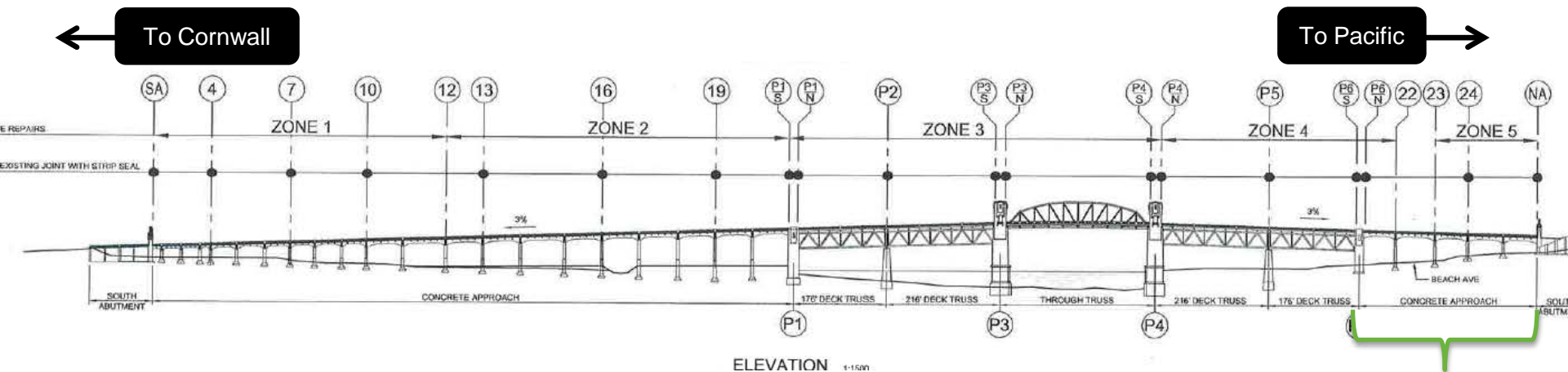
Burrard-Pacific - Safety Improvements



Concept presented to public & stakeholders



Burrard Bridge - Widening on North Approach



Widening required to allow:

- Dual right turns
- Walking on east sidewalk

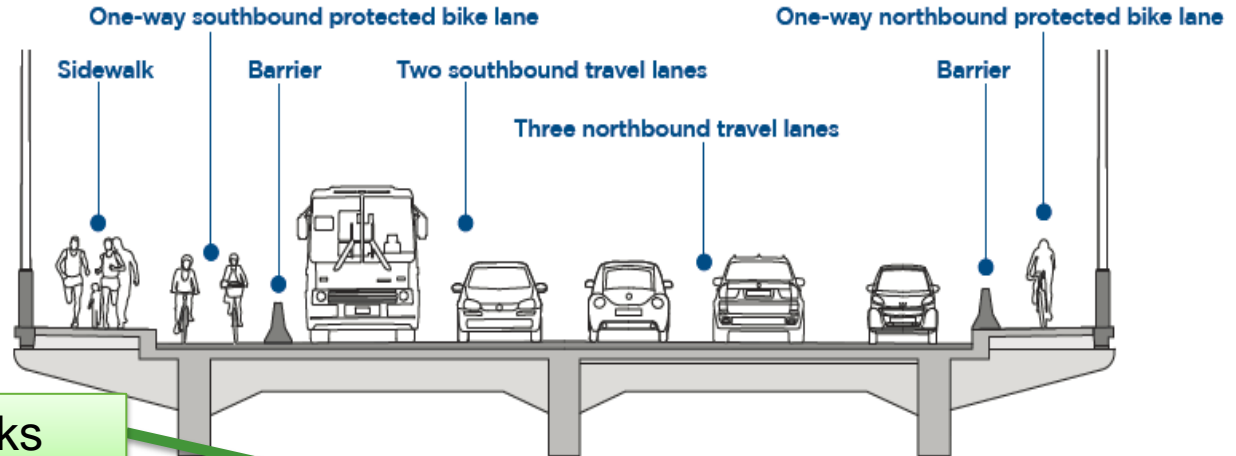
Key changes

- Symmetrical widening (both sides)
- Only concrete approach section
- No impact to truss structure

