

Sustainable Transport & Accessibility for People of All ages and Abilities

Dale Bracewell, Manager Transportation Planning
@Dale_Bracewell



Vancouver ○

A satellite map of North America, showing the United States and Canada. The map is oriented with North at the top. The Pacific Ocean is on the left, and the Atlantic Ocean is on the right. The Great Lakes are visible in the center-right. The text "Vancouver ○" is overlaid on the left side of the map, with a small white circle marking the location of Vancouver, British Columbia, Canada. The map shows various geographical features, including mountains, rivers, and bodies of water.

- 
- 1 City of Abbotsford *
 - 2 Village of Anmore
 - 3 Village of Belcarra
 - 4 Bowen Island Municipality
 - 5 City of Burnaby
 - 6 City of Coquitlam
 - 7 Corporation of Delta
 - 8 City of Langley
 - 9 Township of Langley
 - 10 Village of Lions Bay
 - 11 District of Maple Ridge
 - 12 City of New Westminster
 - 13 City of North Vancouver
 - 14 District of North Vancouver
 - 15 City of Pitt Meadows
 - 16 City of Port Coquitlam
 - 17 City of Port Moody
 - 18 City of Richmond
 - 19 City of Surrey
 - 20 Tsawwassen
 - 21 City of Vancouver
 - 22 District of West Vancouver
 - 23 City of White Rock
 - 24 Electoral Area A

**City of Abbotsford is a member of
Metro Vancouver with respect
to the provision of park services.*

Scale: 1:285,000
0 1 2 4 6 8 10 Km



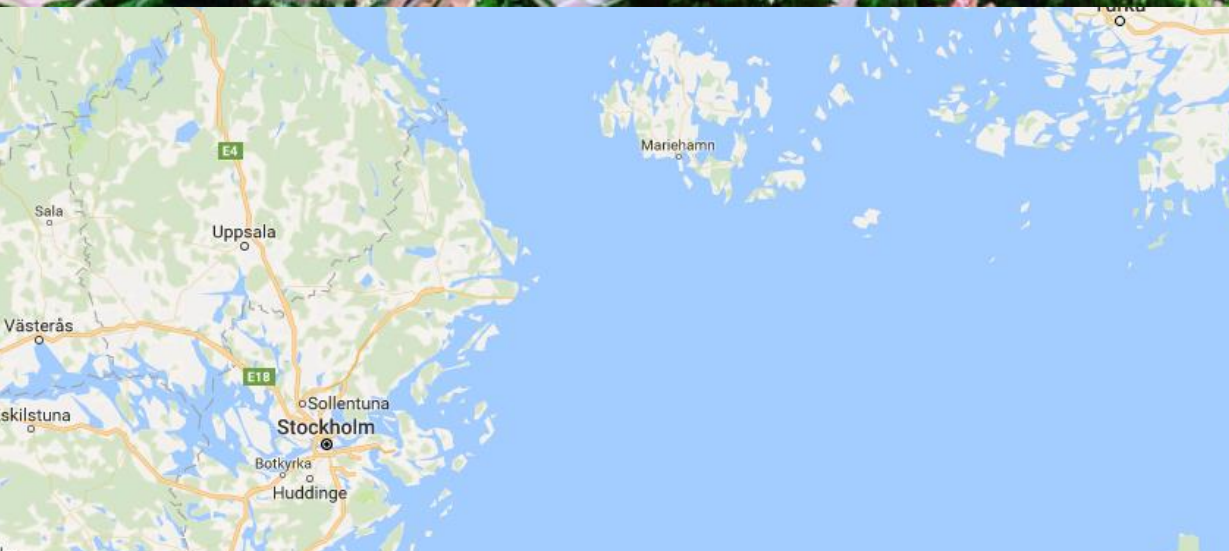
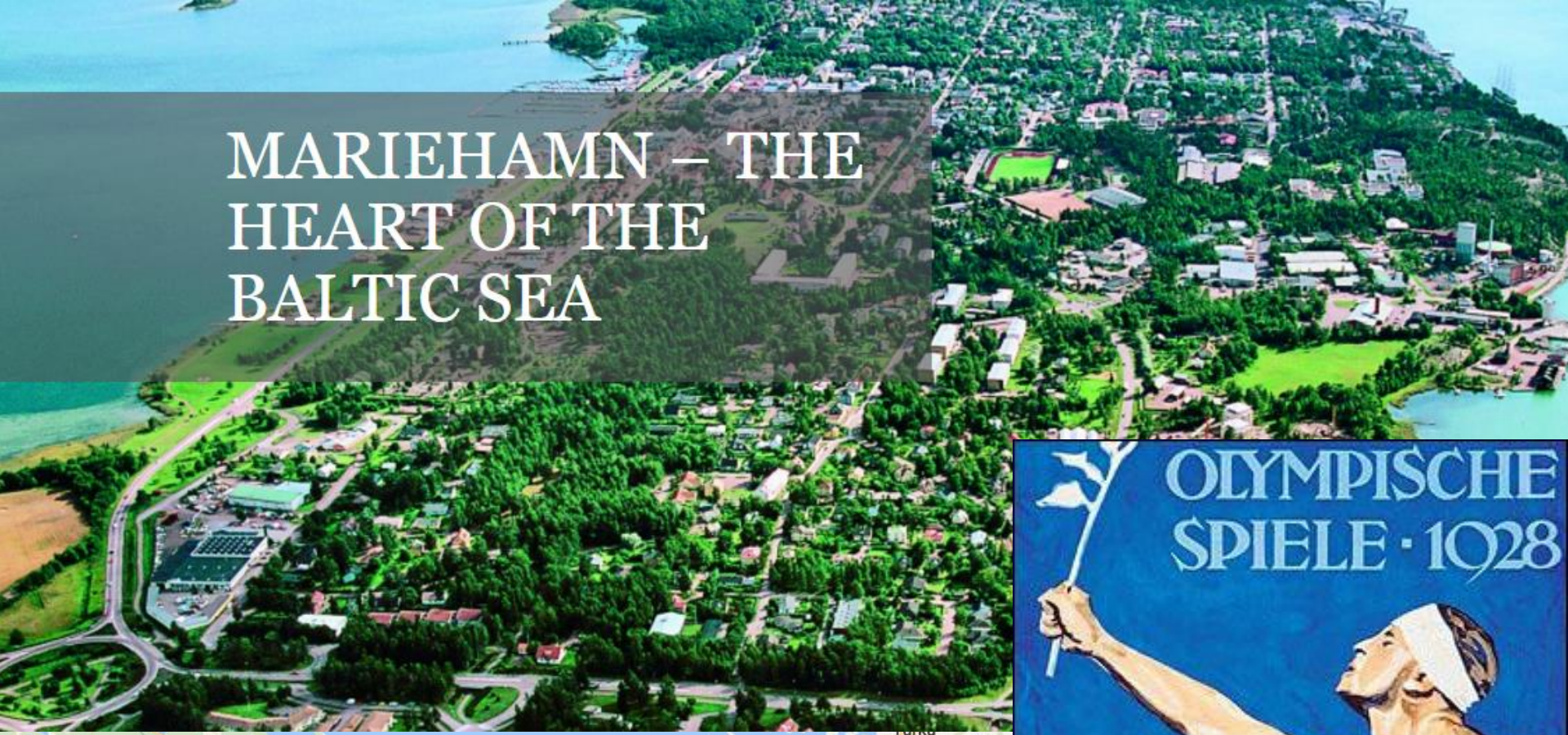
metro vancouver

Produced by Metro Vancouver, May 2010
For illustrative purposes only

**Vancouver
630,000**

**Metro Vancouver
2,300,000**

MARIEHAMN – THE HEART OF THE BALTIC SEA



Johan Hellström





































From Wikipedia, the free encyclopedia

Karl Johan "Jonni" Hellström (May 13, 1907 – 1989) was a [Finnish boxer](#) who competed in the [1928 Summer Olympics](#).

"The Fighting Finn" was born in Mariehamn and died in Canada.

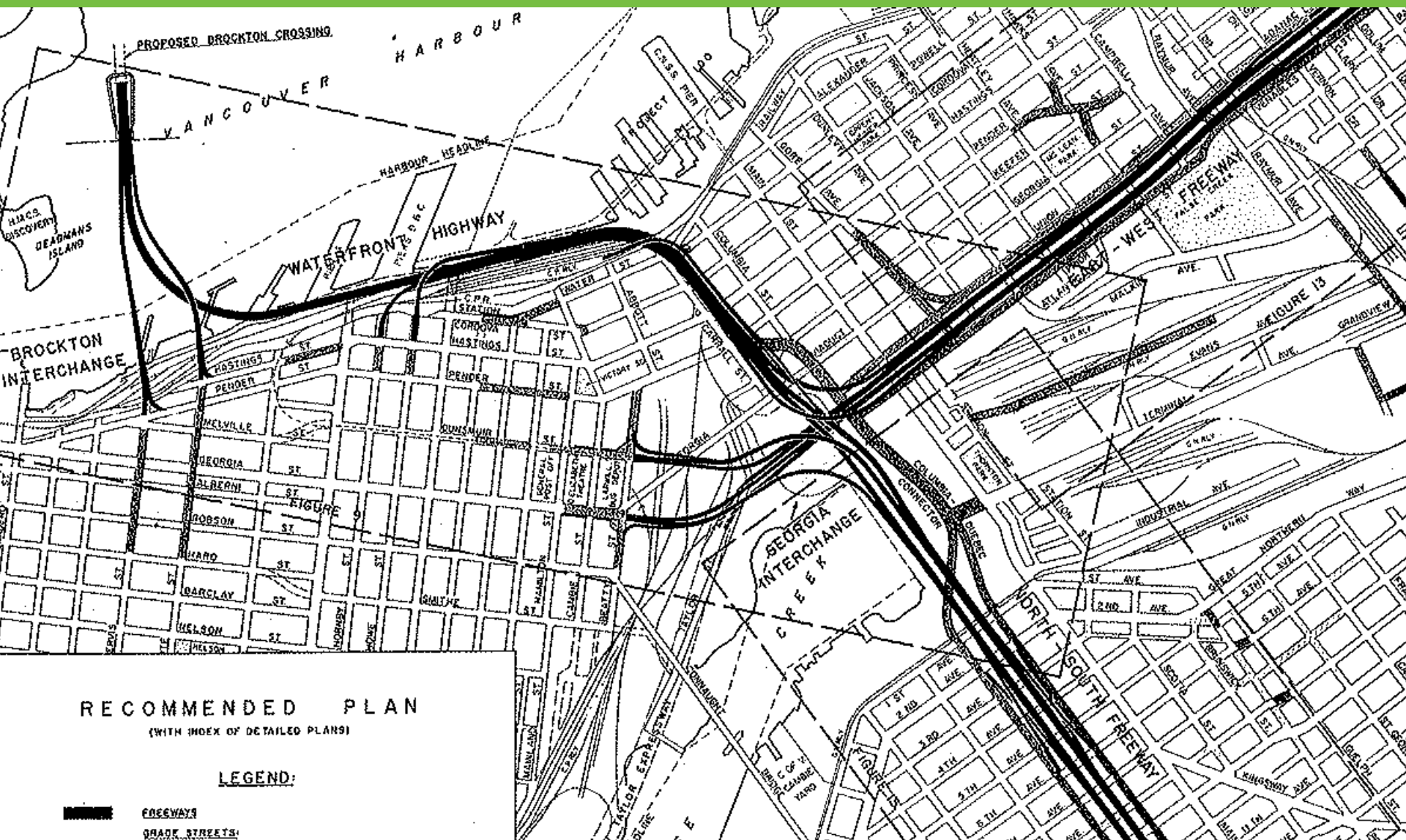
In 1928 he was eliminated in the quarter-finals of the welterweight class after losing his fight to Robert Galataud.

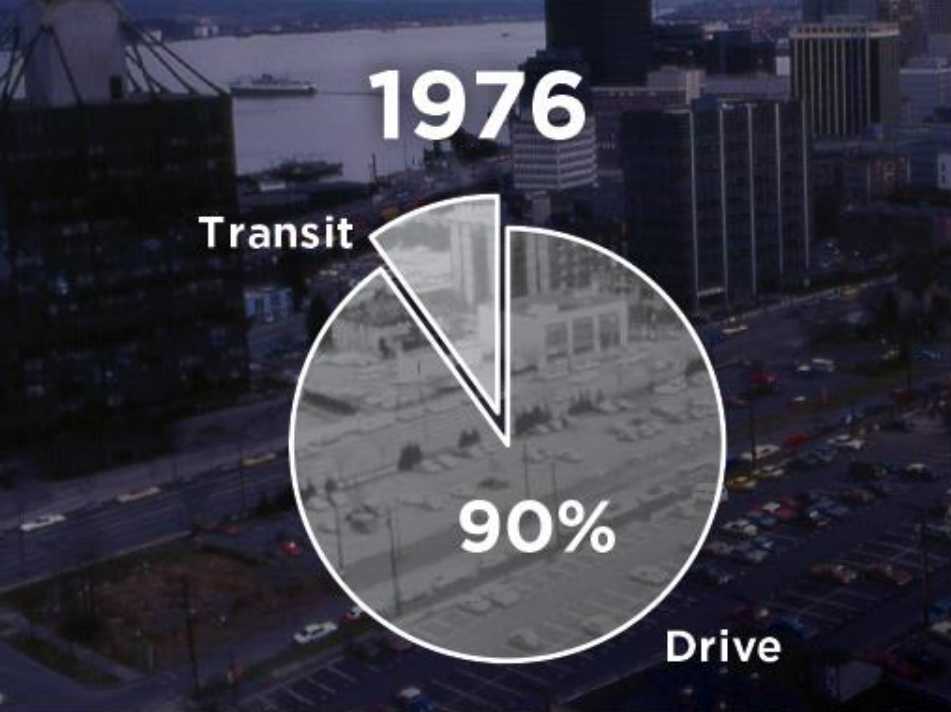
Round of 32 August 7	Round of 16 August 8	Quarterfinals August 9	Semifinals August 10	Final August 11
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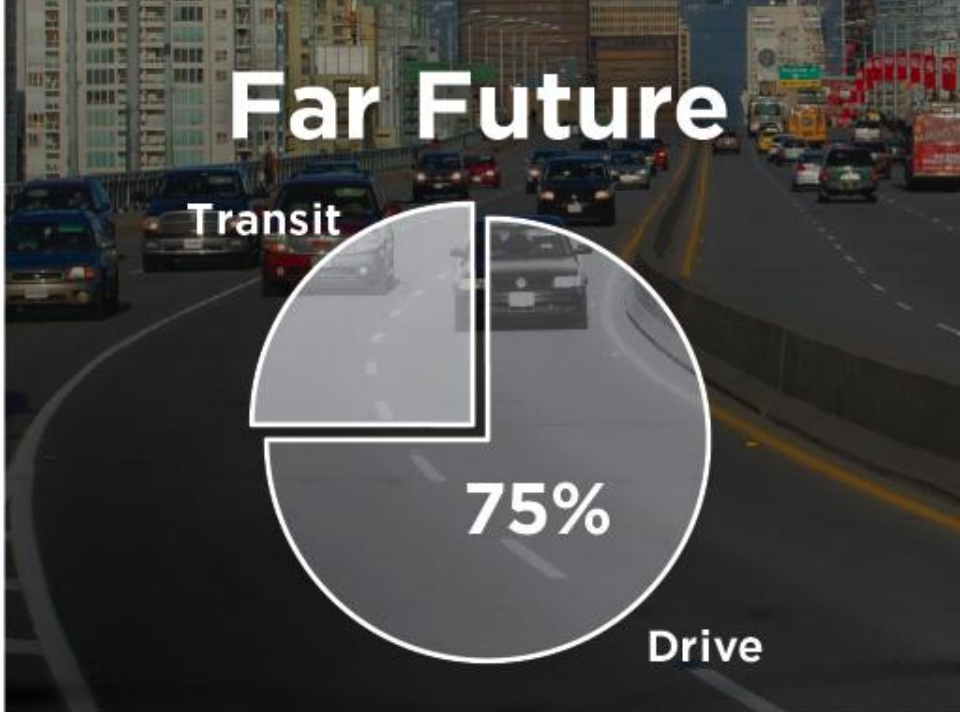
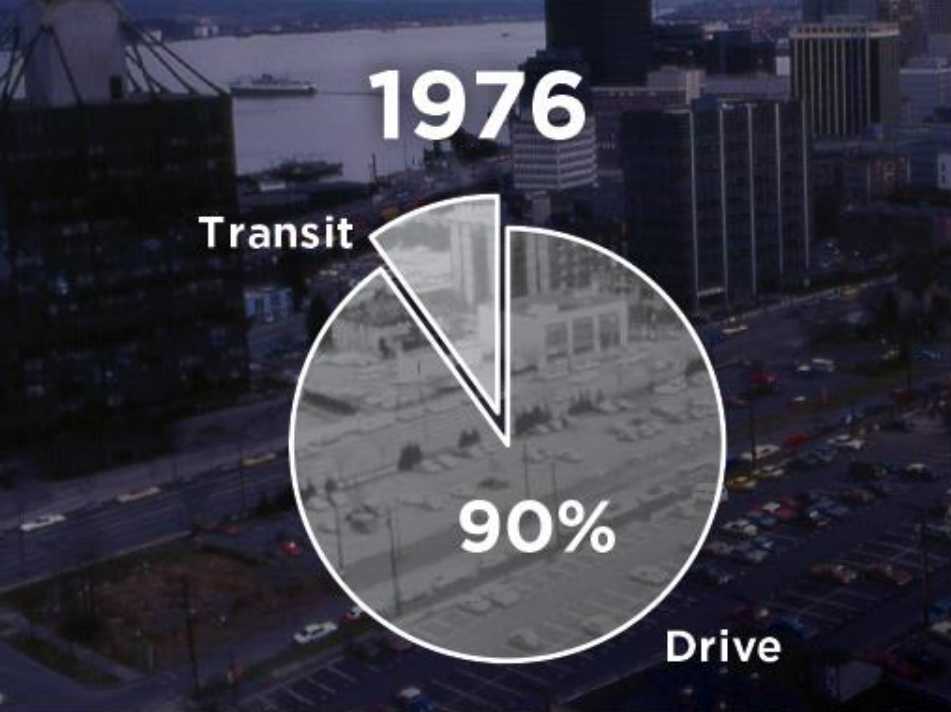
<div> <div> Valter Palm (EST)</div> <div>PTS</div> </div> <div> <div> Albert Nuss (LUX)</div> <div>L</div> </div> <div> <div> Raúl Landini (ARG)</div> <div>PTS</div> </div> <div> <div> Thomas Lown (USA)</div> <div>L</div> </div> <div> <div> Kintaro Usuda (JPN)</div> <div>PTS</div> </div> <div> <div> Dionisio Fernández (ESP)</div> <div>L</div> </div> <div> <div> Leonard Hall (RHO)</div> <div>PTS</div> </div> <div> <div> William Walter (GER)</div> <div>L</div> </div> <div> <div> Raymond Smillie (CAN)</div> <div>PTS</div> </div> <div> <div> Johann Fraberger (AUT)</div> <div>L</div> </div> <div> <div> Patrick Lenehan (IRL)</div> <div>PTS</div> </div> <div> <div> Arne Sande (DEN)</div> <div>L</div> </div>	<div> <div> Cor Blommers (NED)</div> <div>PTS</div> </div> <div> <div> Adrien Anneet (BEL)</div> <div>L</div> </div> <div> <div> Cor Blommers (NED)</div> <div>L</div> </div> <div> <div> Raúl Landini (ARG)</div> <div>PTS</div> </div> <div> <div> Kintaro Usuda (JPN)</div> <div>PTS</div> </div> <div> <div> Leonard Hall (RHO)</div> <div>L</div> </div> <div> <div> Kintaro Usuda (JPN)</div> <div>L</div> </div> <div> <div> Raymond Smillie (CAN)</div> <div>PTS</div> </div> <div> <div> Patrick Lenehan (IRL)</div> <div>L</div> </div>	<div> <div> Romano Caneva (ITA)</div> <div>PTS</div> </div> <div> <div> Ted Morgan (NZL)</div> <div>L</div> </div> <div> <div> Robert Galataud (FRA)</div> <div>PTS</div> </div> <div> <div> Johan Hellström (FIN)</div> <div>L</div> </div> <div> <div> Robert Galataud (FRA)</div> <div>PTS</div> </div> <div> <div> Raymond Smillie (CAN)</div> <div>L</div> </div> <div> <div> Raymond Smillie (CAN)</div> <div>PTS</div> </div>	<div> <div> Ted Morgan (NZL)</div> <div>PTS</div> </div> <div> <div> Robert Galataud (FRA)</div> <div>L</div> </div> <div> <div> Raúl Landini (ARG)</div> <div>L</div> </div> <div> <div> Raymond Smillie (CAN)</div> <div>L</div> </div>	<div> <div> Ted Morgan (NZL)</div> <div>PTS</div> </div> <div> <div> Raúl Landini (ARG)</div> <div>L</div> </div> <div> <div></div> <div>Bronze medal bout</div> </div> <div> <div> Raymond Smillie (CAN)</div> <div>PTS</div> </div> <div> <div> Robert Galataud (FRA)</div> <div>L</div> </div>
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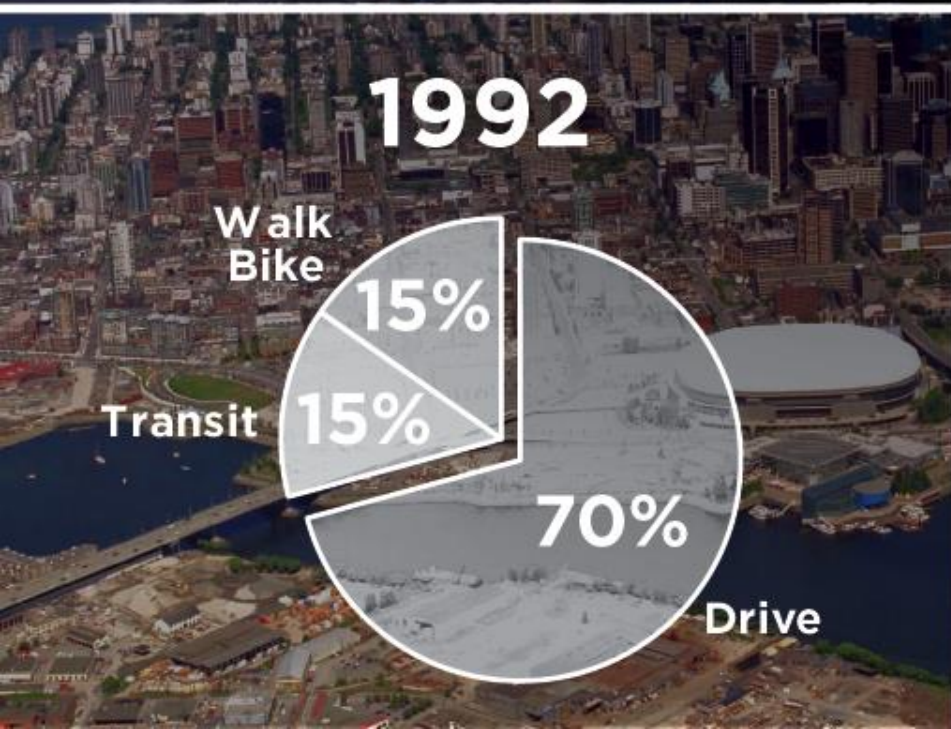
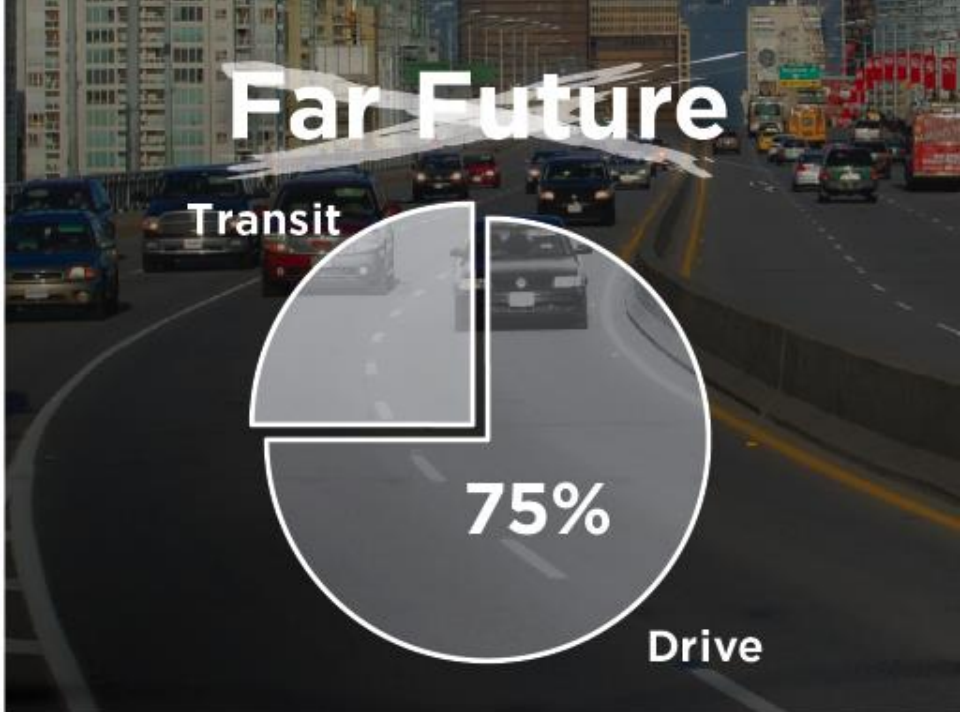
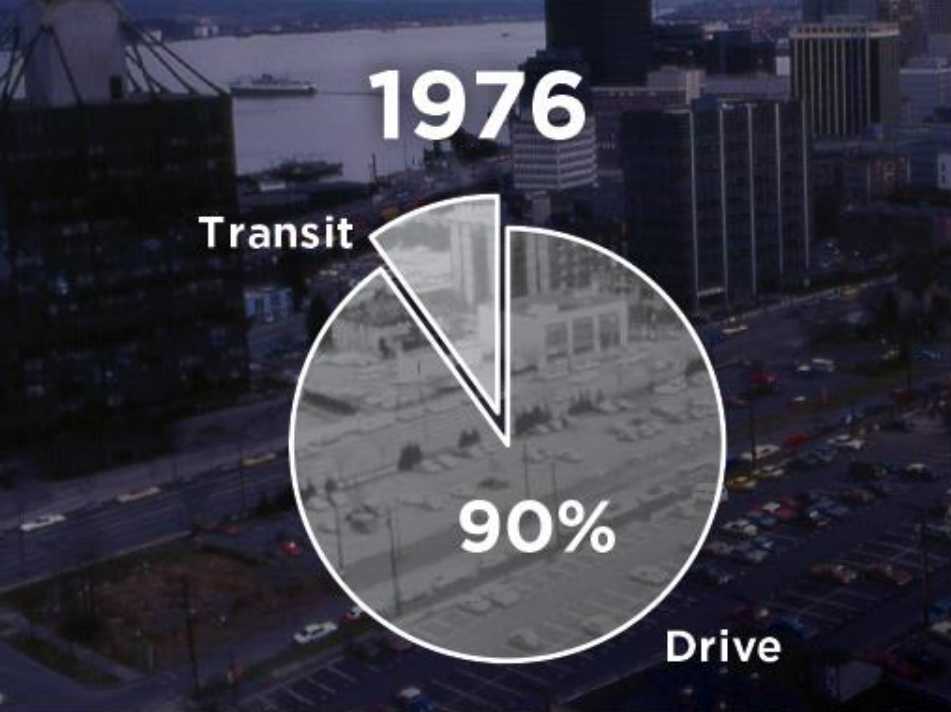