Proposed
length of
widening

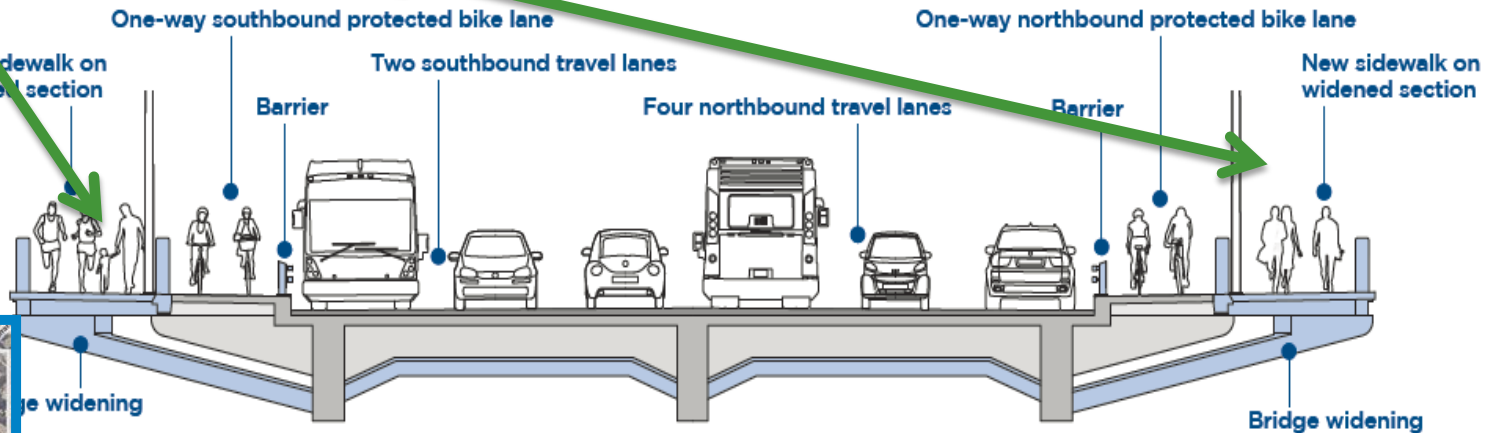
Burrard Bridge – North Approach

Existing



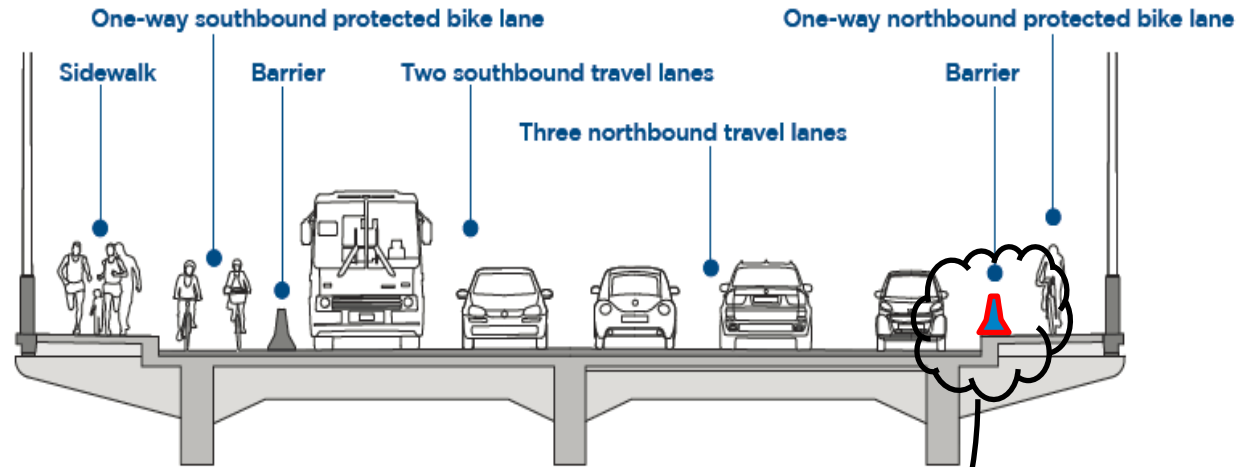
Cantilever new sidewalks

Proposed (Existing as Section 1)