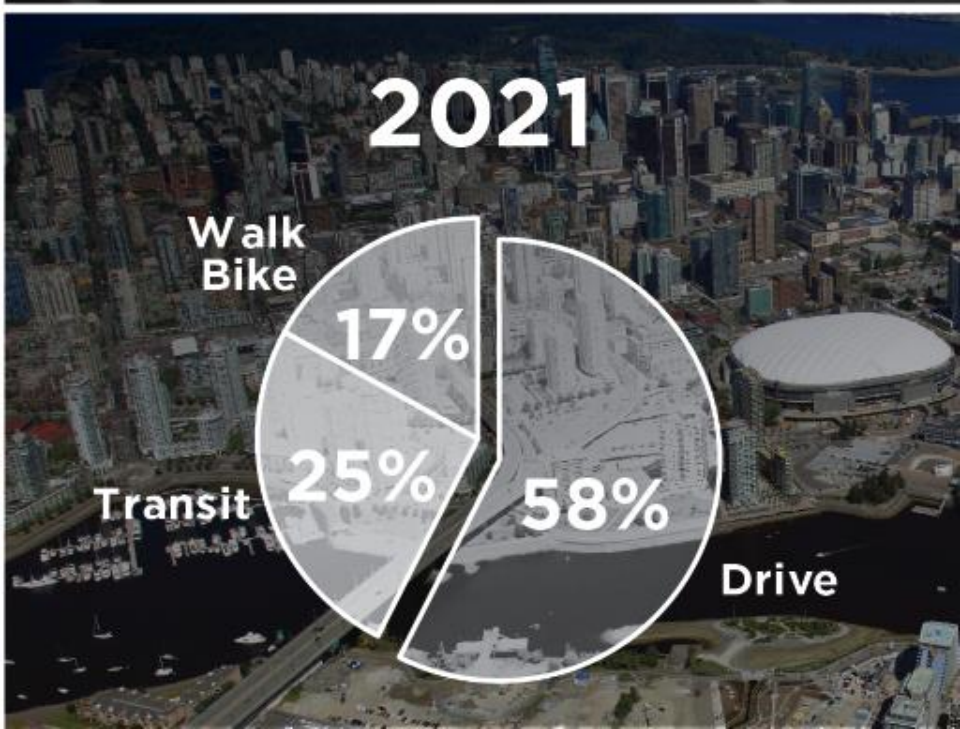
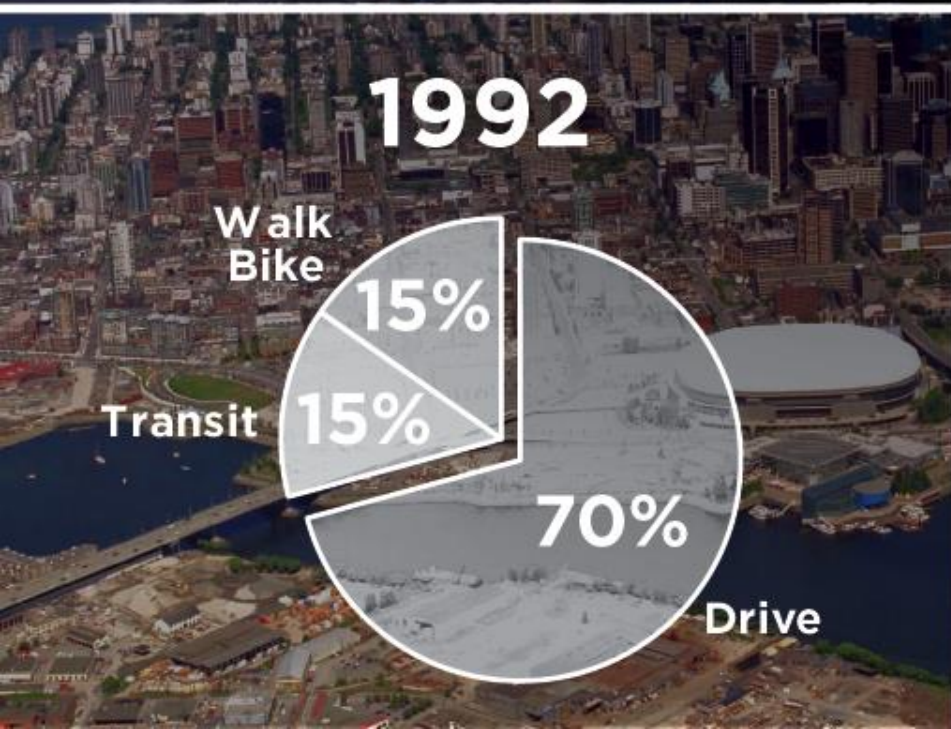
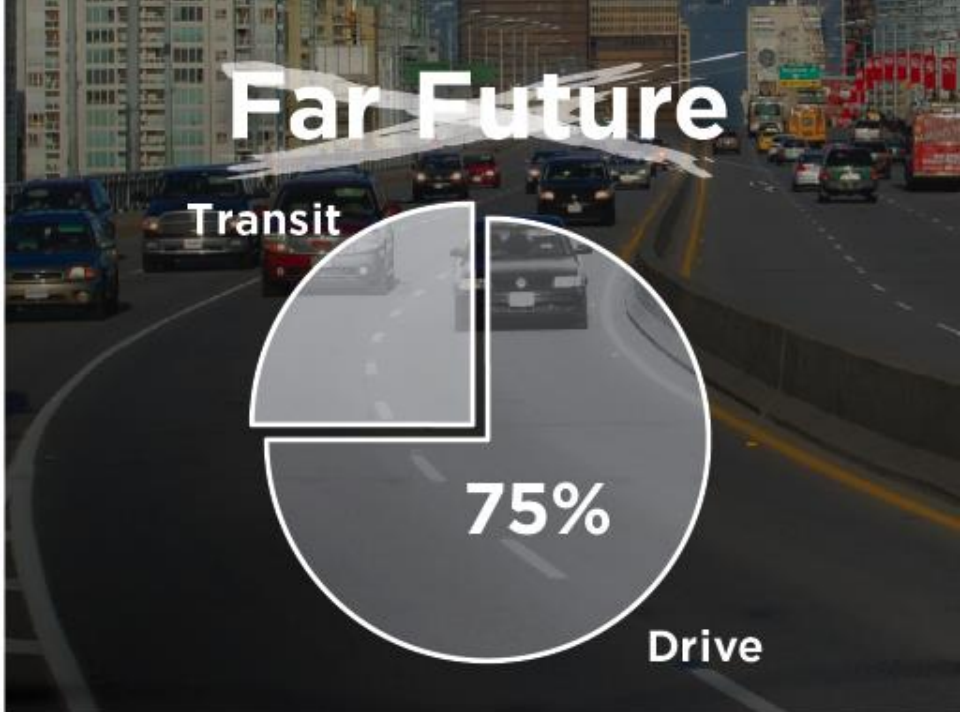
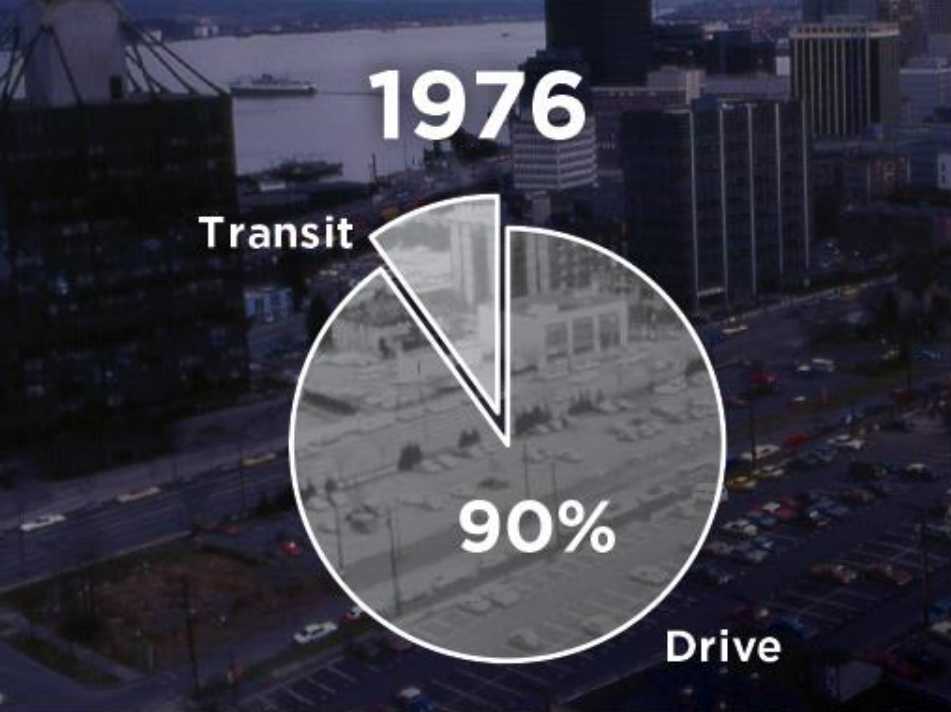
Chapter 1: The Freeway Never Built

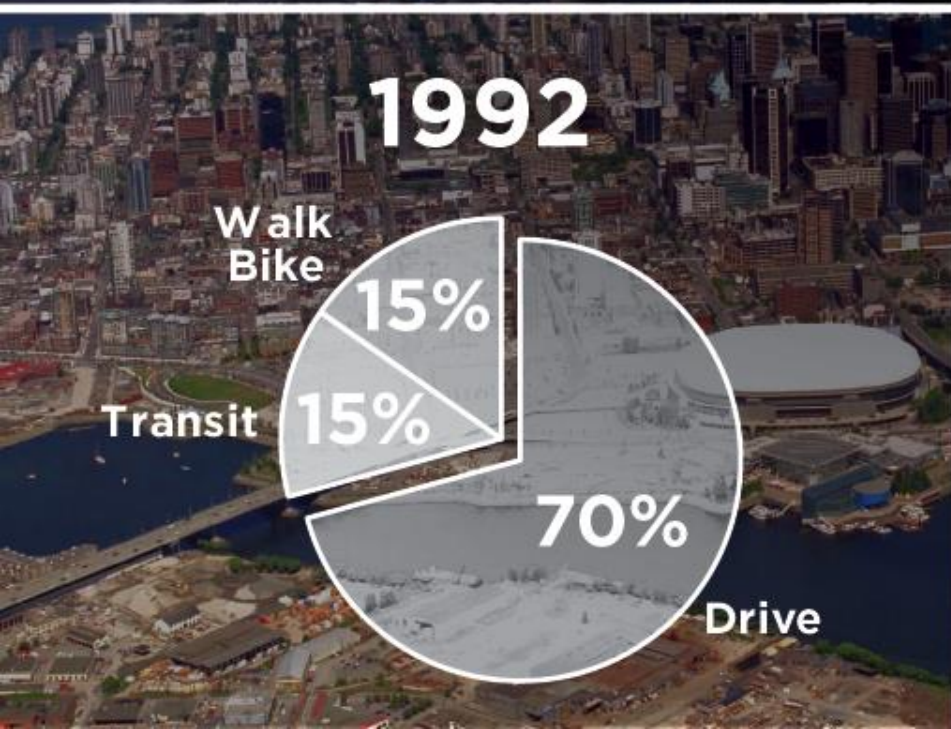
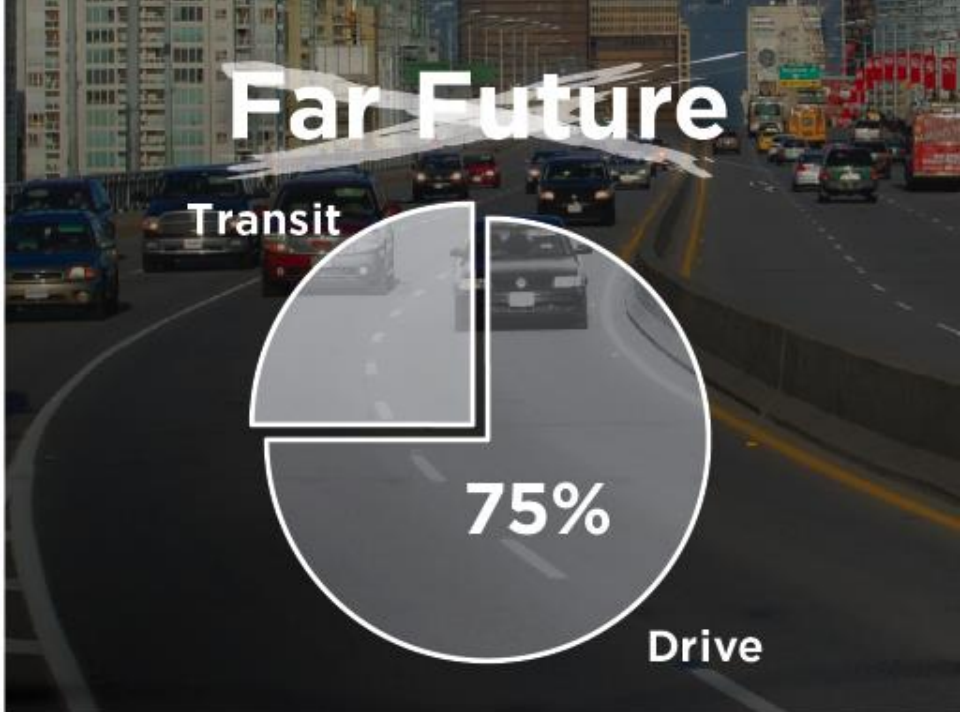
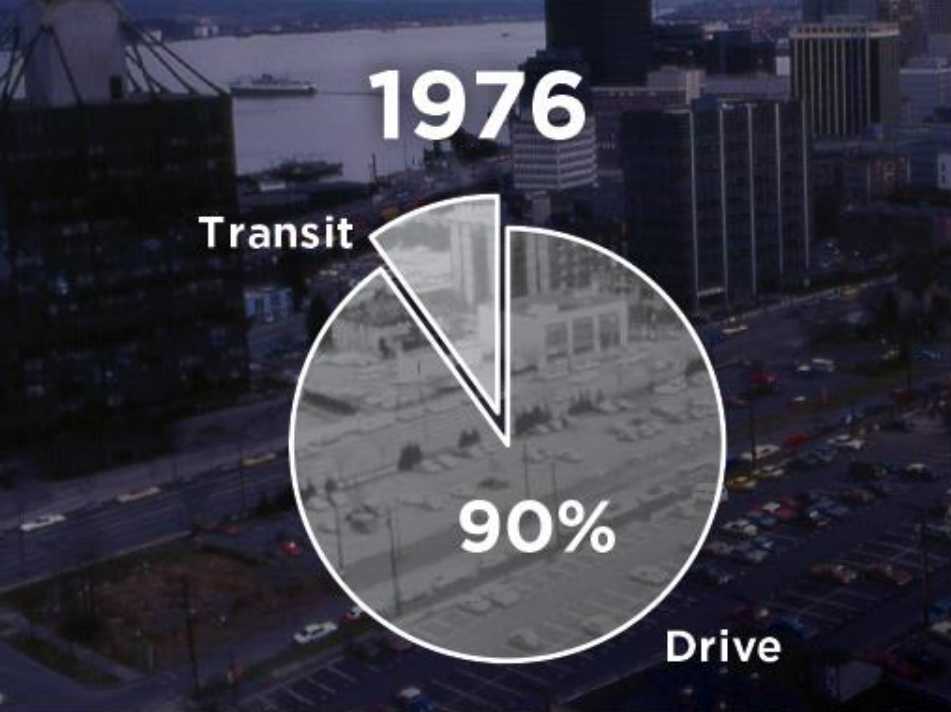












"The Years of the Warlords"



Land Use



Transportation

"The Years of the Warlords"

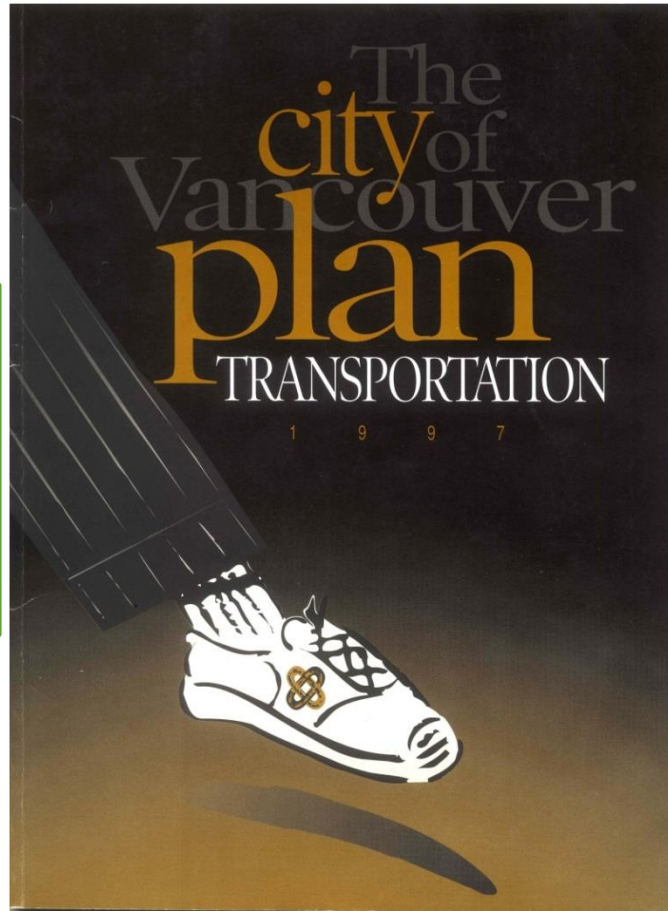


Land Use

Transportation

Collaboration & Synergy (Plan-gineers!)

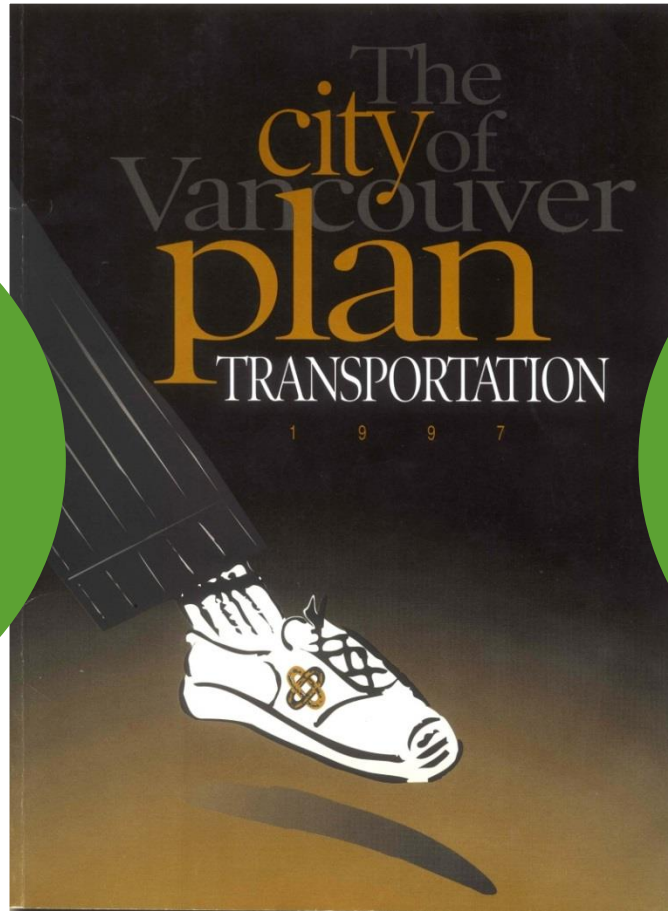
Land Use



Transportation

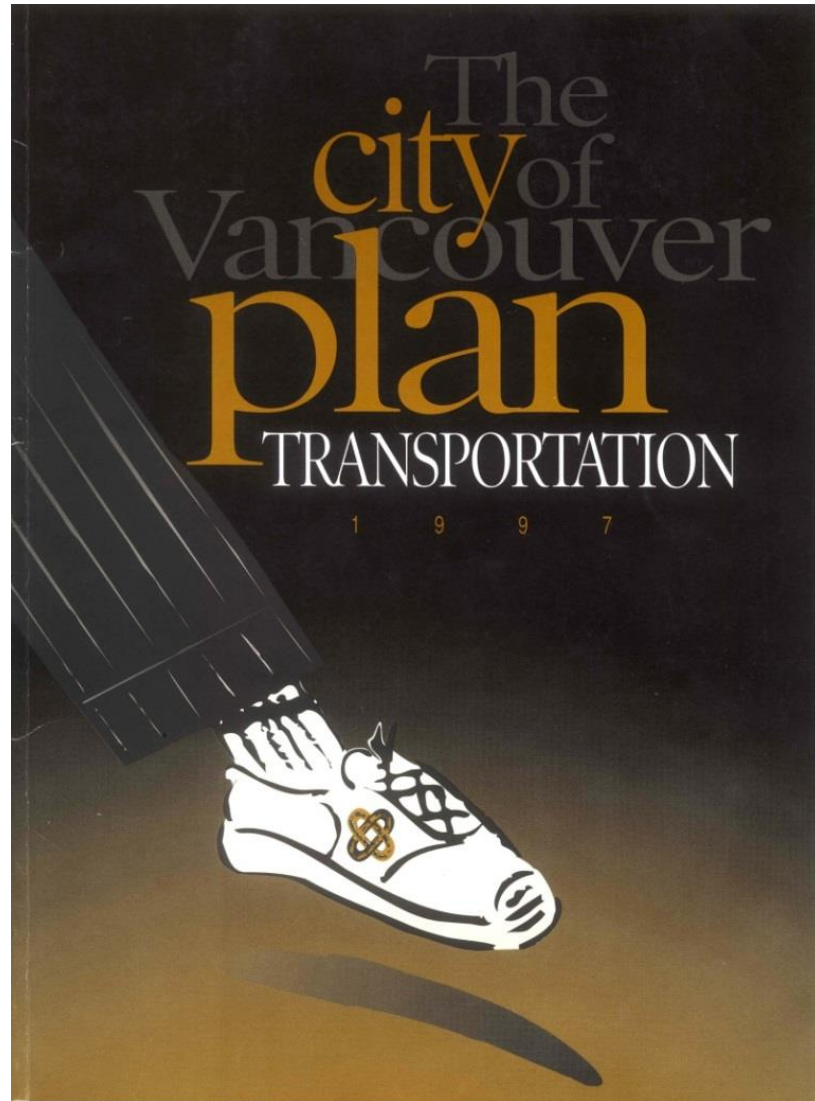
Collaboration & Synergy (Plan-gineers!)

Land Use



Transportation

Chapter 2: No Increase in Road Capacity



Since 1997 Plan: More Trips, Fewer Cars

City

+18%
POPULATION

+16%
JOBS

-5%
VEHICLES ENTERING
CITY

Downtown

+75%
POPULATION

+26%
JOBS

-20%
VEHICLES ENTERING
DOWNTOWN

Chapter 3: Hosting the 2010 Olympic Games

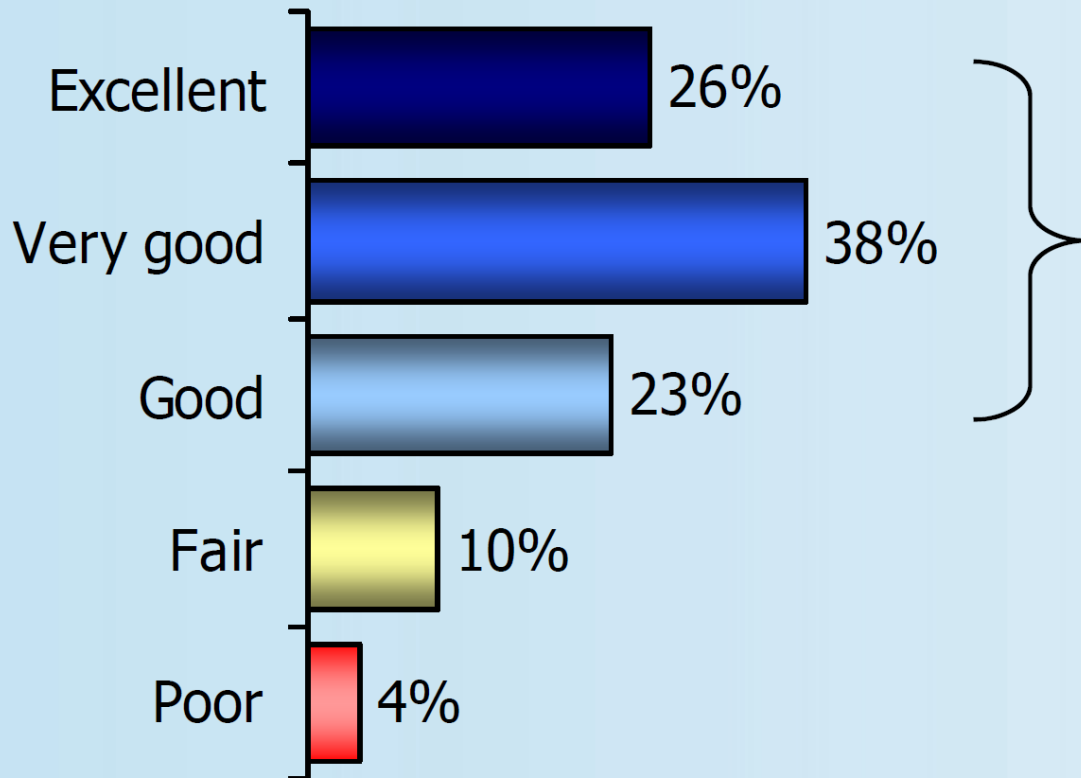


Looking forward from 2010 to 2020

The transportation **legacy** of the Host City Olympic Transportation Plan was a proven local example of a large scale travel behaviour **shift to sustainable modes**, in unprecedented and record numbers.



Olympic Transportation Legacies Survey



Over **85%**
of Metro
Vancouver
residents had a
positive
transportation
experience

Chapter 4: Creating Transportation 2040



Transportation 2040

Plan as adopted by Vancouver City Council on October 31, 2012





ECONOMY

Support a thriving economy while increasing affordability



PEOPLE

Healthy citizens in a safe, accessible, and vibrant city



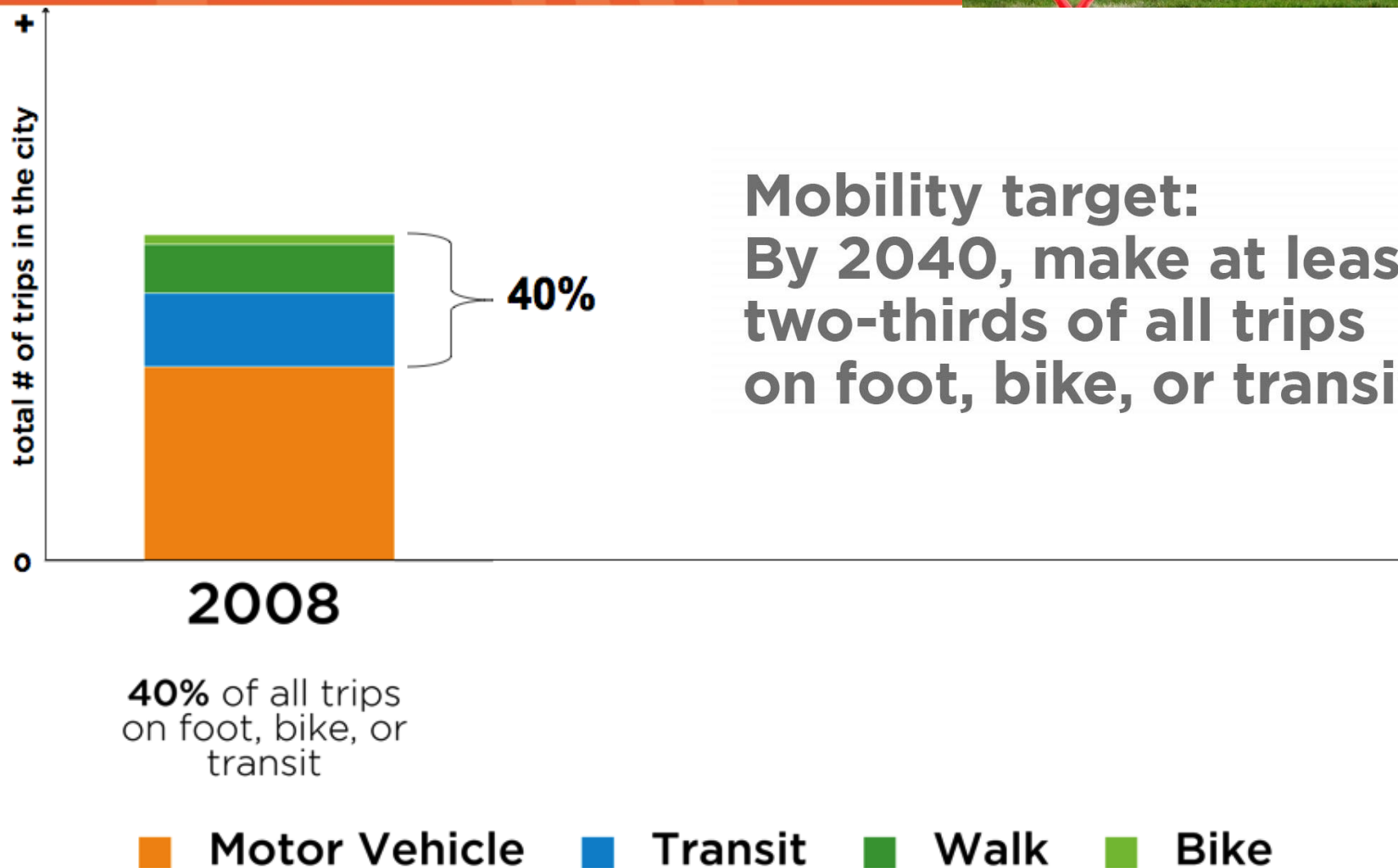
ENVIRONMENT

City that enhances its natural environment for its people and the planet

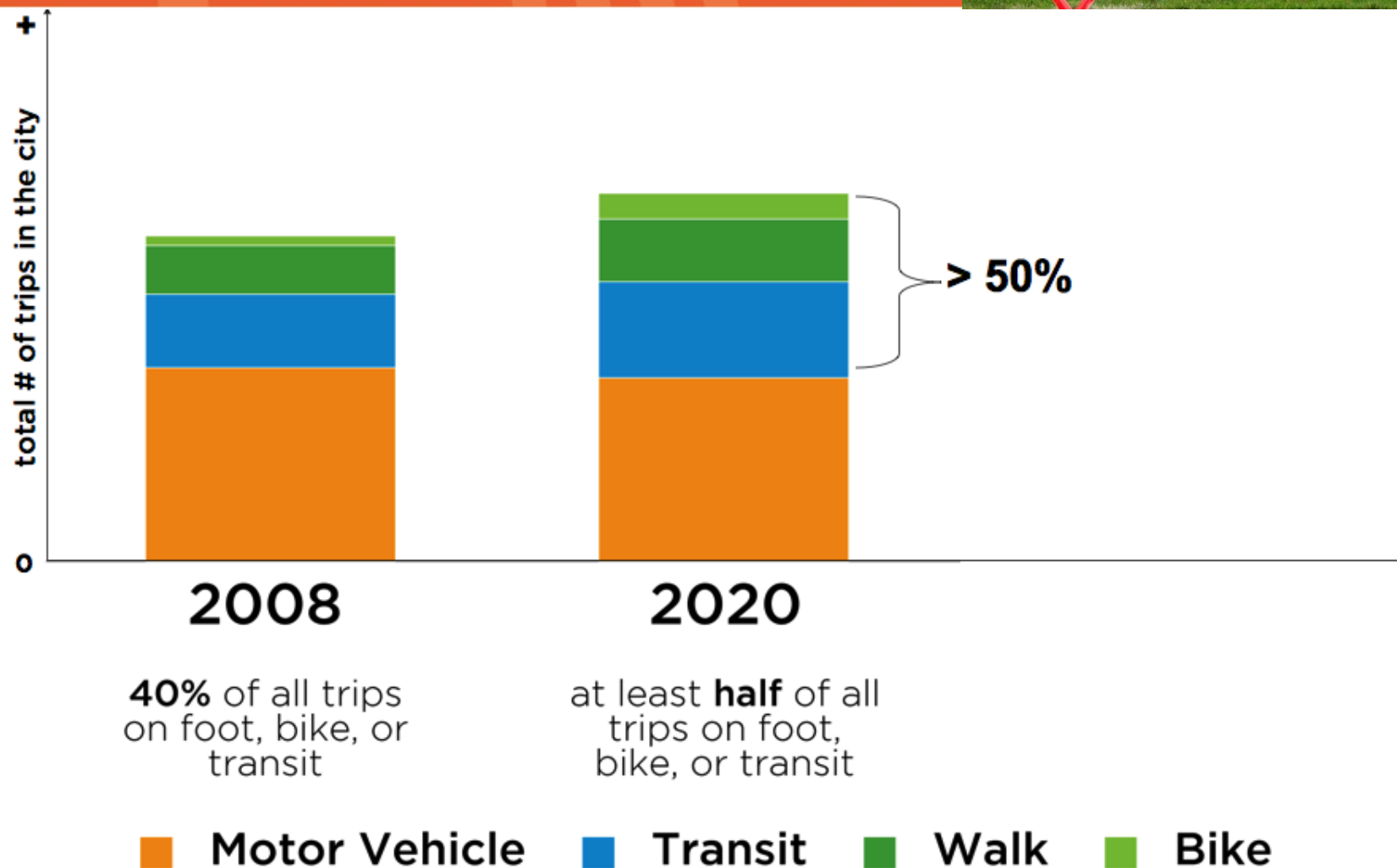
Policy Overview



Mobility target:
By 2040, make at least
two-thirds of all trips
on foot, bike, or transit.

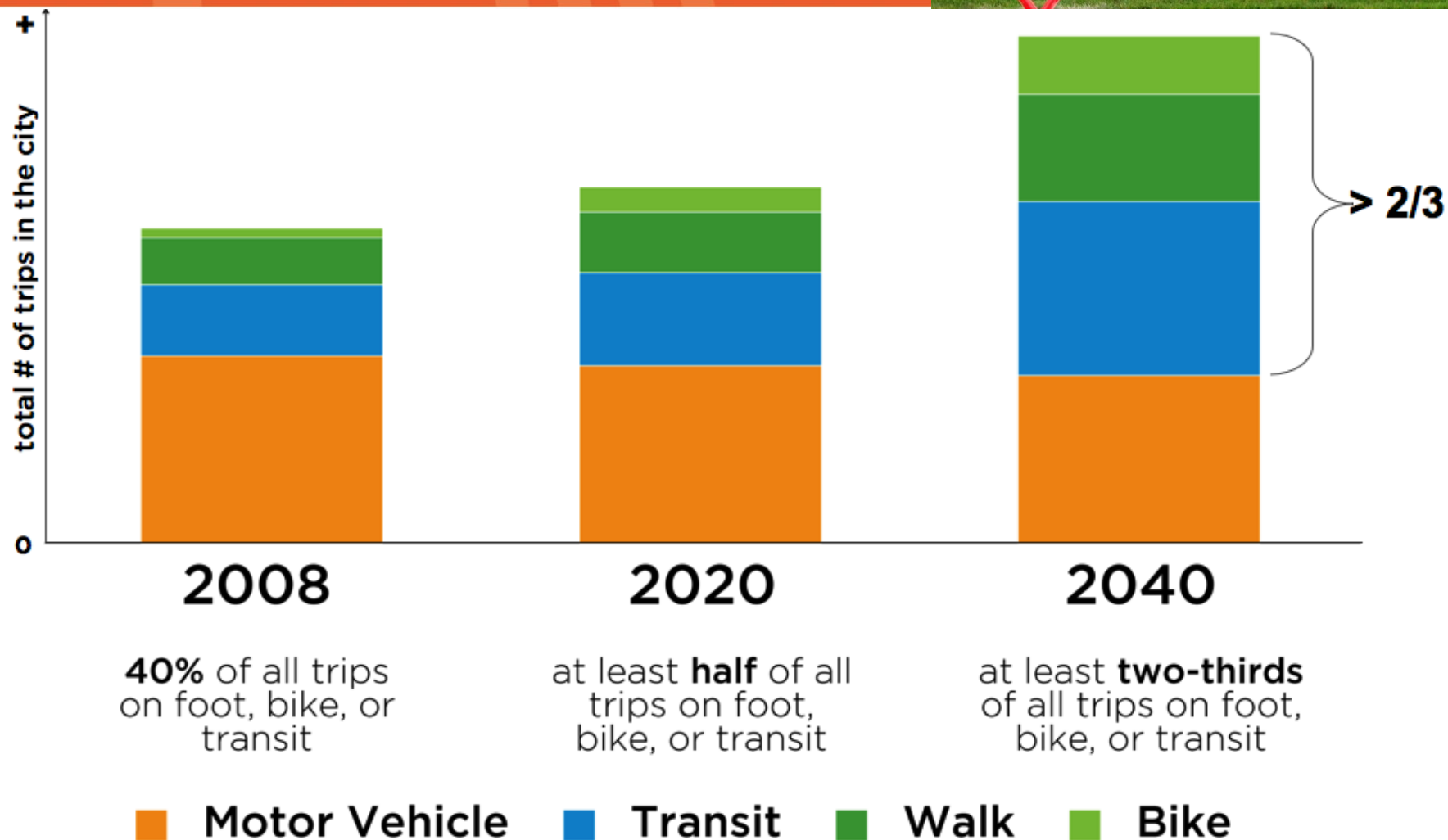


Policy Overview



For all trips originating in the City of Vancouver.
2008 data source: TransLink Trip Diary Survey. Trips by commercial drivers (couriers, taxis, trucks, and bus drivers) not included.

Policy Overview

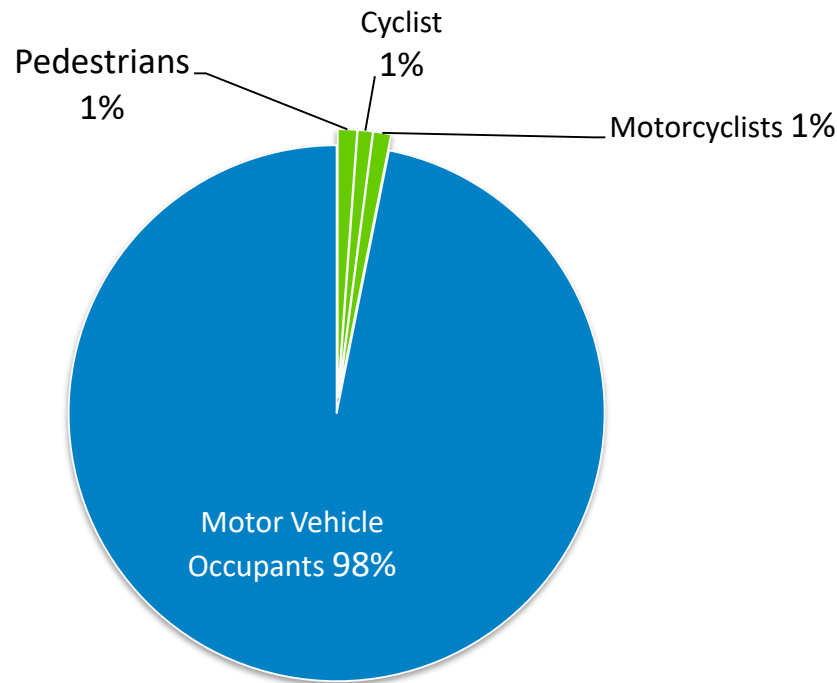


For all trips originating in the City of Vancouver.
2008 data source: TransLink Trip Diary Survey. Trips by commercial drivers (couriers, taxis, trucks, and bus drivers) not included.

Policy Overview

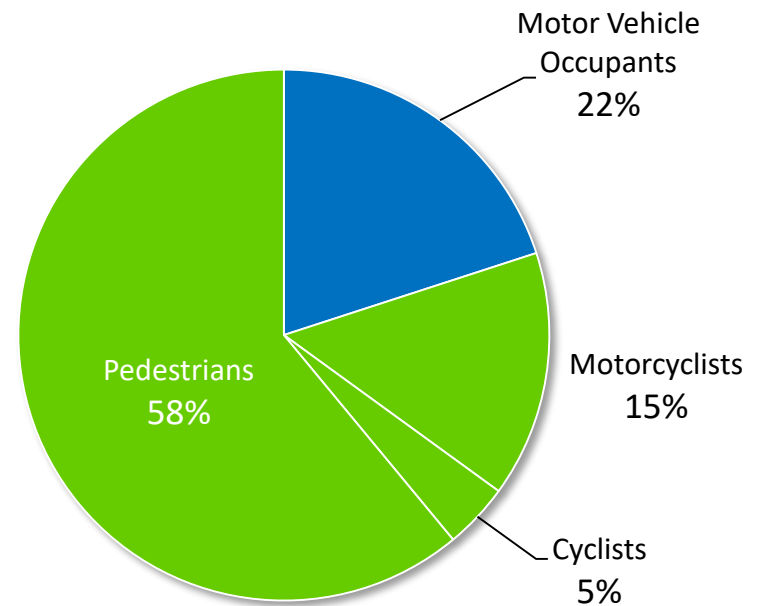


Eliminating transportation-related fatalities is a key goal of Transportation 2040.