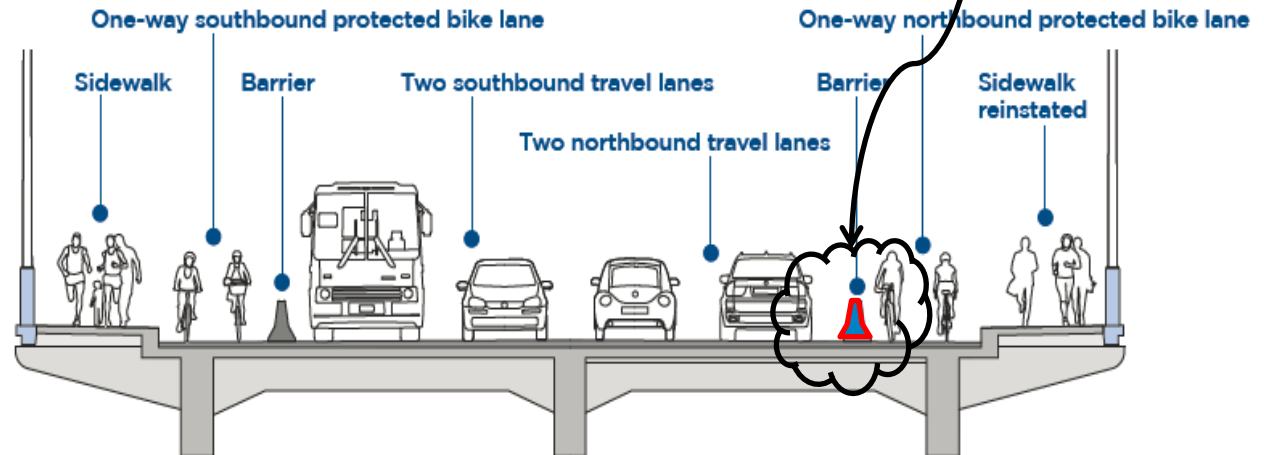


Burrard Bridge – Midspan

Existing



Proposed



- Over 50 groups including government agencies, emergency services, health care, social service providers, industry leaders, non-profits, business groups, Council advisory committees.
 - Including:
 - Port Metro Vancouver
 - Goods movement groups
 - BIAs
 - Vancouver Board of Trade
 - Vancouver Economic Commission
 - Advocacy groups (eg. HUB)
- Ongoing meetings with Vancouver Heritage Commission (2010-2013)

Public Events Included

- Lemonade stands
- Gas station – driver awareness
- Open houses

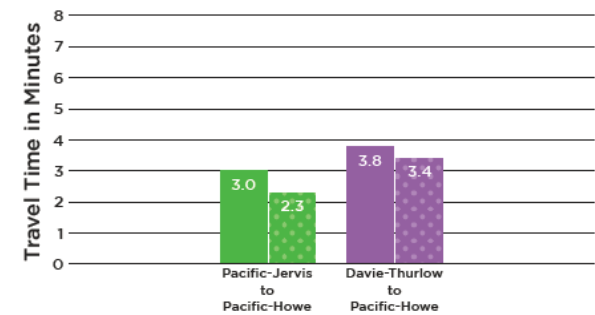
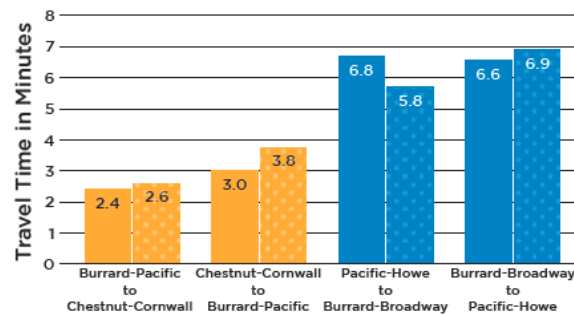
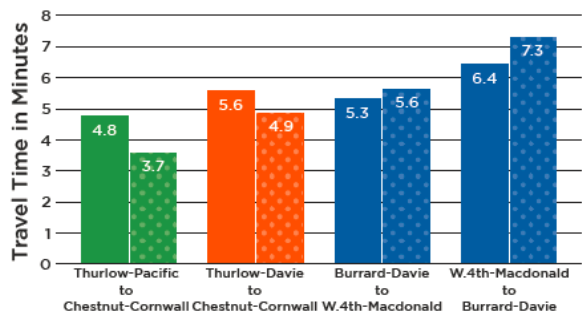
Stakeholders Included:

- Active Transportation Policy Council
- Vancouver Heritage Commission
- Downtown Vancouver BIA
- West End BIA
- Board of Trade
- Heritage Vancouver
- Women's Advisory Committee
- Persons with Disabilities Cttee
- Seniors Advisory Cttee
- HUB
- TransLink
- BC Trucking Association
- Vancouver Taxi Association
- Film industry

- Motor vehicle capacity
- Eastbound cycling connections
- Suicide prevention measures
- Vehicle barrier design
- Cost
- Engagement process
- Construction impacts
- Local impacts (landscape removal, driveways, etc.)
- Closure of the lane south of Pacific between Hornby and Howe to vehicles
- Southbound bus stop (closer to Pacific)
- Accessibility

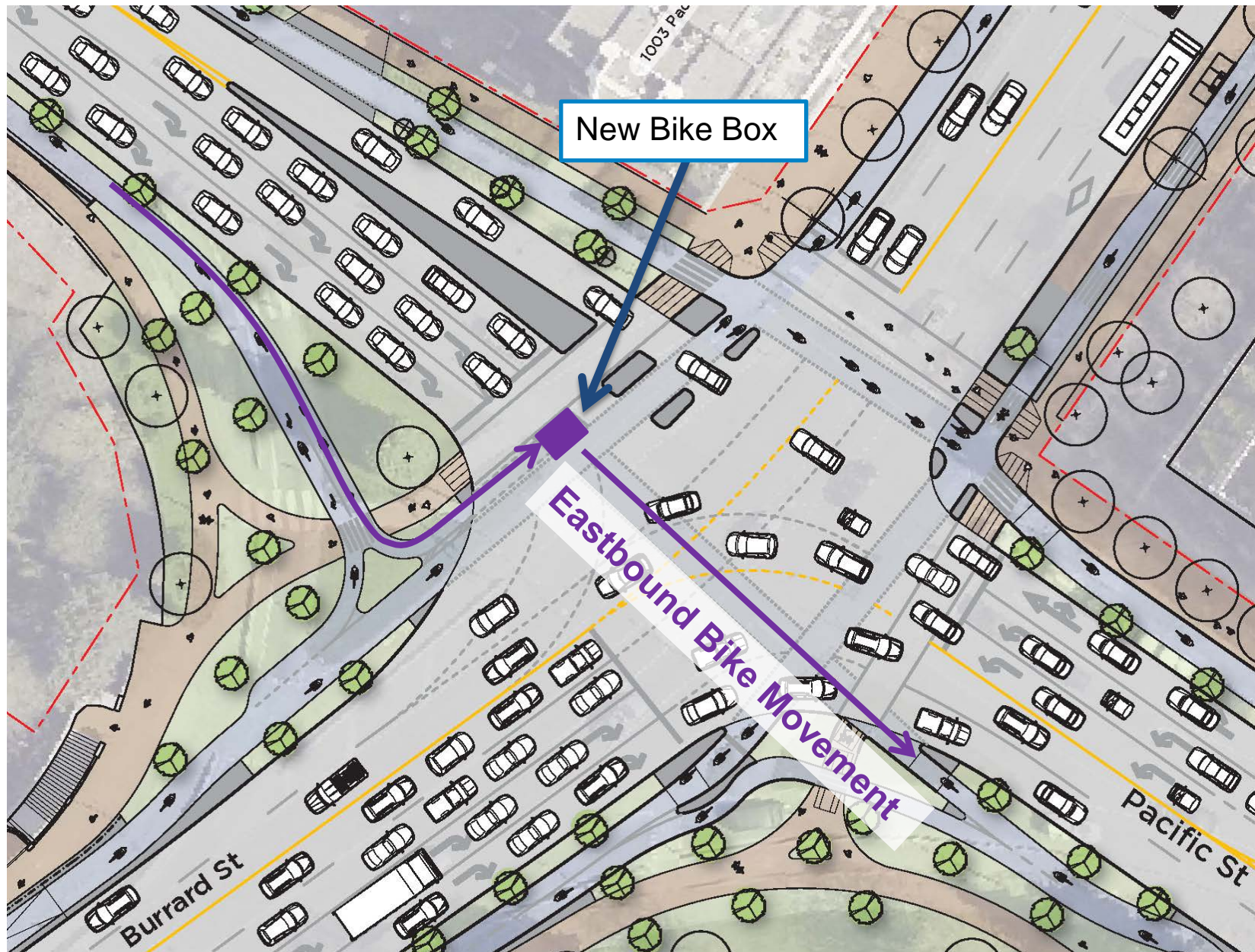
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Before & After Travel Times for Select Routes (PM Peak)