Collisions in Vancouver by road user

Source: ICBC Collision Data, 2009-2013



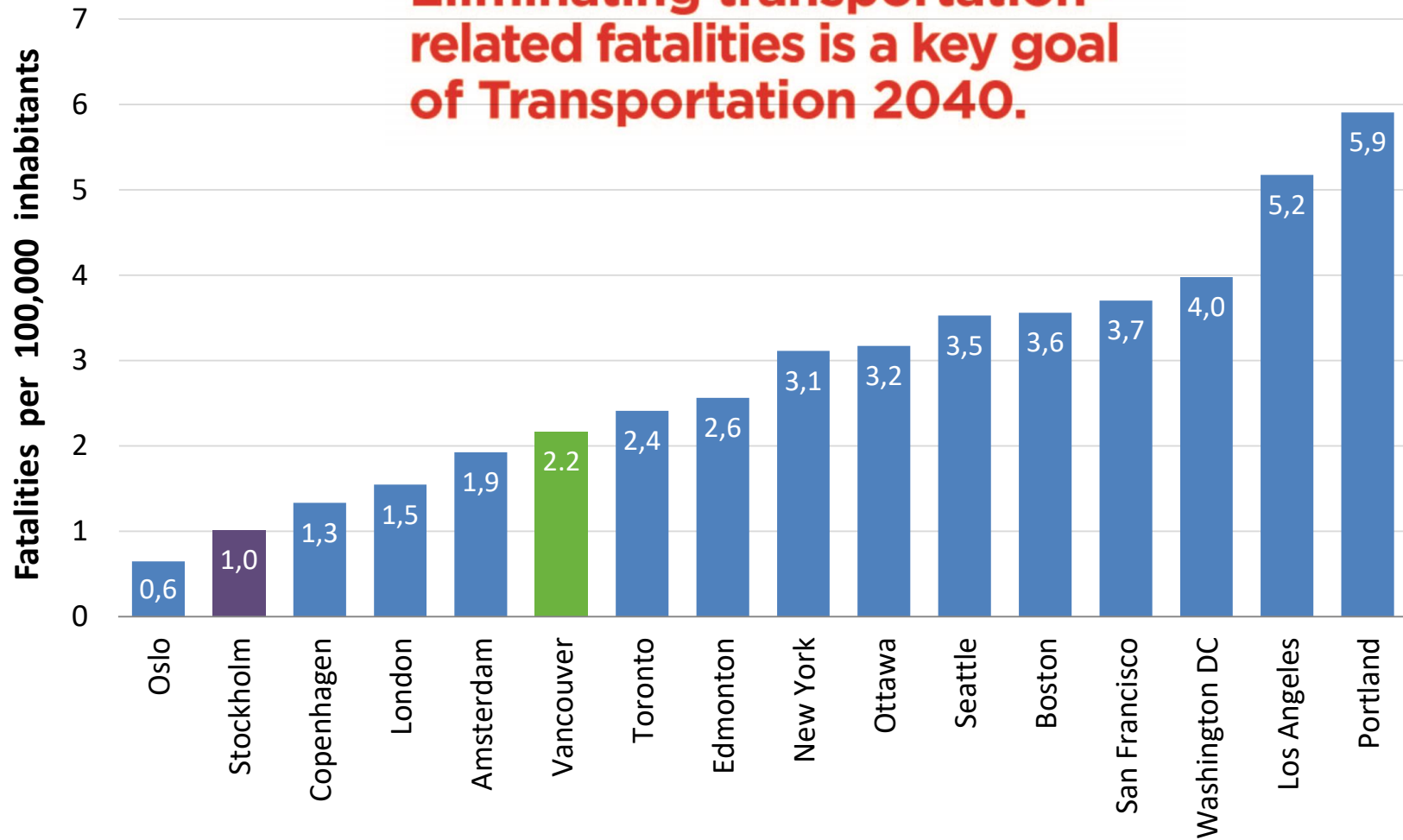
Fatalities in Vancouver by road user

Source: VPD Traffic Fatality Data, 2009-2013

Policy Overview



Eliminating transportation-related fatalities is a key goal of Transportation 2040.



Developing the Plan

Work With our Partners

Federal
Provincial
Regional
Municipal



Transport
Canada

Transports
Canada



PORT METRO
vancouver

- Railways, borders, waterways & airways; project funding
- Airport planning
- Port planning



BRITISH
COLUMBIA
Ministry of Transportation

- Provincial highways; project funding



METRO
VANCOUVER

- Transit / regional transportation authority; funds regional roads & bikeways
- Land use & growth projections; air quality monitoring



City of
Burnaby



CITY OF
SURREY
the future lives here



Richmond



the
city
of north vancouver

Land use planning; builds & maintains street infrastructure

- 
- **Mobility**
 - **Health**
 - **Safety**
 - **Accessibility**
 - **Affordability**
 - **Public Life**
 - **Resiliency**

Moving People, Moving Goods


Moving People

1. Walking
2. Cycling
3. Transit
4. Taxi / Commercial / Shared
5. Private Auto

Moving Goods & Delivering Services

- Port / Long Distance
- Local Goods / Services
- Emergency



A background photograph showing two men leaning over a table, looking at a large map or aerial photograph. The man on the left is wearing a light blue shirt, and the man on the right is wearing a bright green shirt. They appear to be in a meeting or workshop setting. The map on the table shows a coastal area with a river or bay, some buildings, and green spaces. There are some markers and papers on the table as well.

Stakeholder and Peer Input

Local Experts

Internal Stakeholder Advisory Group

External Stakeholder Advisory Group

Carbon Talks

Plan Consultants

International Peer Review

Strong Endorsement from International Peer Review

"I have read dozens of such plans... Vancouver would rank in the top decile of sustainable urban transportation plans from around the world."

Anthony Perl, Director of SFU Urban Studies Program

"... we would strongly encourage your mayor and council to formally adopt the Transportation 2040 plan... a comprehensive yet concise blueprint... that would serve citizens and visitors well."

Tom Miller, Portland Transportation Director

"... reaches for ambitious yet realistic targets on mode share.... a very impressive, rather complete and comprehensive approach to encouraging cycling in Vancouver."

Neils Tørsløv, Director of Traffic Department, Copenhagen

"... a very thoughtful and useful document...

I see the goals and policies as both admirable and desirable."

Glen Weisbrod, Economic Development Research Group President

"... an inspirational guide... reasonable, comprehensive and well written... [It] includes almost every good idea I have ever heard about transportation."

Donald Shoup, UCLA Professor, Parking Expert and Author

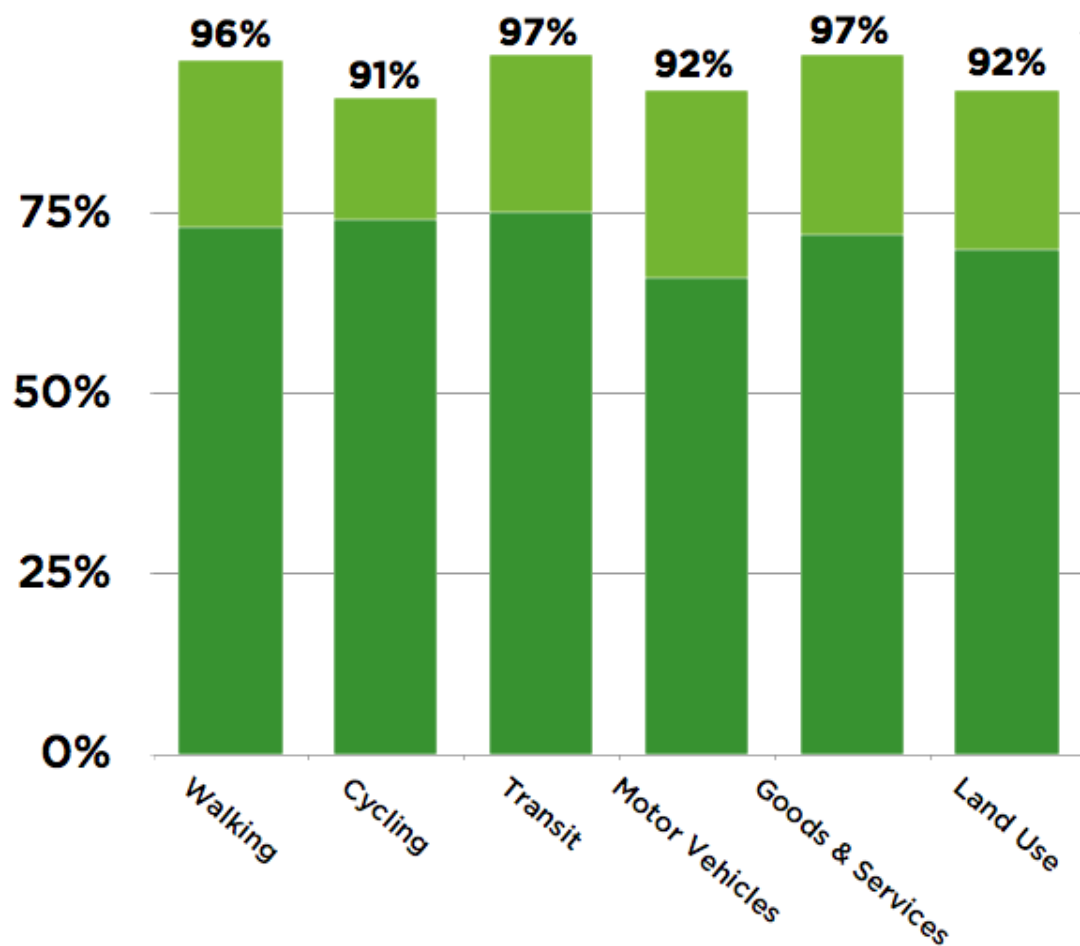
A photograph of a public consultation session. Several people are gathered around a large table outdoors, looking at a large drawing or map. A man with sunglasses is on the left, pointing at the drawing. A woman with curly hair is on the right, looking at the drawing. A young boy in a blue shirt is in the foreground on the right. The background shows a sunny outdoor setting with other people walking.

Public Consultation

Phase 1 (2011): Listening and Learning
8,000+ participants

Phase 2 (2012): Directions and Discussion
10,000+ participants

Strong Public Support



Over **90%**
support or
conditional
support for
draft
directions.

■ Support ■ Support with Refinements

Directions

Land Use

Walking

Cycling

Transit

Motor Vehicles

Goods and Services

Education, Encouragement, Enforcement

LAND USE

support **shorter trips &
sustainable transportation
choices**

Integrating Land Use and Streets



Land Use

Importance of Good Urban Design



WALKING

make walking

safe, convenient &

delightful

support a

vibrant public life

Public Spaces within Street Right of Way: VIVA Vancouver Activations





Address **gaps** in the pedestrian network

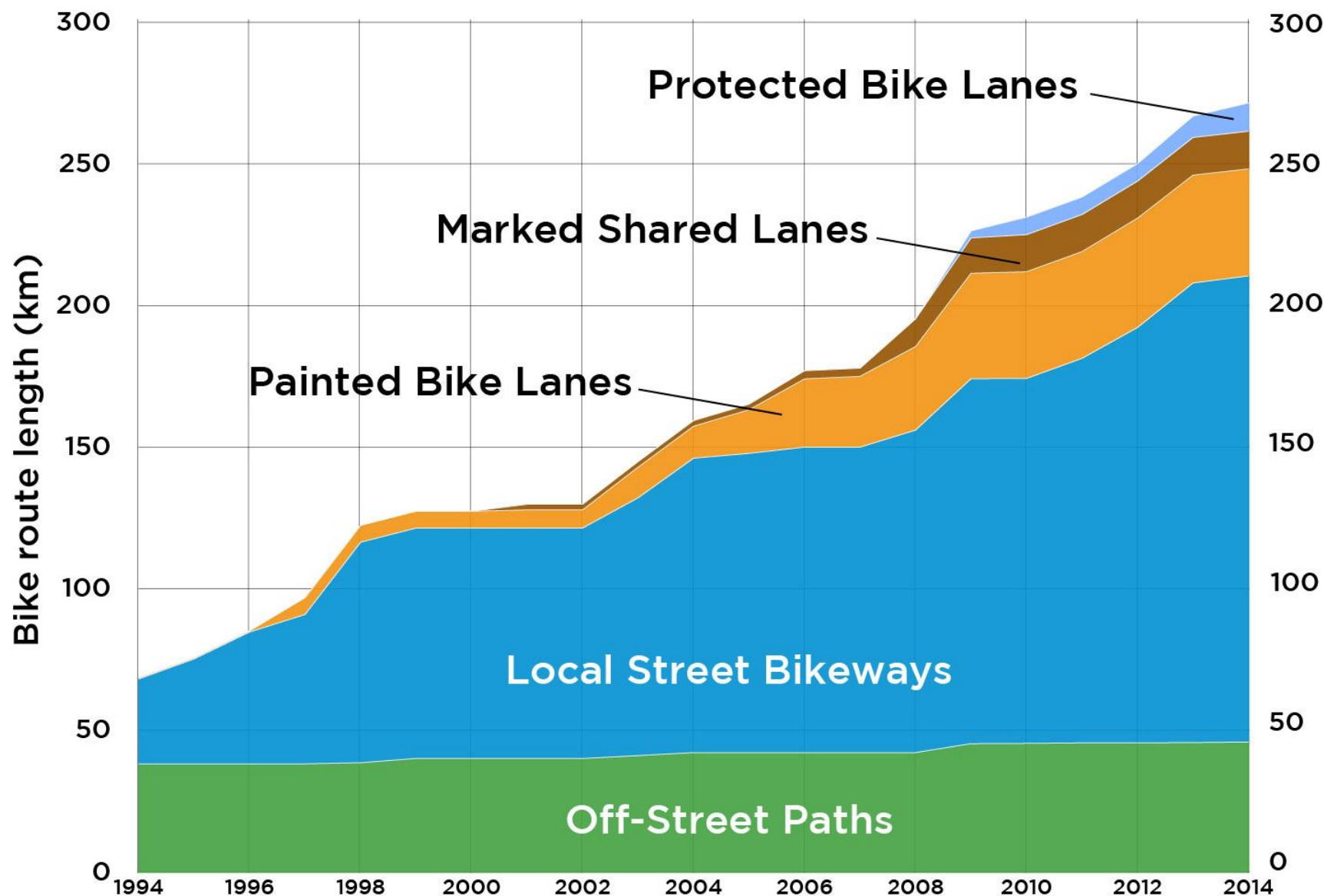


Address **gaps** in the pedestrian network

CYCLING

make cycling
safe, convenient,
comfortable & fun
for people of
all ages and abilities

Vancouver's Cycling Network – Last 20 years



Before

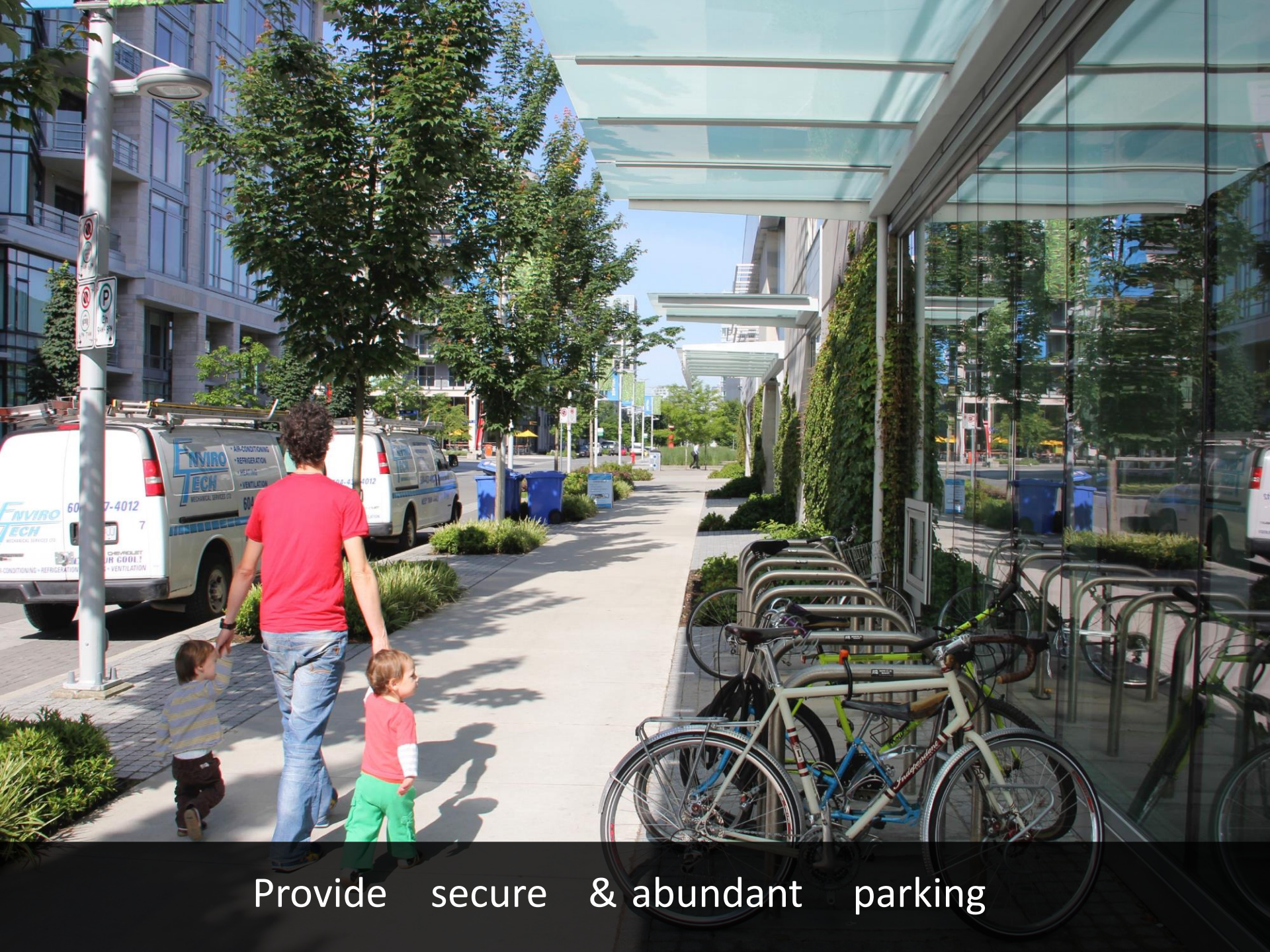


After



Build routes that are **comfortable & convenient**





Provide secure & abundant parking

TRANSIT

increase capacity

ensure service is

**fast, frequent, reliable,
accessible & comfortable**



Advance local and rapid transit improvements

MOTOR VEHICLES

improve **safety** &
manage **congestion**

make it easier to **drive less**

accelerate shift to **low
carbon vehicles**



Support **car sharing** and other **TDM** programs

GOODS & SERVICES

support a **thriving
economy** & major port
while **reducing impacts**

ensure **effective
emergency response**



Photo Credit: Christoph Prevost

Support different scales of movement

3 Es

encourage sustainable
choices

educate all road users to
promote safety & respect

enforce to target
dangerous conduct

**Before you think
only other drivers
cut off cyclists,
have a word
with yourself.**

preventable.ca




CITY OF
VANCOUVER

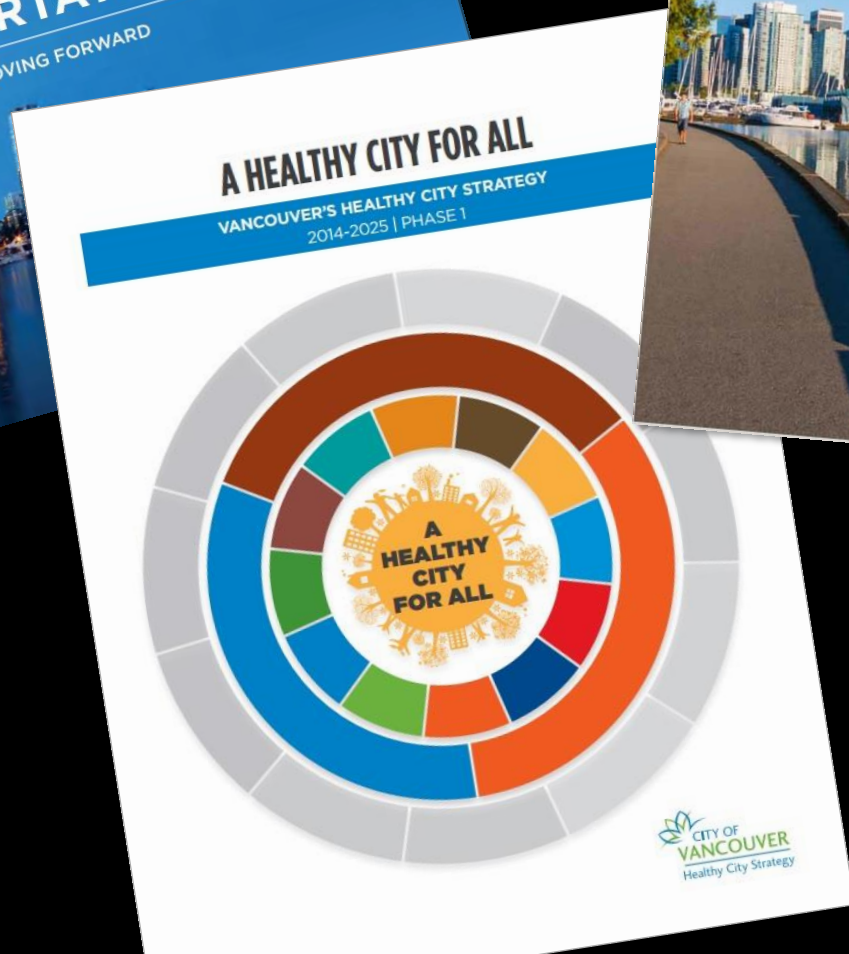
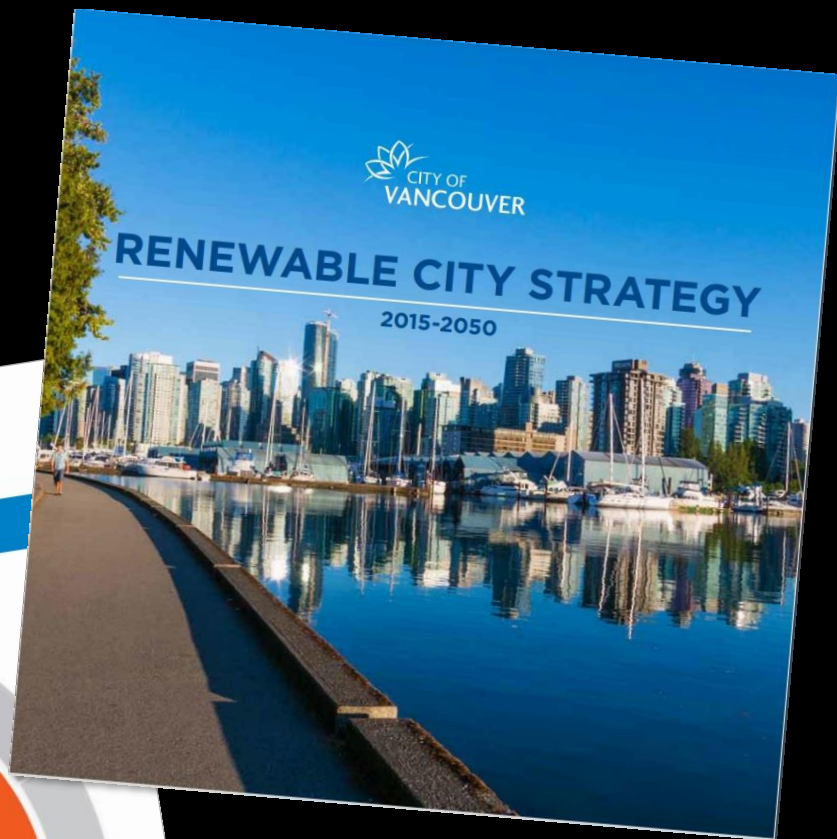
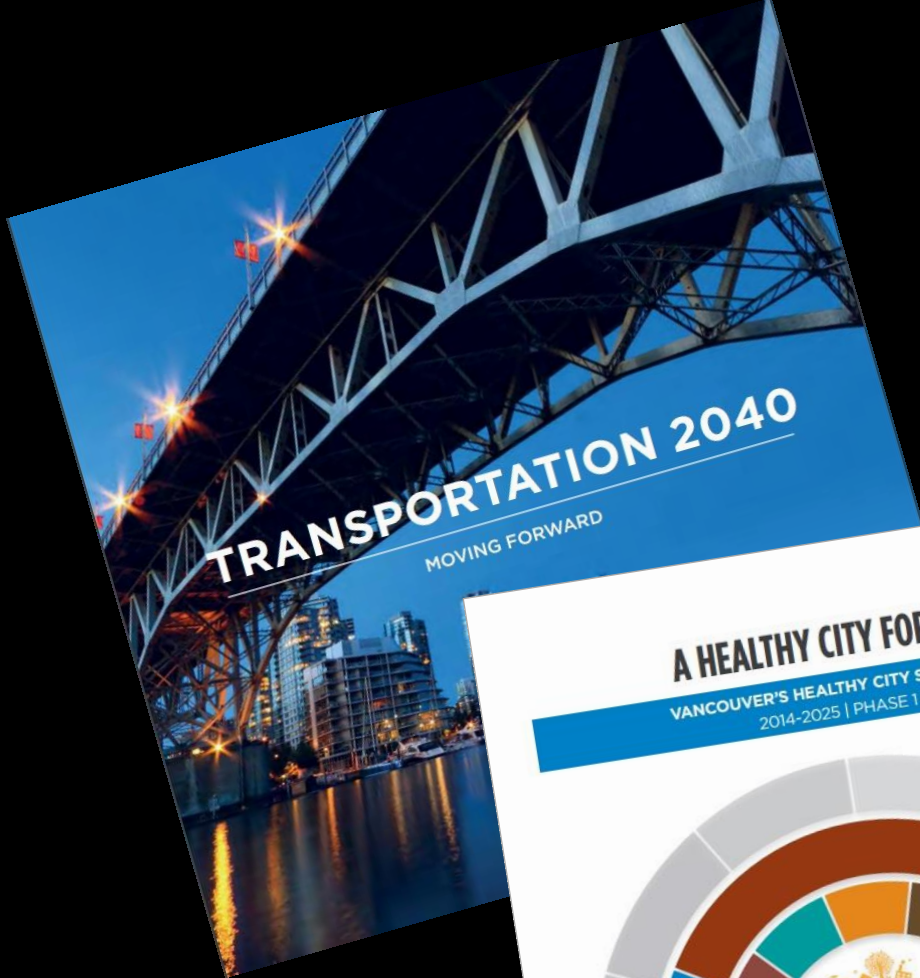
PracticeRoadSafety.ca



Chapter 5: Implementing Transportation 2040

IMPLEMENTATION PRINCIPLES

- **Invest wisely**
- **Think big picture**
- **Be opportunistic**
- **Innovate**
- **Monitor, learn, adapt**
- **Work together**



Healthy City Action Plan



Goal: Getting Around

Vancouverites enjoy safe, active, and accessible ways of getting around the city



City Successes	Challenges
<ul style="list-style-type: none">• Use of sustainable transport• Expanded walking and cycling infrastructure	<ul style="list-style-type: none">• Funding for public transit• Increased walking and cycling requires behaviour change

Target:

Make the majority (over 50%) of trips on foot, bike, and transit
[Greenest City & Transportation 2040]

Action:

Work with partners to implement City's **Active Transportation Promotion and Enabling Plan**, with annual report cards on progress

- Lead: Active Transportation



Active Transportation Promotion & Enabling Plan



Congratulations!

You're **one in a million** people to cycle over the Burrard Bridge so far in 2015!

vancouver.ca/bikevancouver



One millionth rider on Burrard Bridge bike lane
in 2015 represents major milestone

BY CHRIS & MELISSA BRUNTLETT
9:47 PM PDT, SAT AUGUST 22, 2015

1.3k SHARES

Share on Facebook (1.1k)

NEWS

OPINIONS & RANTS

Share on Twitter (168)

TRANSPORTATION

Comments

Goal: Environments to Thrive In

Vancouverites have the right to a healthy environment and equitable access to liveable environments in which they can thrive.

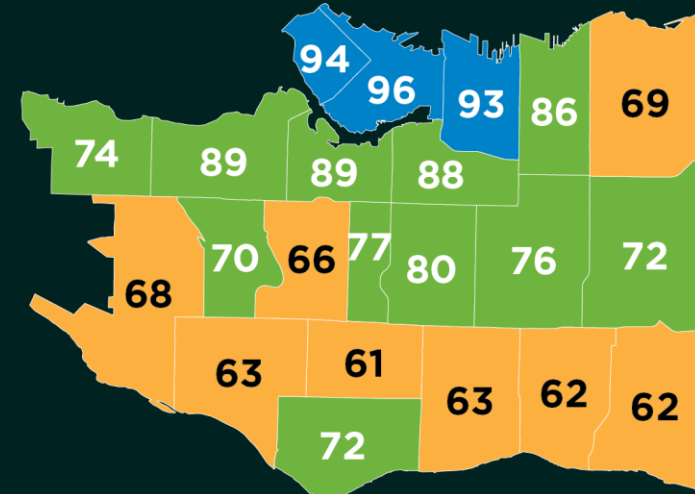
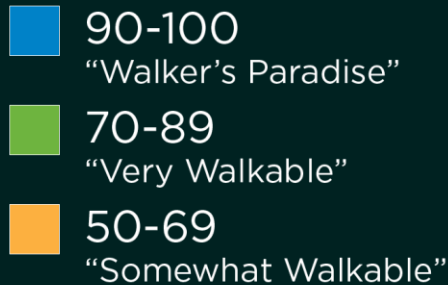


City Successes	Challenges
<ul style="list-style-type: none">Clean air and waterMost walkable large city in Canada	<ul style="list-style-type: none">Climate change vulnerabilitiesIncreasing walkability in some residential neighbourhoods

Target:

Every Vancouver neighbourhood has a **Walk Score of at least 70** (most errands can be accomplished on foot)

Walk Score 22 Local Areas



Data Source: walkscore.com, 2014

Safe & Active Routes to School Program

Walk and Wheel to School!

Grab your sneakers, bikes, skates and scooters!



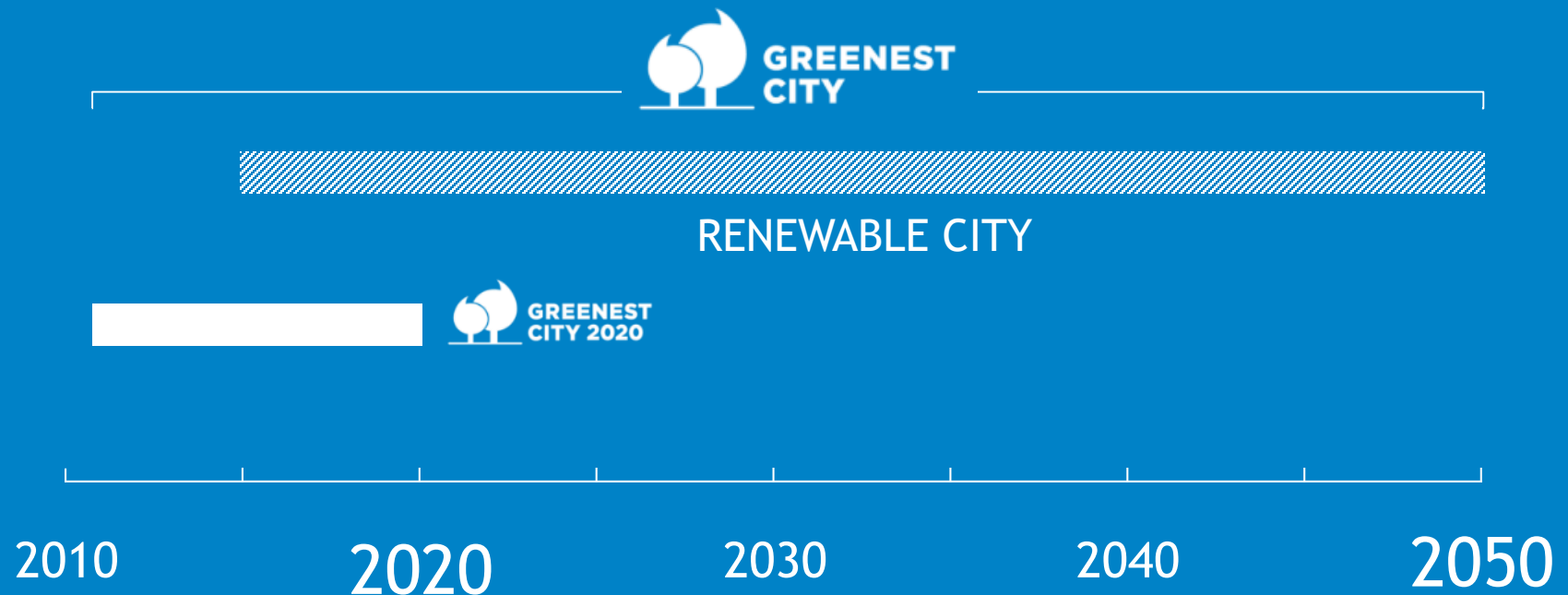
www.healthyschoolsbc.ca

 **dash**
PARTNERING FOR HEALTHIER SCHOOLS

RENEWABLE CITY STRATEGY

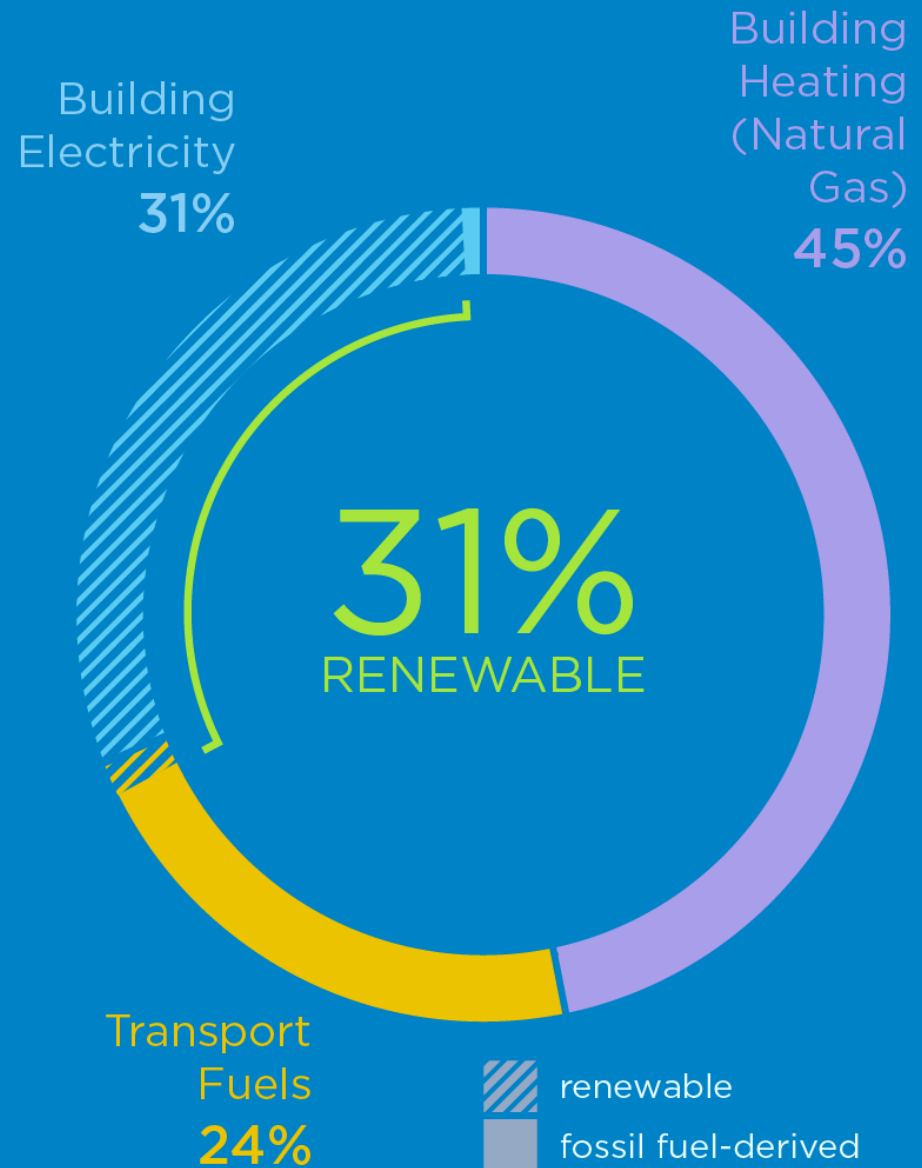
2020 AND BEYOND

In November 2015, City Council renewed its commitment beyond 2020 to achieving 100% renewable energy use by 2050.



We can do this.

31% of Vancouver's energy is already renewable.



ENERGY USED IN
VANCOUVER IN 2014



EV ECOSYSTEM STRATEGY

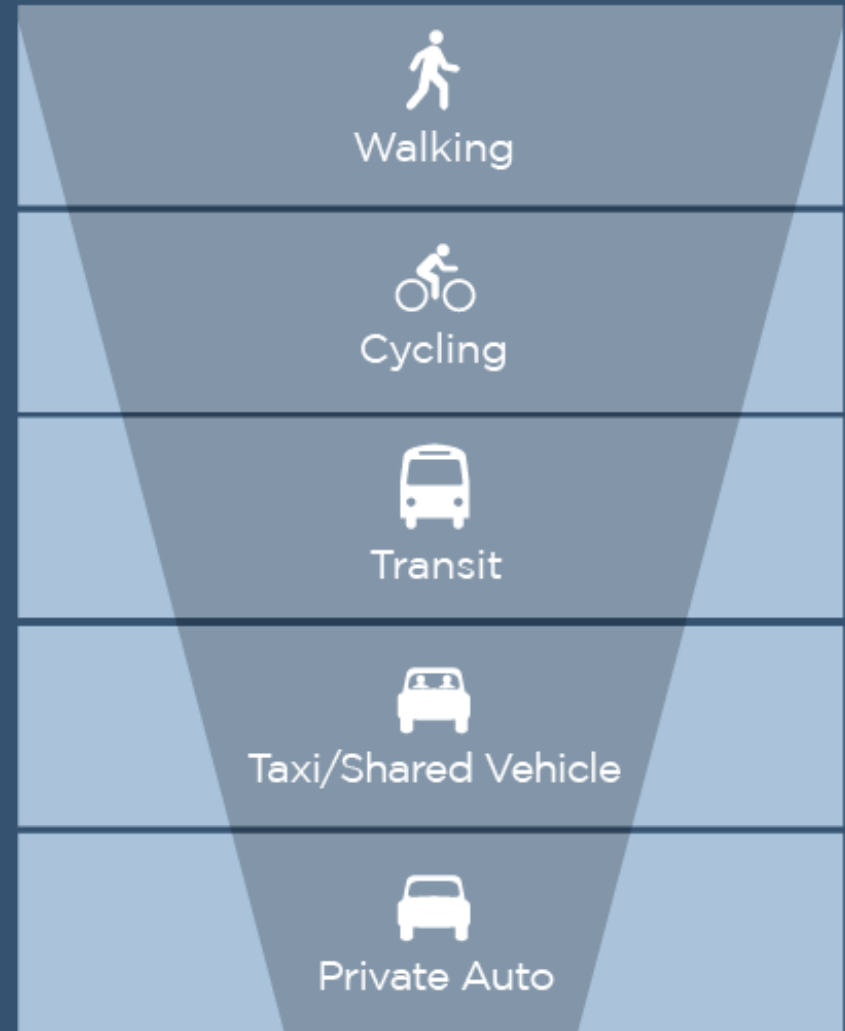
Sustainability Group
REPORT TO COUNCIL
November 16, 2016

CITY POLICY CONTEXT

“We can make a big difference by prioritizing sustainable transportation choices that use renewable fuels or use fuels more efficiently (transit, ride-sharing, and low-carbon vehicles), or don’t use fuel at all (walking, cycling).”

-Transportation 2040

EV charging infrastructure supports these areas



85% of Vancouverites

purchasing a new car in the next 5 years
plan on, or would consider, an **EV**.

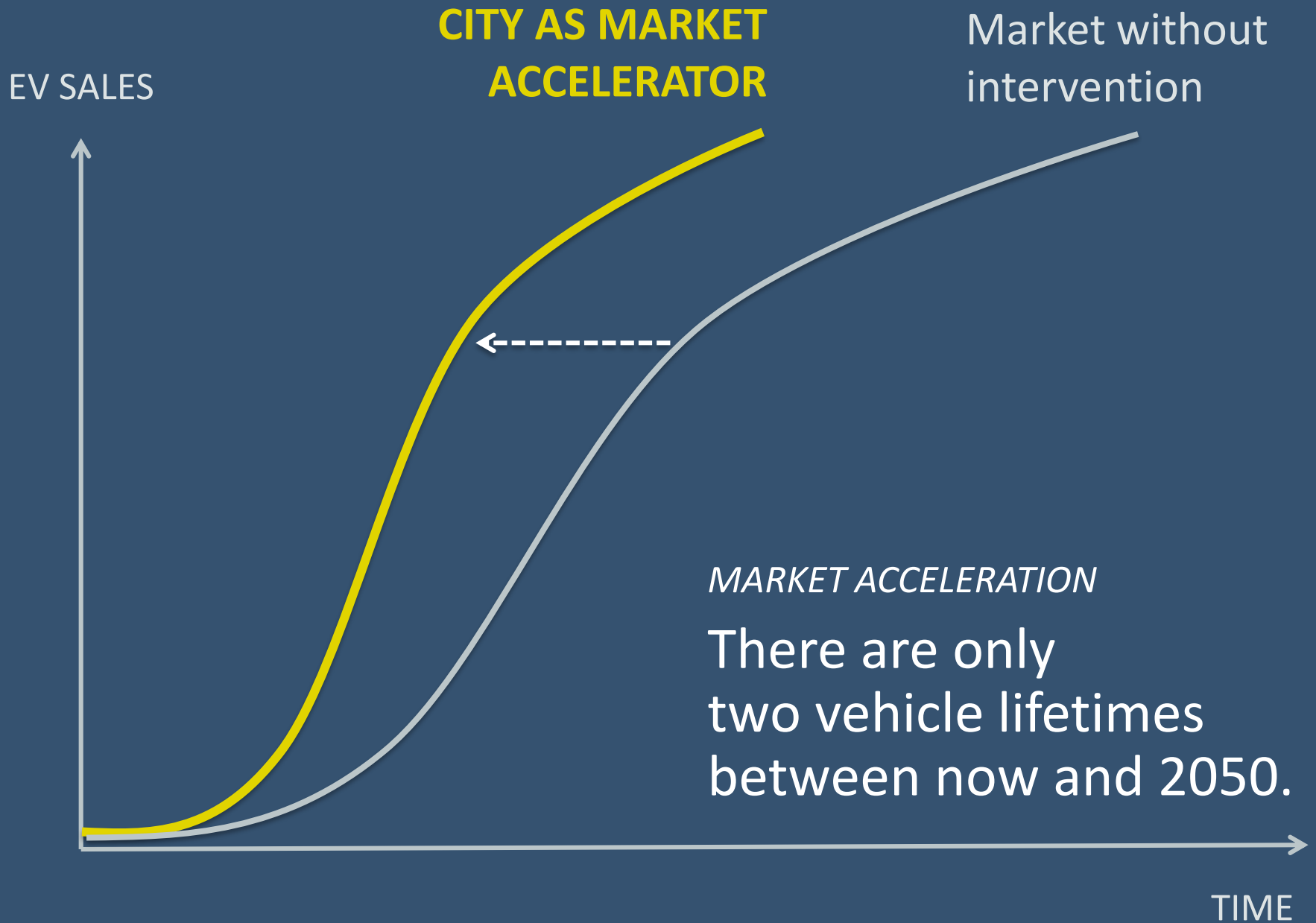


A close-up photograph of a ChargePoint electric vehicle charging station. The station is white with a black charging cable and a black charging head. The charging head features a green triangular logo with the text "ChargePoint Network" inside. The background is slightly blurred, showing green foliage and a blue sky.

ChargePoint
Network

OBJECTIVE

Formalize the City's role as a **market incubator** and as a provider of access to EV charging—a community amenity—over the next five years.