Solid bars indicate current travel time. Dotted bars indicate projected travel times once the project is complete. Travel times are for the PM peak period, which is the busiest time of day for the bridge. Projected travel times are based on modelling completed by independent consultants.

Issue – Eastbound Cycling Connections



Burrard Inlet and False Creek Bridge Suicide Statistics*

*BC Coroner's office 2006-2011

Bridge	Suicides per year
Lions Gate	4.3
Granville	2.5
Burrard	0.8
2 nd Narrows	0.8
Cambie	0.3

Police Calls Logged as Potential Suicides on Burrard Inlet/False Creek Bridges**

**Vancouver Police Department Records 2006-2011

Bridge	Calls logged as potential suicide attempts per year
Lions Gate	19
Granville	20
Burrard	17
2 nd Narrows	No data
Cambie	8

Issue - Suicide Prevention Measures



Issue – Vehicle Barriers



Issue – Vehicle Barriers



- Motor vehicle capacity
 - Eastbound cycling connections
 - Suicide prevention measures
 - Vehicle barrier design
-
- Cost
 - Engagement process
 - Construction impacts
 - Local impacts (landscape removal, driveways, etc.)
 - Closure of the lane south of Pacific between Hornby and Howe to vehicles
 - Southbound bus stop (closer to Pacific)
 - Accessibility

- 1) Sidewalk/railing rehabilitation
 - Low impact – respectful of heritage values
- 2) Widening
 - (without fence) Low/medium impact – maintaining key elements
 - (with fence) High impact – visual clutter
- 3) Vehicle barriers
 - Concrete gravity barriers – medium/high impact
 - Integrated concrete barrier – high impact
 - Steel barrier – low/medium impact
- 4) Means prevention fencing
 - High impact
 - Improved heritage response if pedestrian lighting included
- 5) Cumulative impact
 - High impact, with several major interventions that cause concern for heritage community

THAT Council approve a \$35 million package of modifications to the Burrard Bridge and nearby streets as generally outlined in this report, namely:

1. **Structural modifications** to the bridge, including:
 - Concrete railing replacement,
 - Roadway lighting electrical replacement,
 - Sidewalk overlay,
 - Concrete repairs (soffits),
 - Access improvements for marine spans,
 - East side duct bank repair, and
 - Means prevention fencing and crisis phone installation;
2. **Restoration of walking to the east sidewalk** of the Burrard Bridge by reallocating a northbound travel lane;
3. Replacement of existing concrete barriers with **architecturally-enhanced concrete barriers**;
4. **Widening the northern bridge approach** to generally maintain motor vehicle capacity; and
5. Safety improvements to the **Burrard-Pacific intersection** and associated active transportation connections.

- 1) Overall construction impacts minimized
- 2) Transportation Benefits
 - 1) People walking
 - Walking allowed on both sides of bridge
 - Safer, more comfortable crossings at Burrard/Pacific
 - 2) People biking
 - Better connections at north end
 - Safer, more comfortable crossings at Burrard/Pacific
 - Fewer pedestrian conflicts on bridge deck
 - 3) People driving
 - Safer intersection at Burrard/Pacific
 - More comfortable/reliable turns
 - 4) Goods movement and transit
 - Maintains truck and bus movements
 - Maintains bus lanes on Burrard