BUSINESS CASE FOR PUBLIC CHARGING

Increase
access to
charging

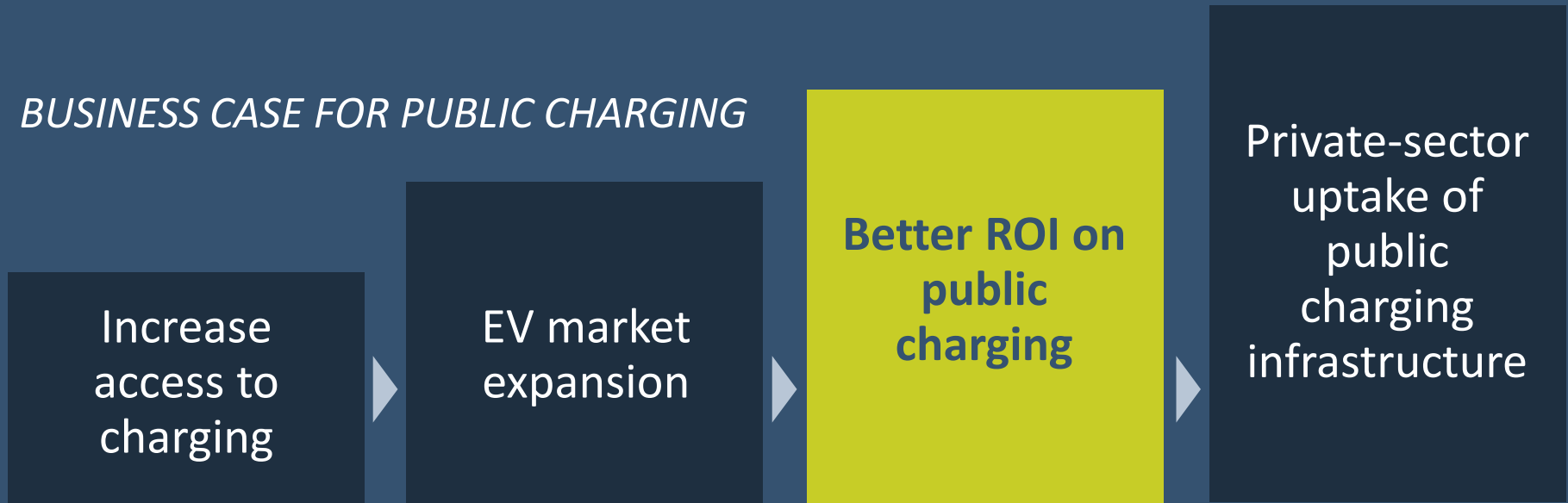
EV market
expansion

**Better ROI on
public
charging**

Private-sector
uptake of
public
charging
infrastructure



BUSINESS CASE FOR PUBLIC CHARGING



Estimated # of EVs in Vancouver



~1,000

in 2016

~30,000

by mid-2020s

~200,000

by 2050

THE EV ECOSYSTEM

Charging needs by neighbourhood and building use

Integrated and adaptable; part of City planning process;

All parking stalls in 1 and 2 family homes equipped with Level 2 circuit

Level 2 charging expanded to all public facing City properties



Maintain focus on walking cycling and transit

Labelling of EV charging circuits improves visibility to new residents

Preferential parking rules under development

Walking + Cycling in Vancouver

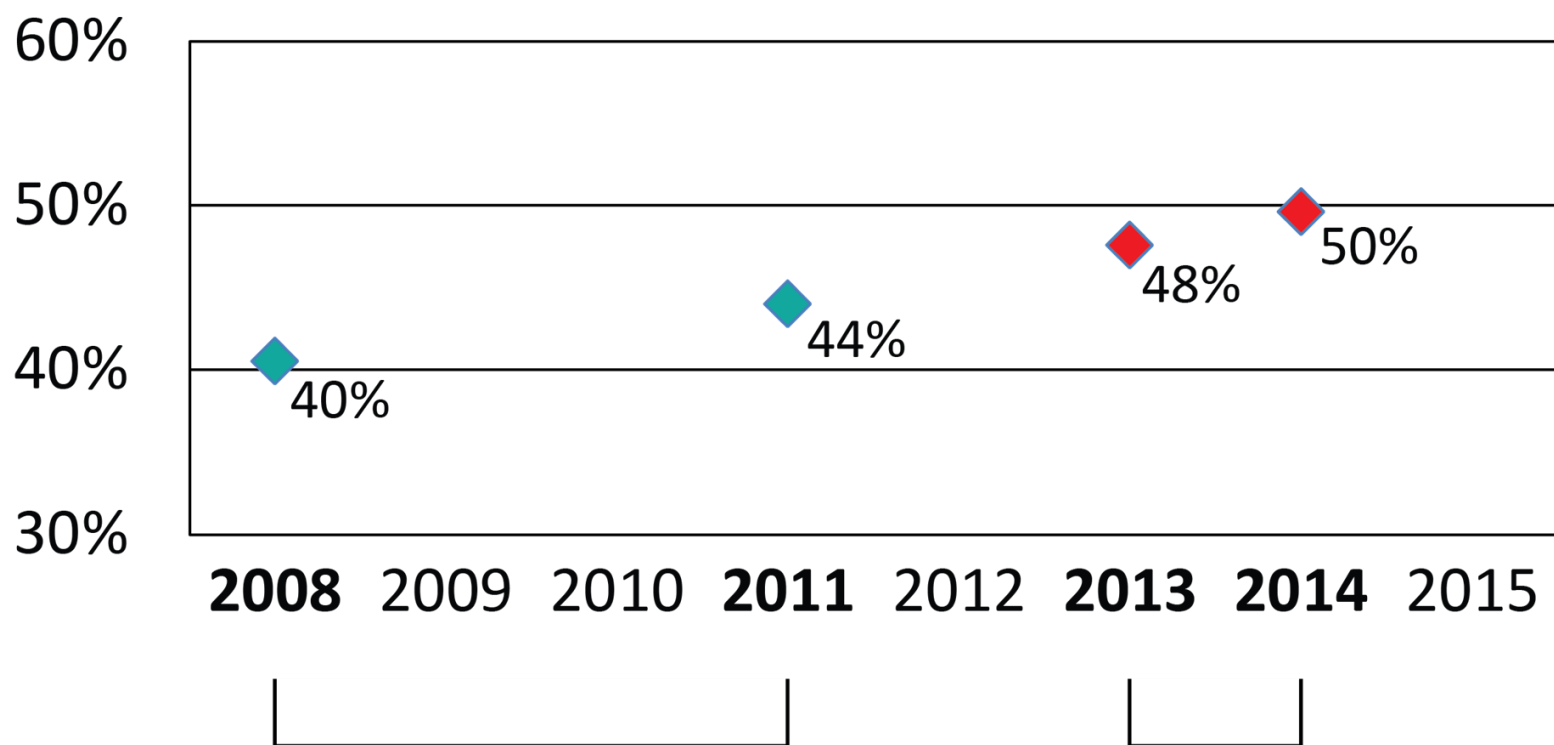
2015 Report Card



How Vancouverites are Getting Around



% of People Walking, Cycling, and Taking Transit



Source: TransLink Trip Diary

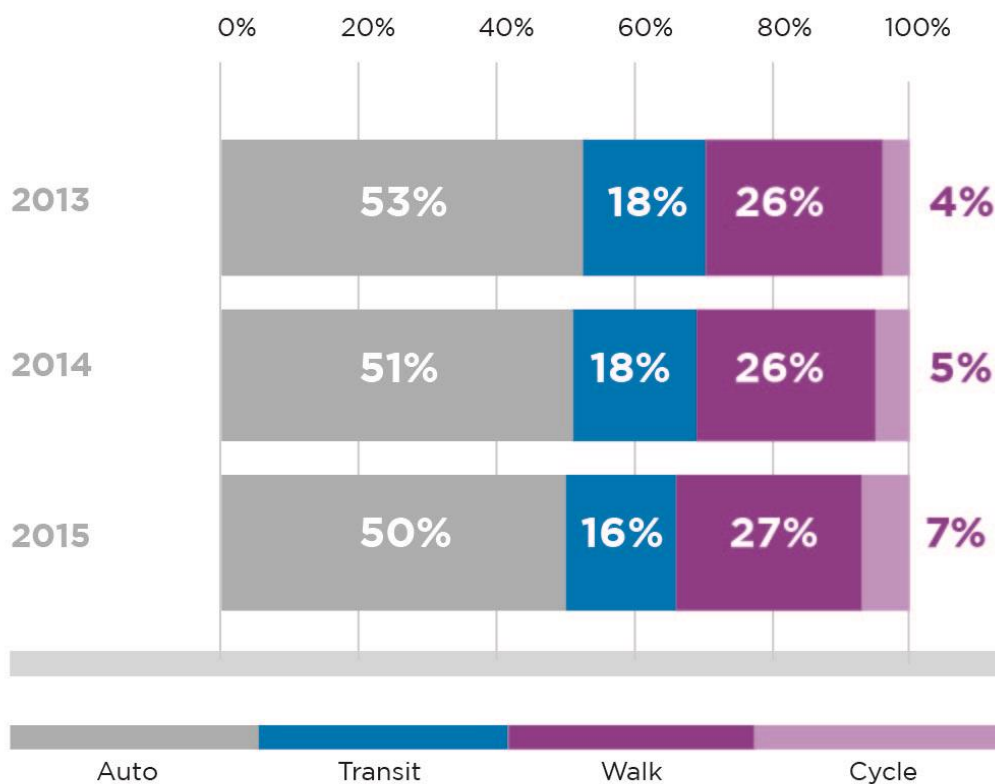
Source: City of Vancouver Panel Survey

How Vancouverites are Getting Around



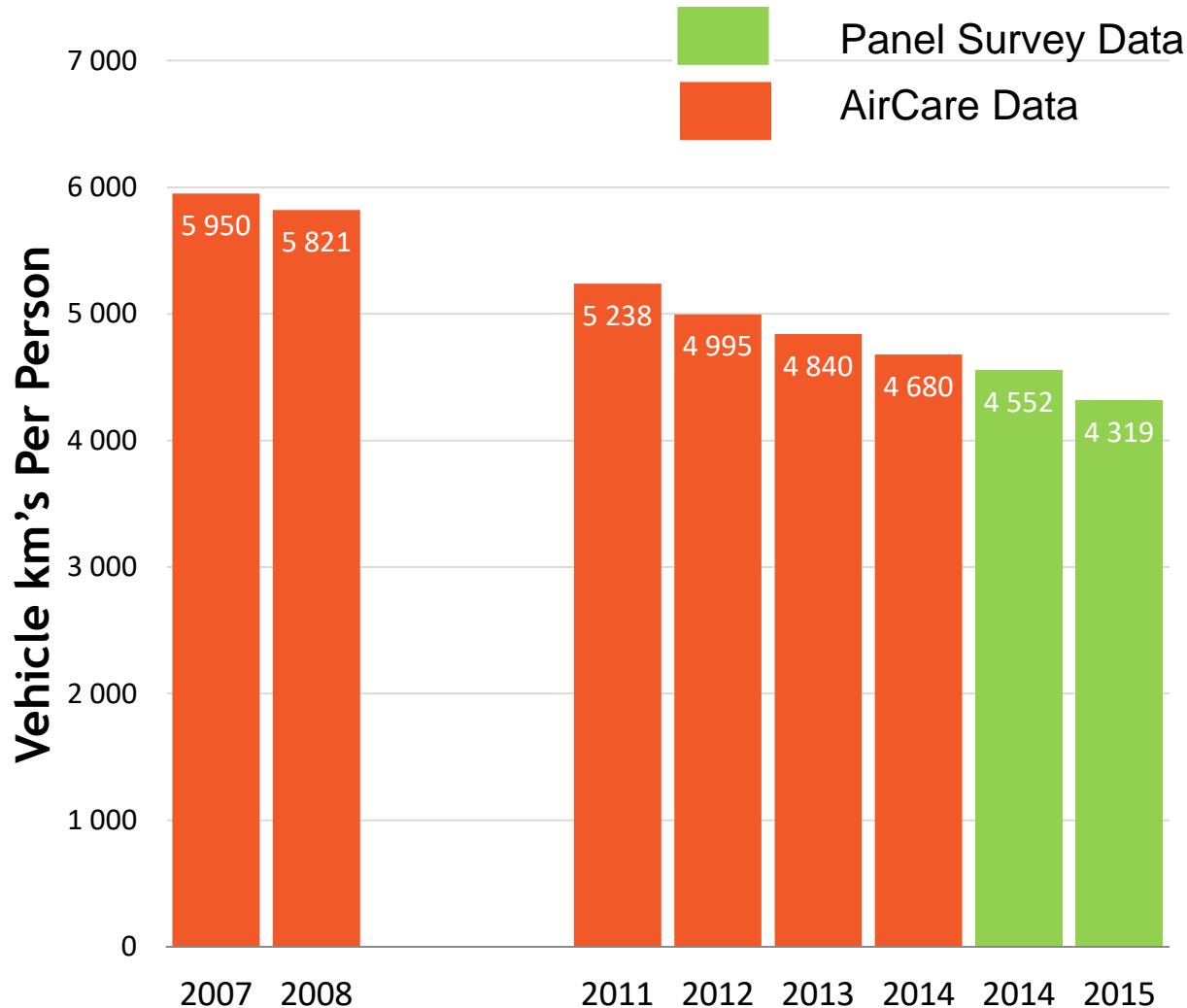
Vancouverites are making more of their trips on foot and by bike every year.

Mode Share for All Trips



Source: 2015 Transportation Panel Survey

How Vancouverites are Getting Around

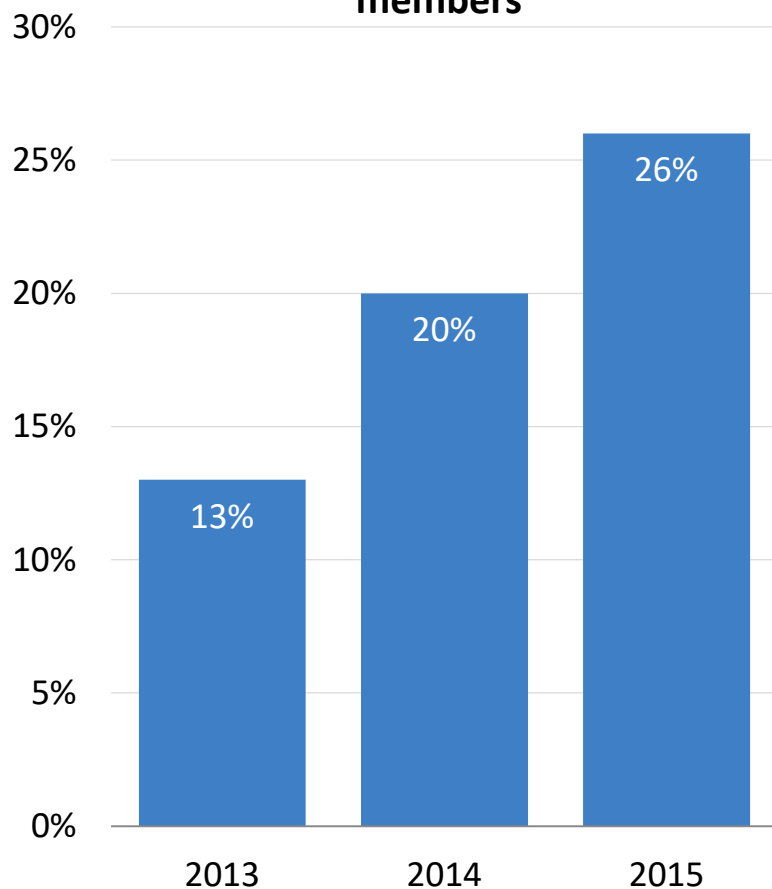


The average annual distance driven per person fell 27% from 2007 to 2015

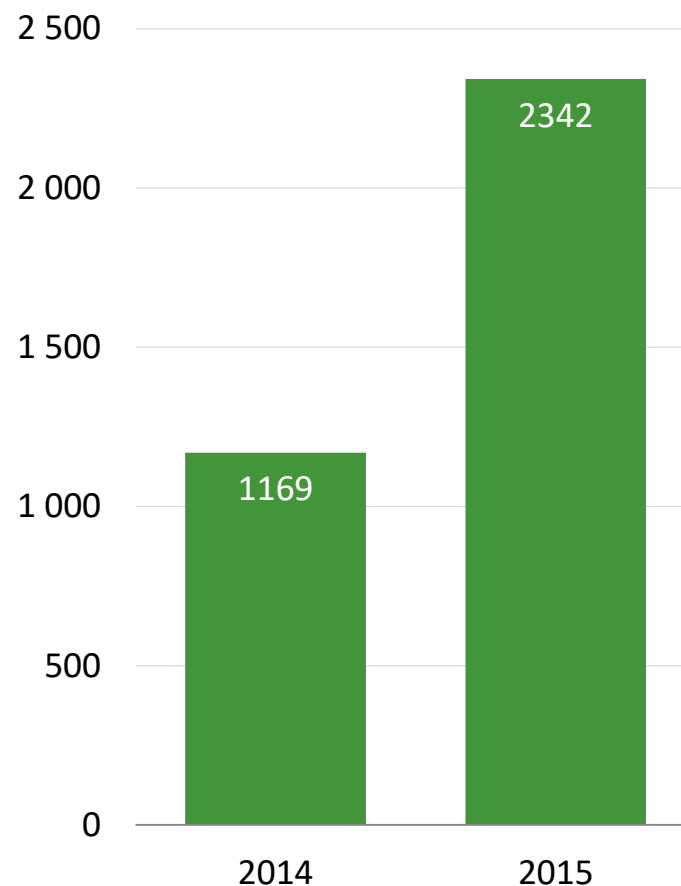
How Vancouverites are Getting Around



% of adults who are Car Share members



Number of Car Share vehicles

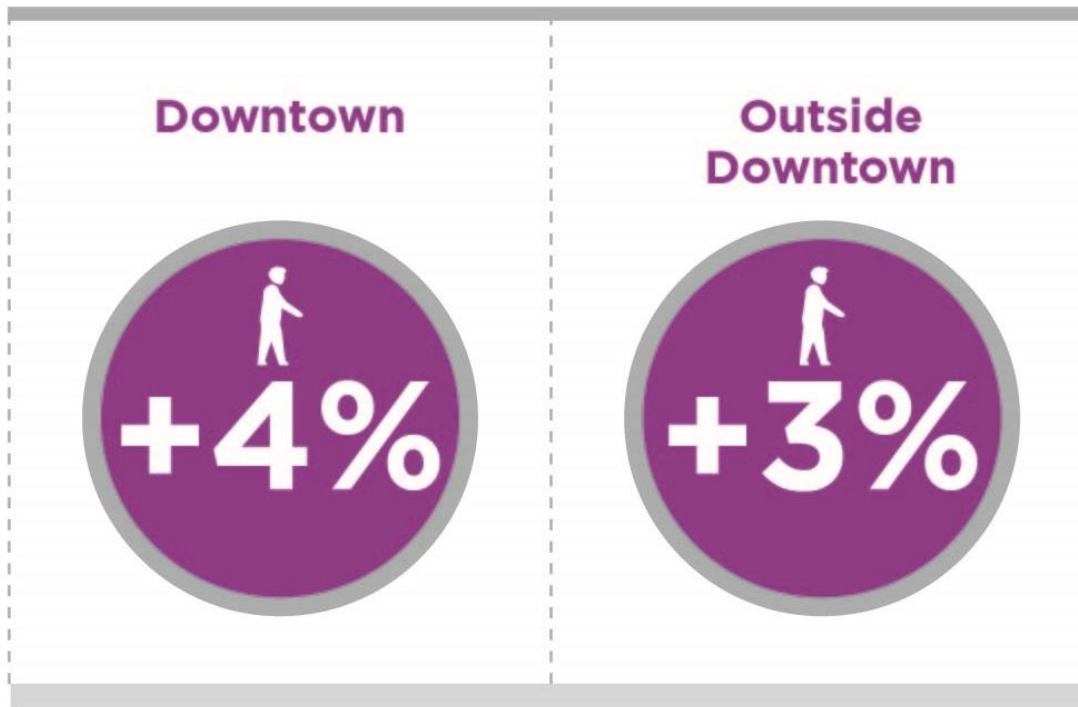


How Vancouverites are Getting Around



Walking Volumes

Change in Pedestrian Volumes, 2008-2013

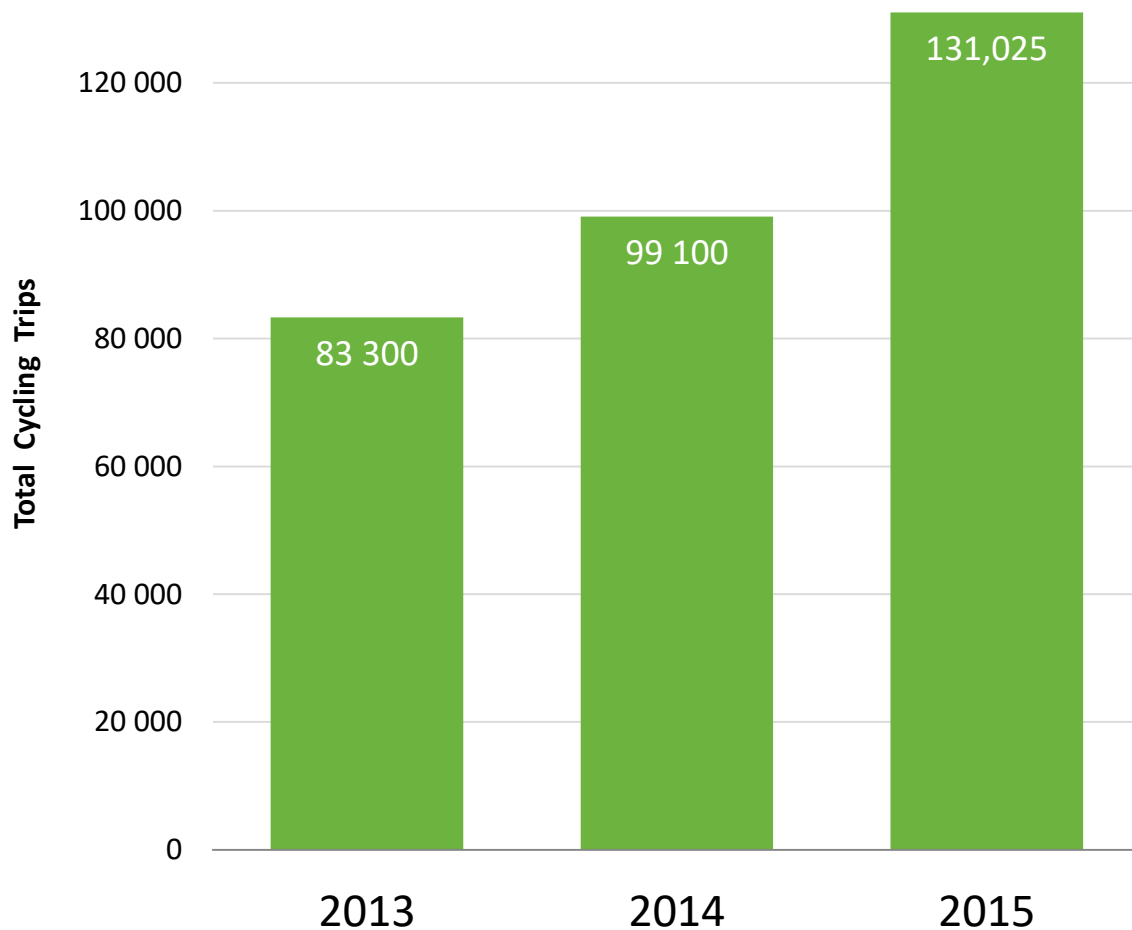


Source: 2013 Pedestrian Survey

How Vancouverites are Getting Around



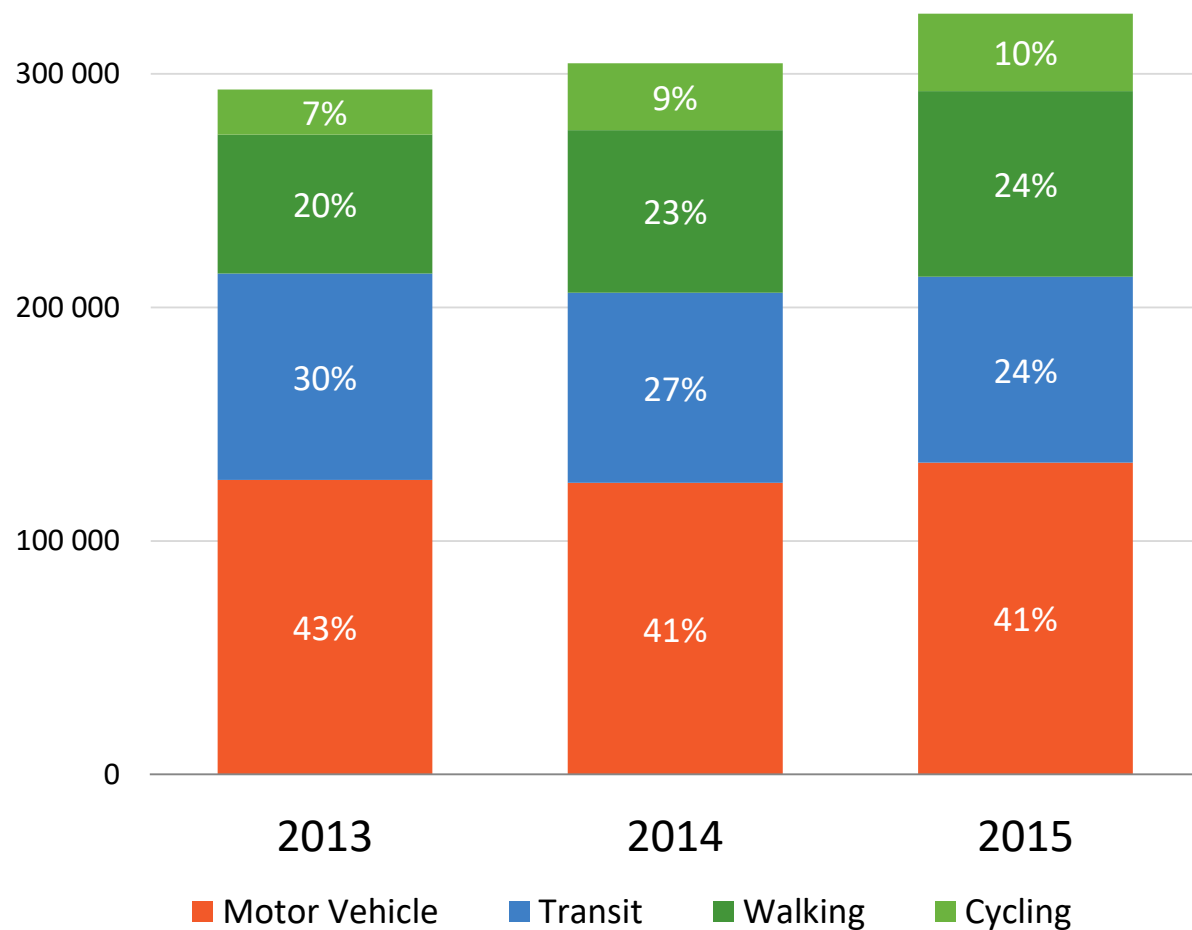
Cycling Volumes



Total cycling trips
increased 32%
from 2014 to 2015

At 2020 target of
7% of all trips

How Vancouverites are Getting Around

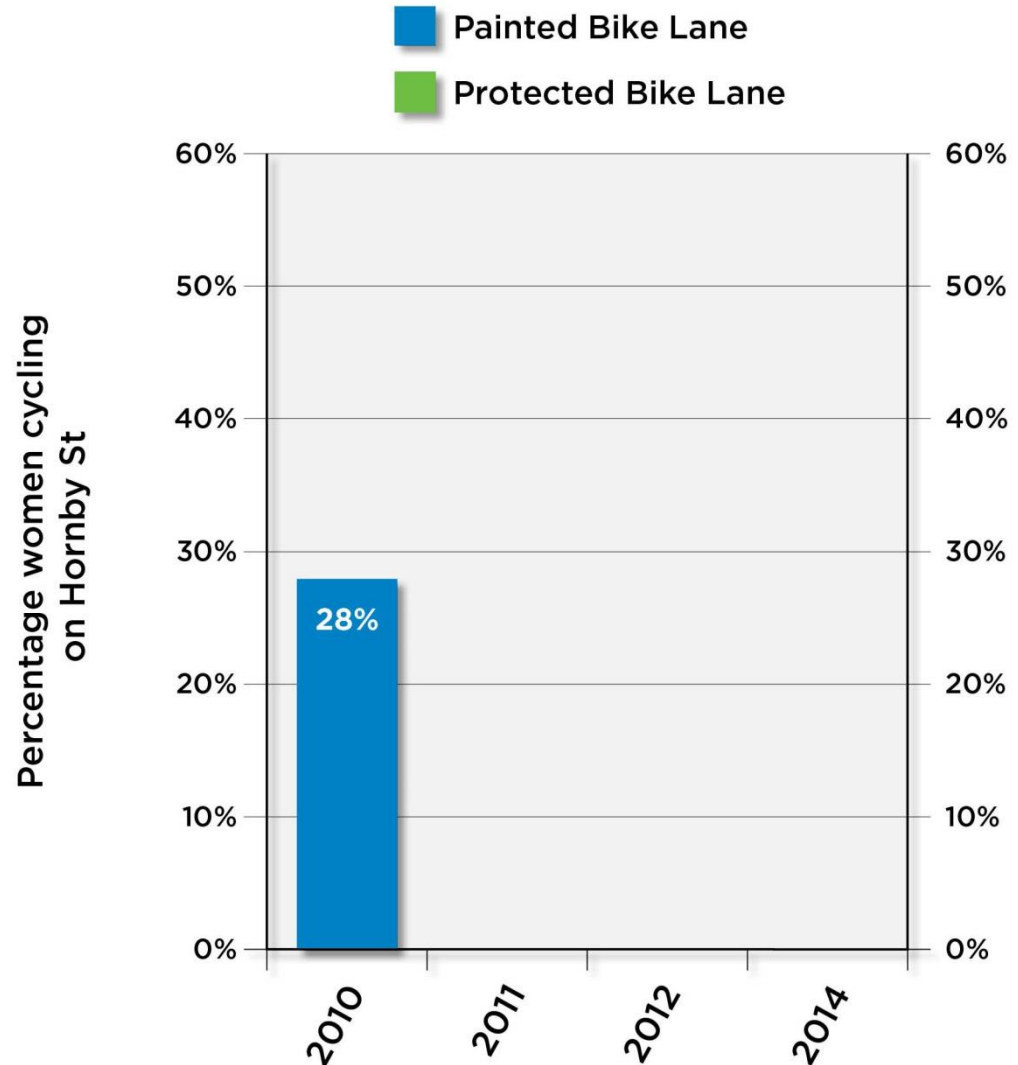


Cycling Travel to work Mode Share at **10%** could be higher than any other North American City over 500k population

How Vancouverites are Getting Around



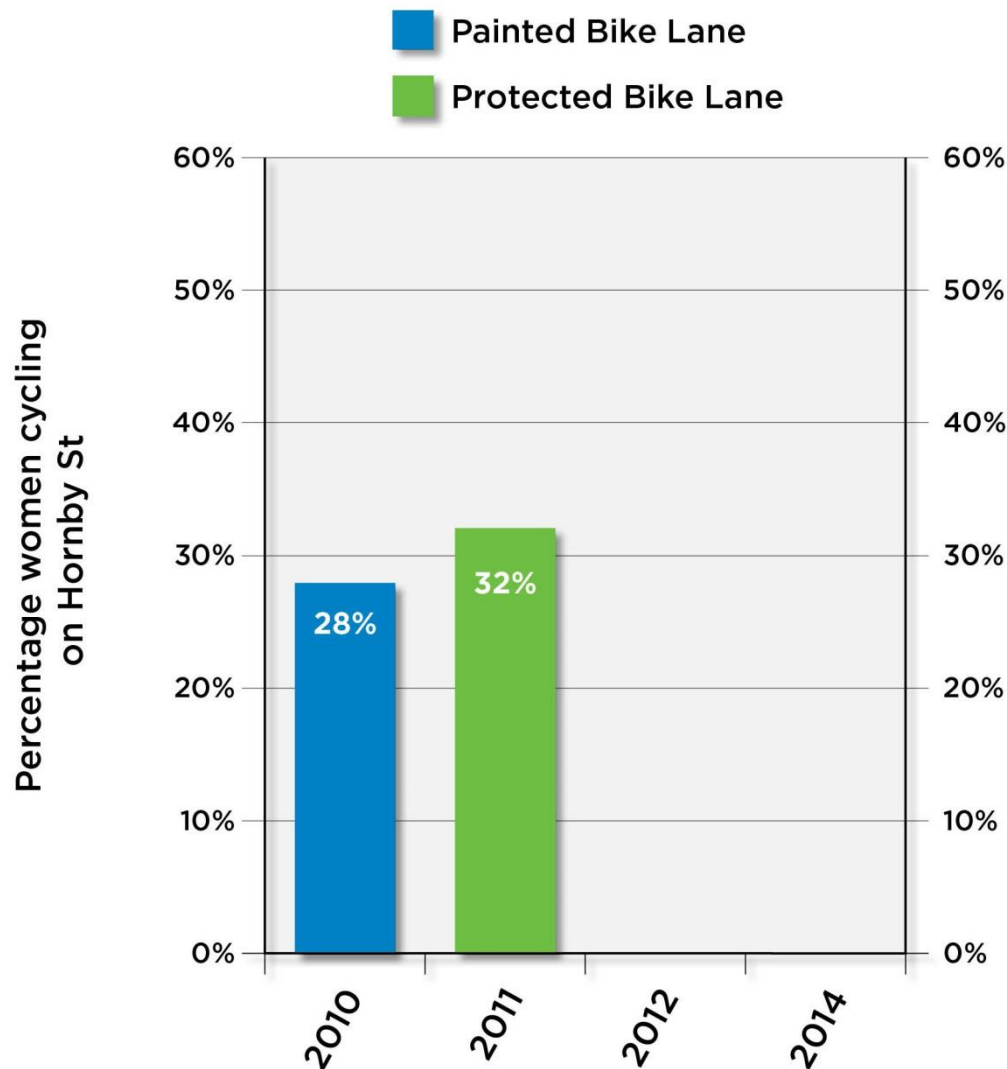
Who is Walking and Cycling in Vancouver?



How Vancouverites are Getting Around



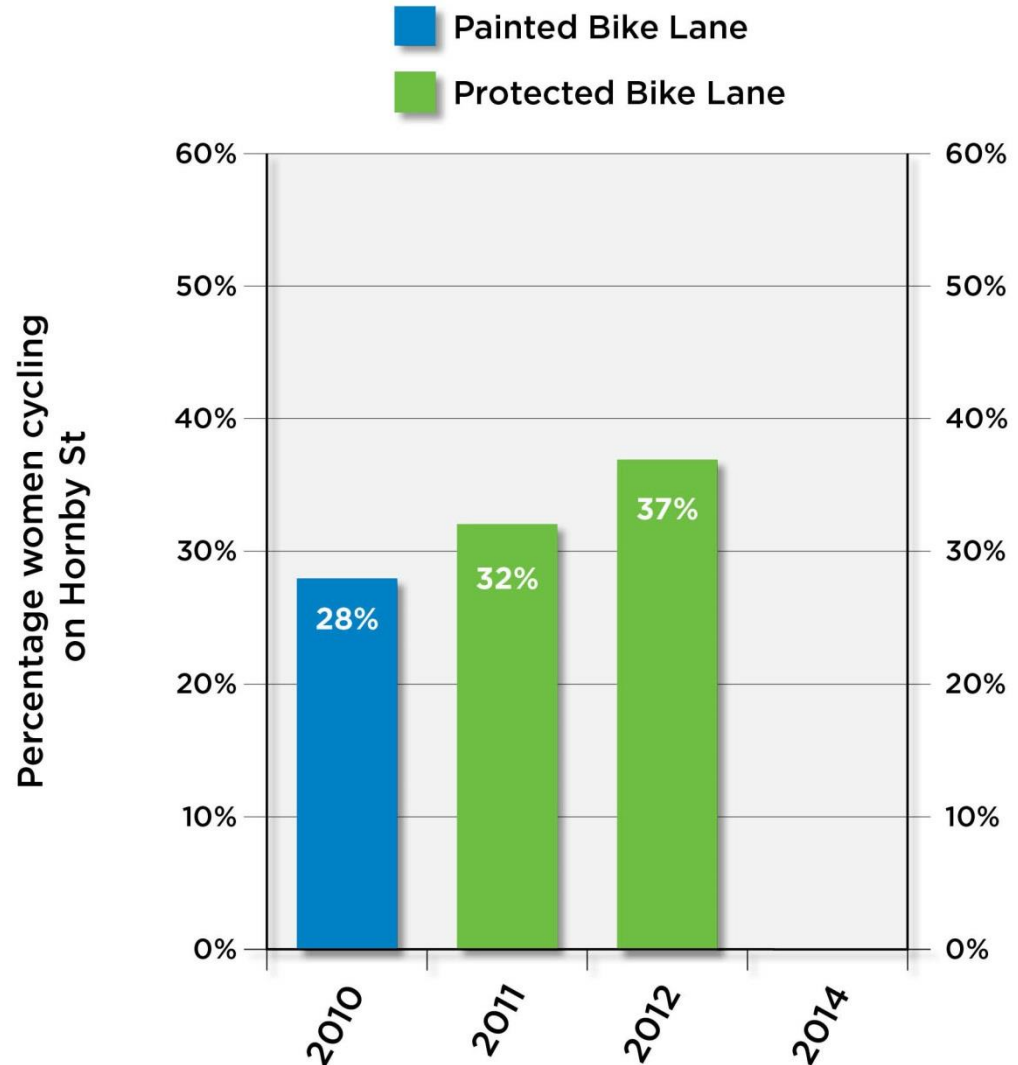
Who is Walking and Cycling in Vancouver



How Vancouverites are Getting Around



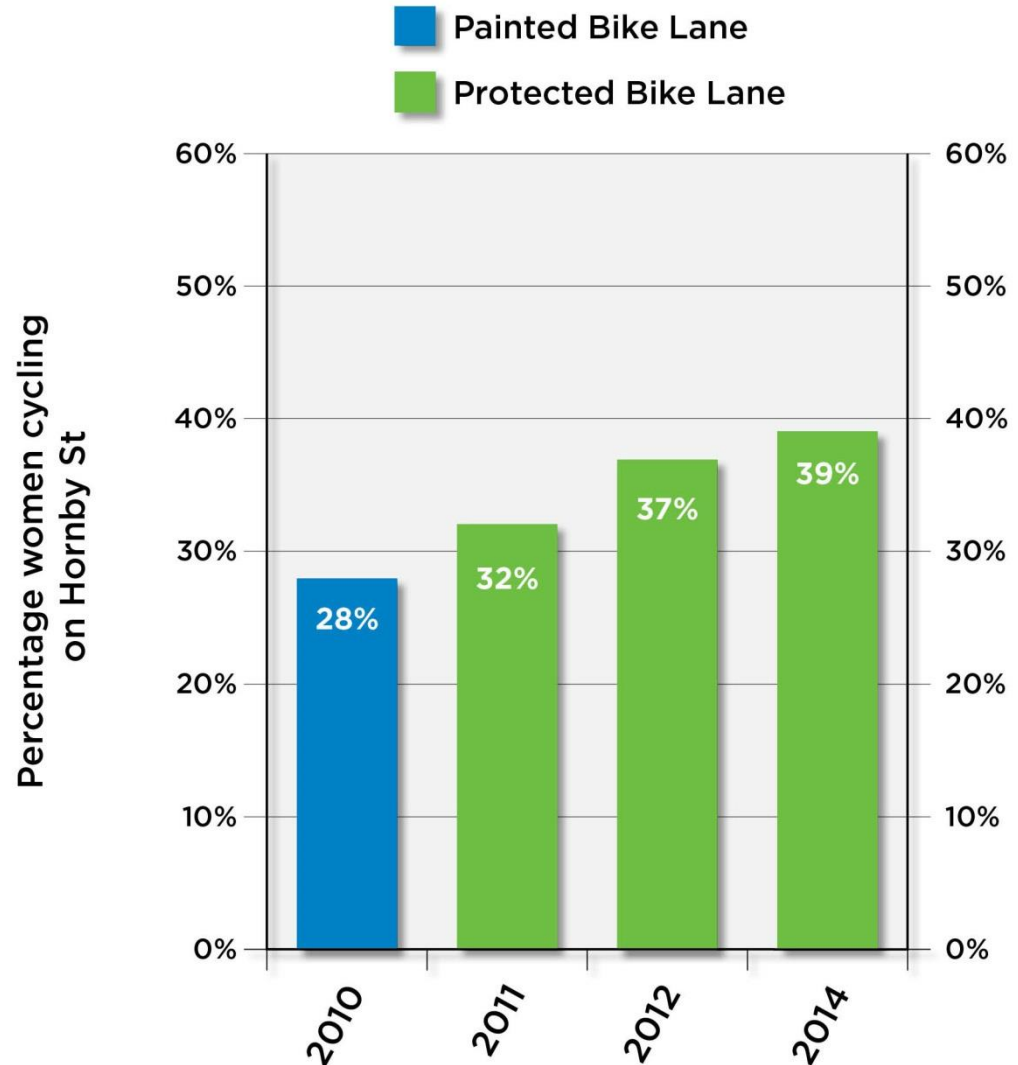
Who is Walking and Cycling in Vancouver



How Vancouverites are Getting Around



Who is Walking and Cycling in Vancouver



Walkability + Bikeability



Designing for all Ages and Abilities



Shared use lane



Painted bike lane



Buffered bike lane



Local street bikeway



Protected bike lane



Off-street pathway

Less Comfortable



More Comfortable



DESIGNING FOR ALL AGES & ABILITIES



Reduce car speeds & volumes



Physically separate users

Walkability + Bikeability



Longest Greenway:
Seaside Greenway



54%

would like to
travel by bicycle
more often.

2015 Transportation Panel Survey

Local Street Bikeway Maintenance



Before Repaving

Photo: Paul Krueger



After Repaving

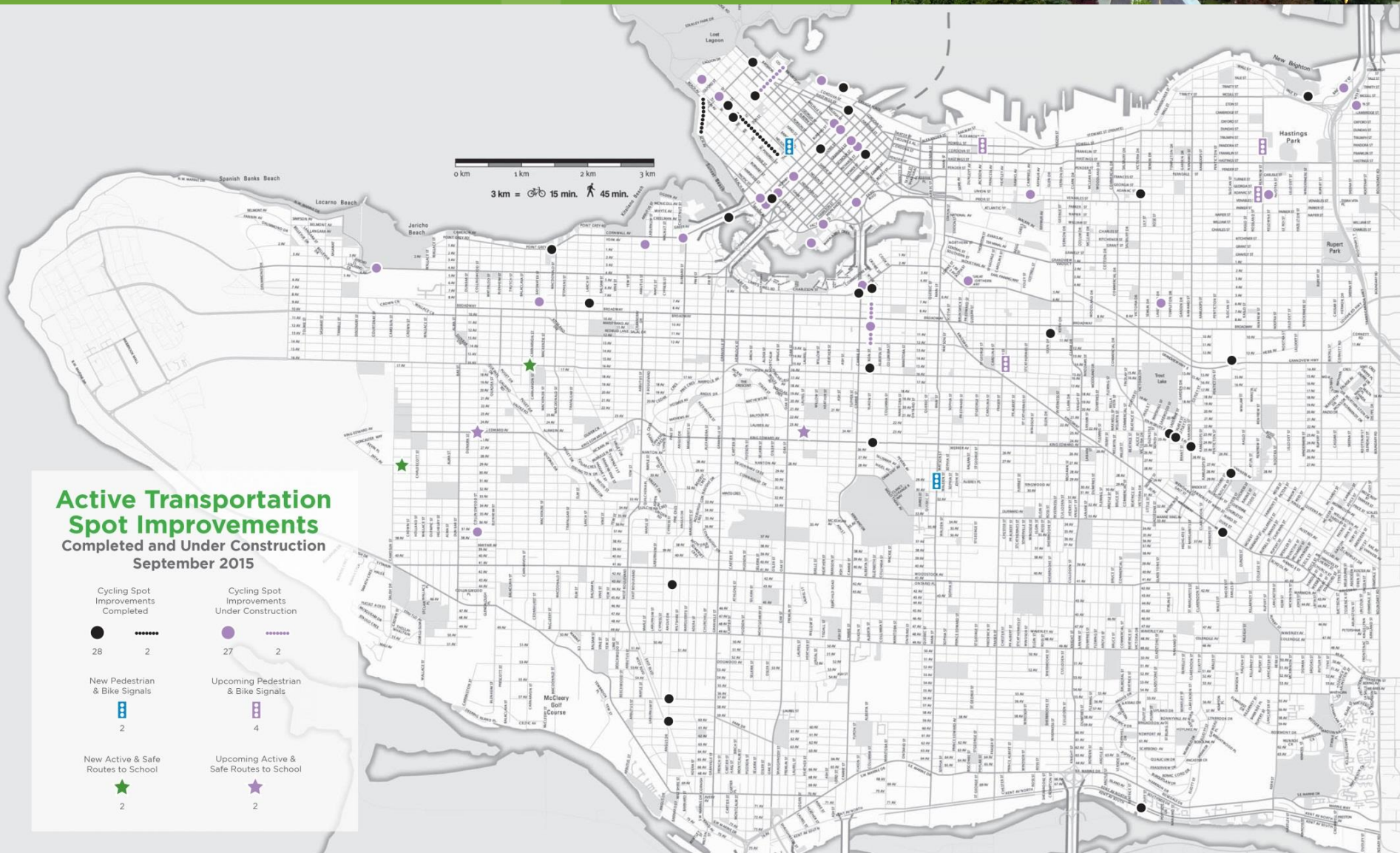
Walkability + Bikeability



Walkability + Bikeability



Walkability + Bikeability



Active Transportation Spot Improvements Completed and Under Construction September 2015

Cycling Spot Improvements Completed

28 2

New Pedestrian & Bike Signals

2

New Active & Safe Routes to School

2

Cycling Spot Improvements Under Construction

27 2

Upcoming Pedestrian & Bike Signals

4

Upcoming Active & Safe Routes to School

2

Walkability + Bikeability

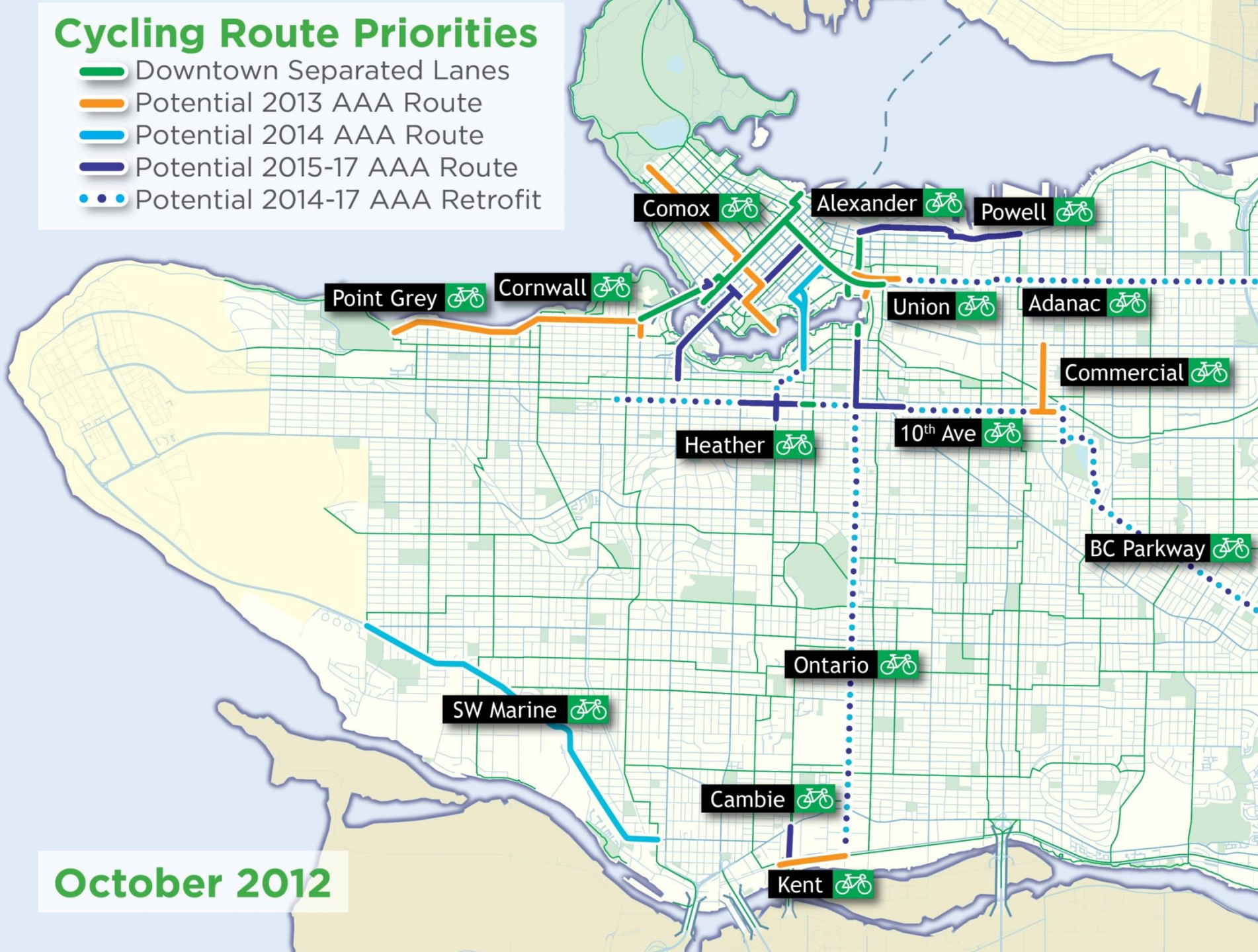


Walkability + Bikeability



Cycling Route Priorities

-  Downtown Separated Lanes
-  Potential 2013 AAA Route
-  Potential 2014 AAA Route
-  Potential 2015-17 AAA Route
-  Potential 2014-17 AAA Retrofit

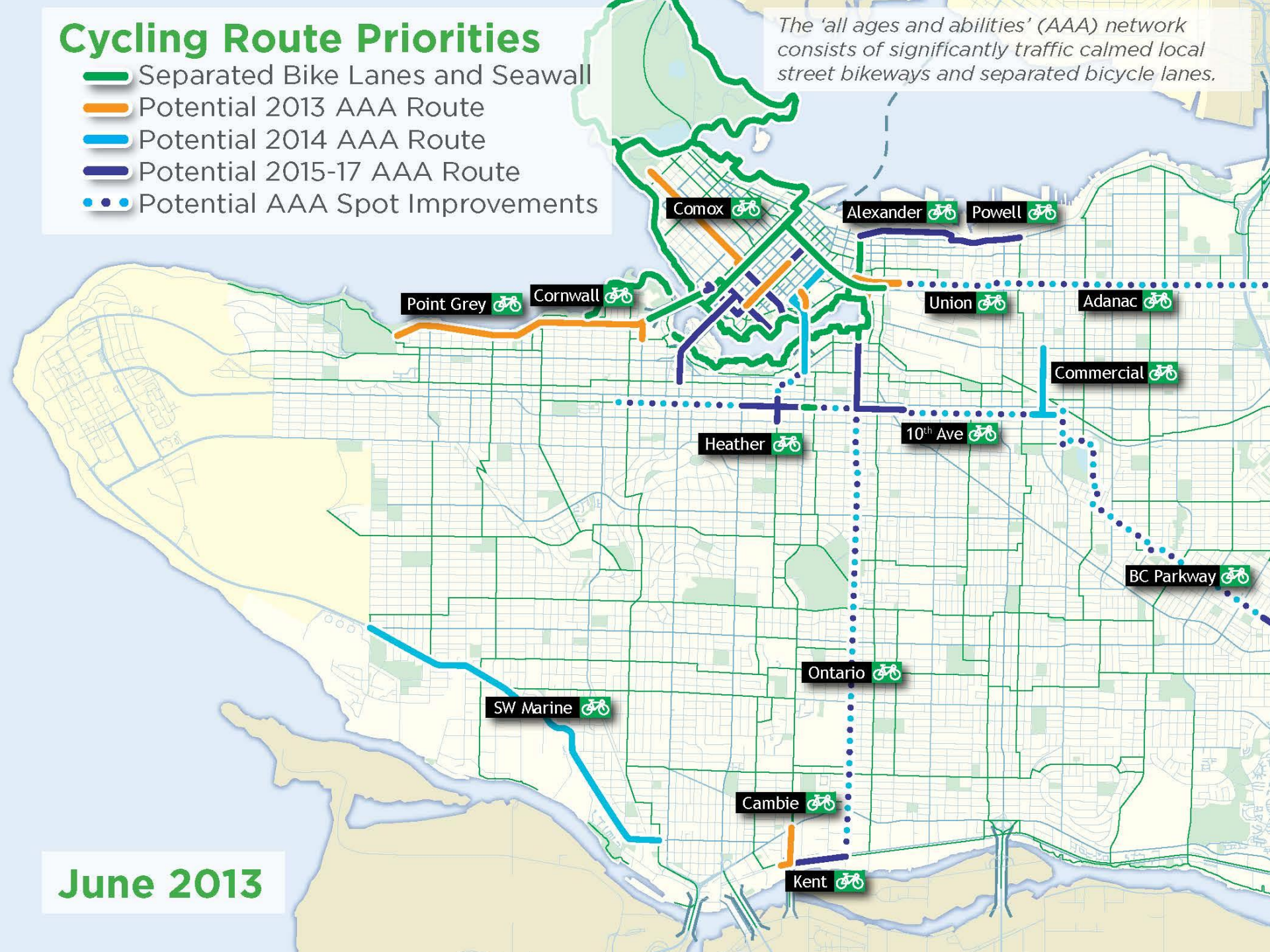


October 2012

Cycling Route Priorities

- Separated Bike Lanes and Seawall
- Potential 2013 AAA Route
- Potential 2014 AAA Route
- Potential 2015-17 AAA Route
- Potential AAA Spot Improvements

The 'all ages and abilities' (AAA) network consists of significantly traffic calmed local street bikeways and separated bicycle lanes.



June 2013

Walkability + Bikeability



The upgrade addressed safety issues at the intersection of Union Street and Main Street, and brought this section of Union Street up to a AAA design.



Adanac Bikeway
Union Street East of Main

Walkability + Bikeability



People of all ages and abilities can now walk and cycle along the Greenway from Stanley Park to Hornby Street through the West End.

Greenway Health Benefits



Time spent sitting
and being sedentary



Days of poor physical
and mental health



Days engaged in moderate
physical activity per week



Photo: Gordon Price



A Before-After Study of Active Transportation and Health Benefits of the Downtown Vancouver Comox-Helmcken Greenway Corridor

Dr. Lawrence Frank and Victor Ngo
The University of British Columbia

Douglas Scott and Dale Bracewell
City of Vancouver

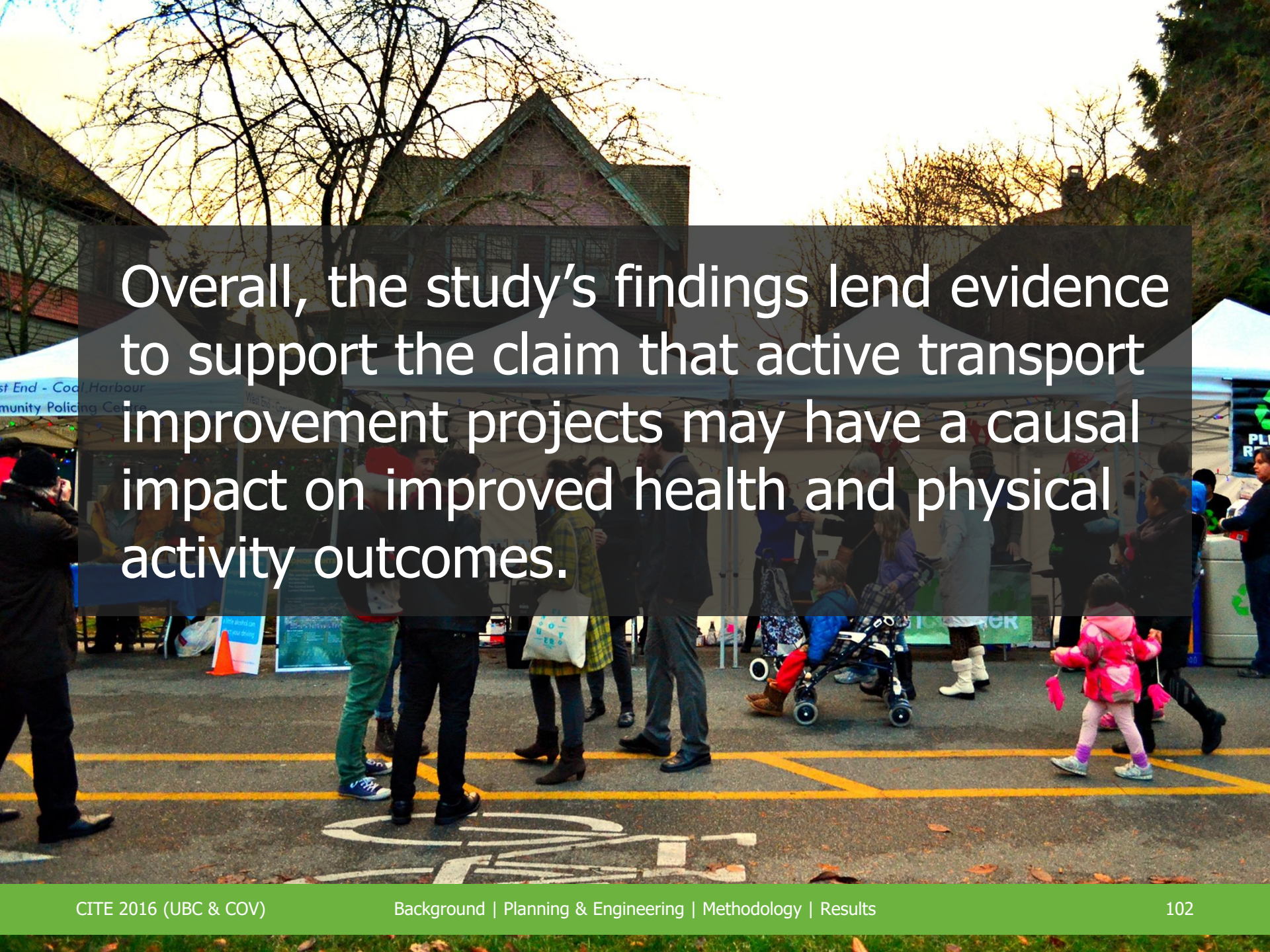
June 7, 2016
Canadian Institute for Transportation Engineers
2016 CITE Conference - Kelowna, British Columbia



HEALTH & COMMUNITY DESIGN LAB
School of Population and Public Health



GREENEST CITY 2020
Green Transportation



Overall, the study's findings lend evidence to support the claim that active transport improvement projects may have a causal impact on improved health and physical activity outcomes.

Walkability + Bikeability



Average Daily Bicycle Volumes

Point Grey Road and Macdonald Street



BEFORE Phase 1
completion (August
2013 weekday)



AFTER Phase 1
completion (August
2014 weekday)





Walkability + Bikeability

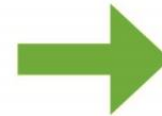


Average Daily Bicycle Volumes

Burrard Street and Cornwall Avenue



BEFORE Phase 1
completion (August
2013 weekday)



AFTER Phase 1
completion (August
2014 weekday)





North America's
First Protected Intersection:
Burrard and Cornwall

IMPROVING INFRASTRUCTURE, INCREASING RIDERSHIP

Bike volumes across the Burrard Bridge jumped 30% to over 1.3 million annually in the first year after the Burrard-Cornwall improvements





Burrard Complete Street

Southbound Protected Bike Lane



Perceptions + Motivations



In January 2015, we conducted two surveys on perceptions of active transportation using the City's Talk Vancouver online panel.



Perceptions + Motivations



Complete Streets
Visualizing Road Space Allocations

Perceptions + Motivations



Yukon Street – New Park
Walking & Cycling Improvement

Perceptions + Motivations



Perceptions + Motivations



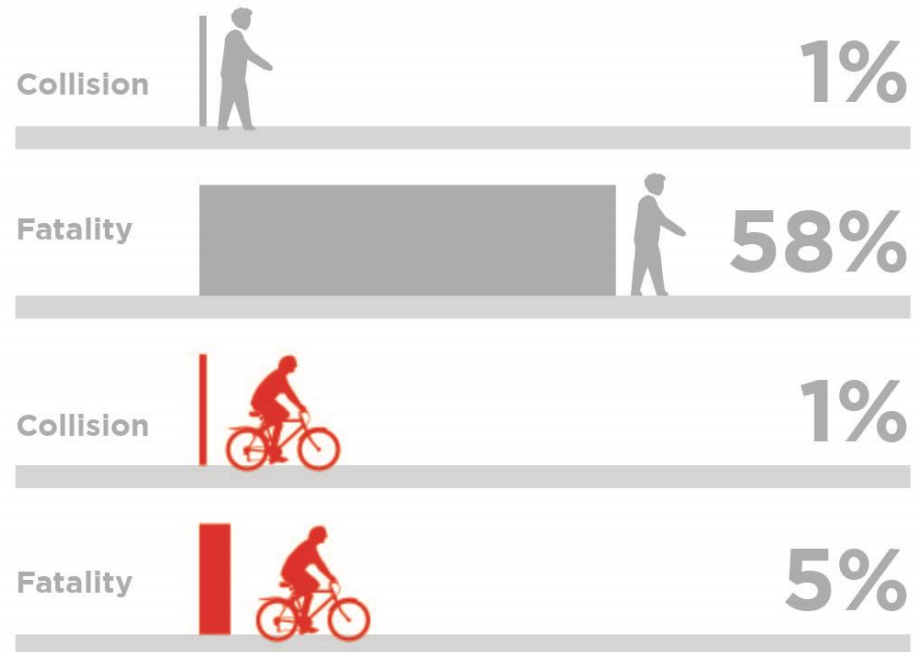
Make Cycling More Fun !
Protected Bike Lane – Cambie Bridge

Addressing Barriers



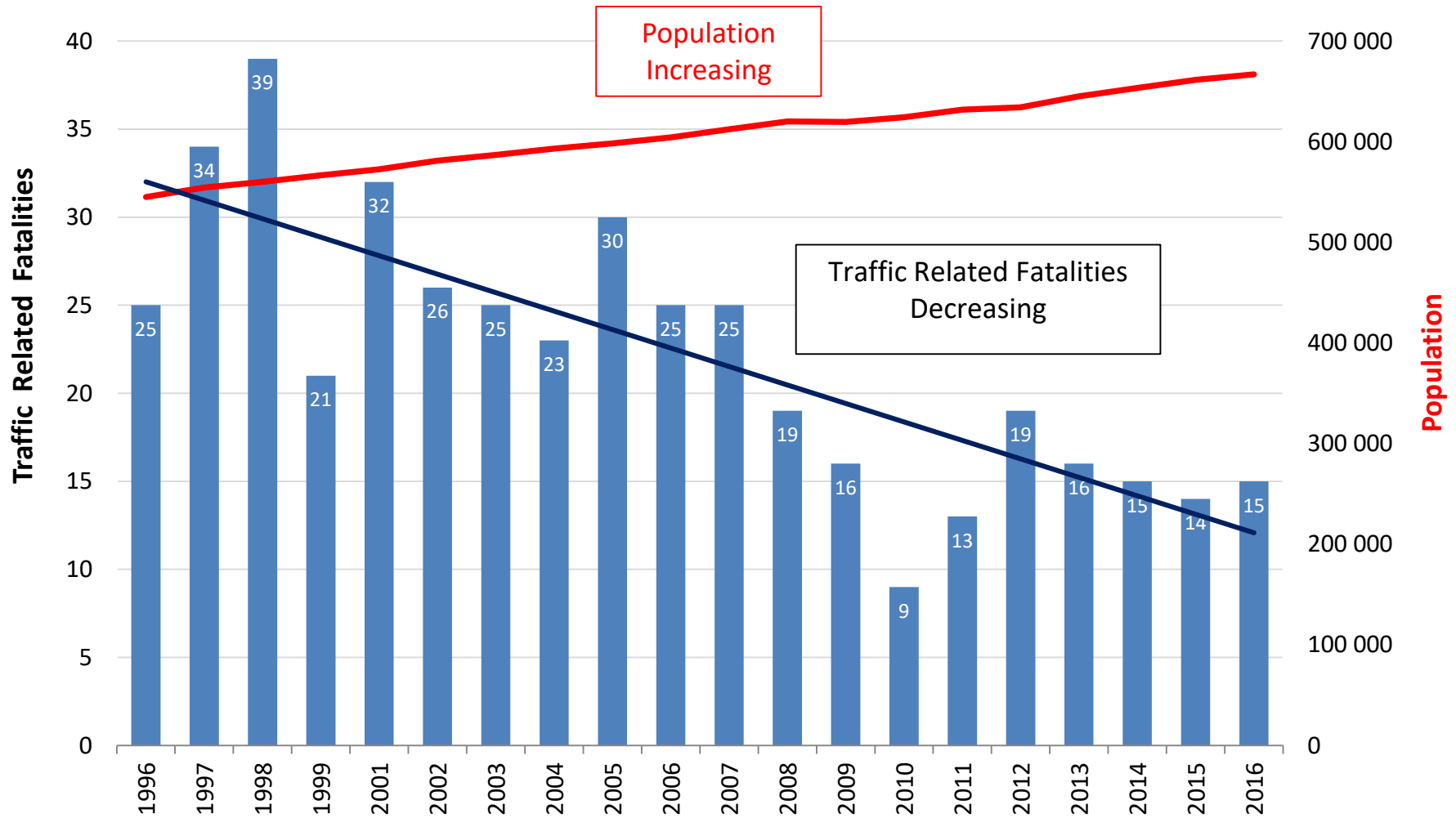
Eliminating transportation-related fatalities is a key goal of Transportation 2040.

Collisions and Fatalities by Road User



Source: ICBC Collision Data, 2009-13; VPD Traffic Fatality Data , 2009-13

Addressing Barriers



Addressing Barriers



Cycling Safety

A large part of feeling safe while cycling is being protected from higher-speed motor vehicle traffic, whether through physical barriers, or traffic-calming measures designed to slow vehicle speeds.

Between 2008 and 2011:



Cycling Trips

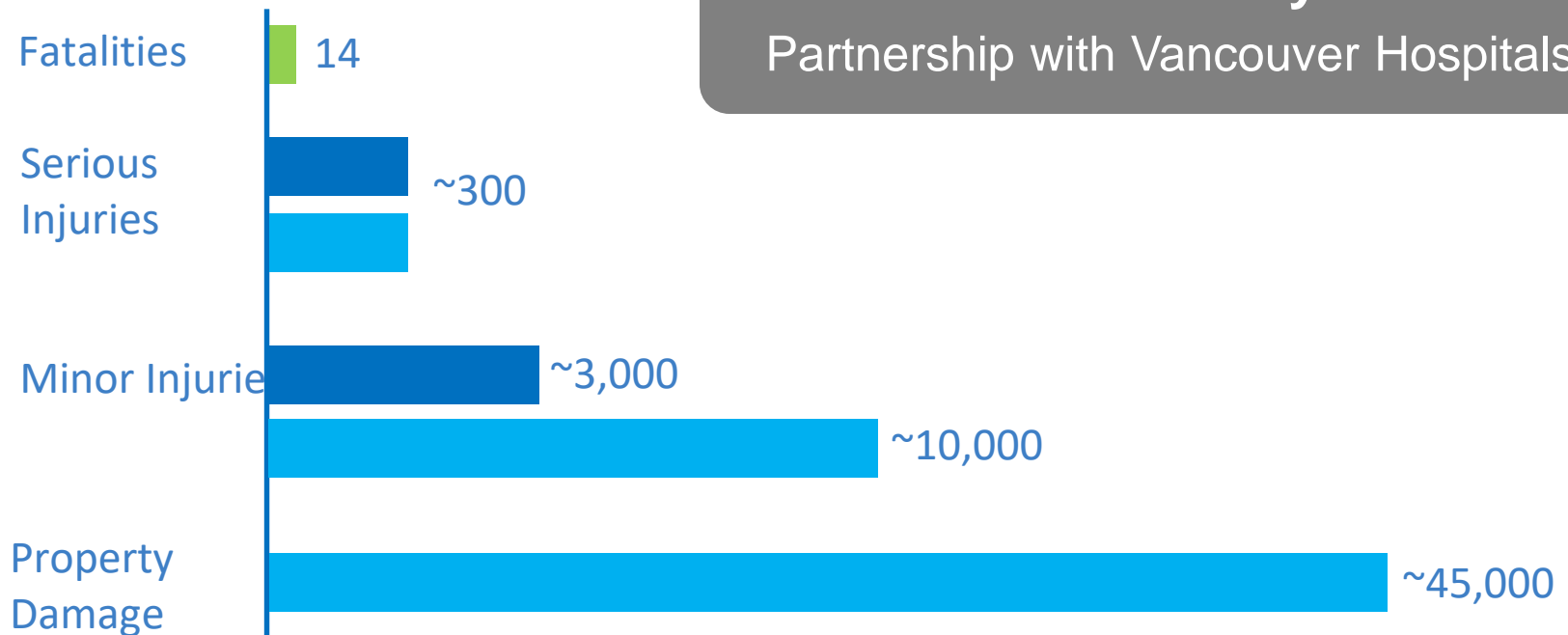


Collision Rates

Addressing Barriers



Enhanced Safety Data: Partnership with Vancouver Hospitals



Source of Data (2015):

VPD Hospitals ICBC

*Injuries and property damage are based on number of collisions, Fatalities are total number of people

Addressing Barriers



Education and Promotion



Educating, promoting, and celebrating are important to build a culture in Vancouver that supports and encourages active transportation.

Our aim is for Vancouverites to see walking and cycling as convenient, fun, and normal ways to get around every day.



RENEWABLE CITY STRATEGY

November 3, 2015






Imagine a city
where jobs and
businesses are
diverse and
economically
strong

where homes and offices have clean and comfortable environments, and are less expensive to heat and cool



where the
transportation
system is abundant
and efficient





a city that supports
a thriving economy

while improving affordability and providing citizens the opportunity to be healthy and mobile.



Imagine a city
powered by
renewable energy.





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