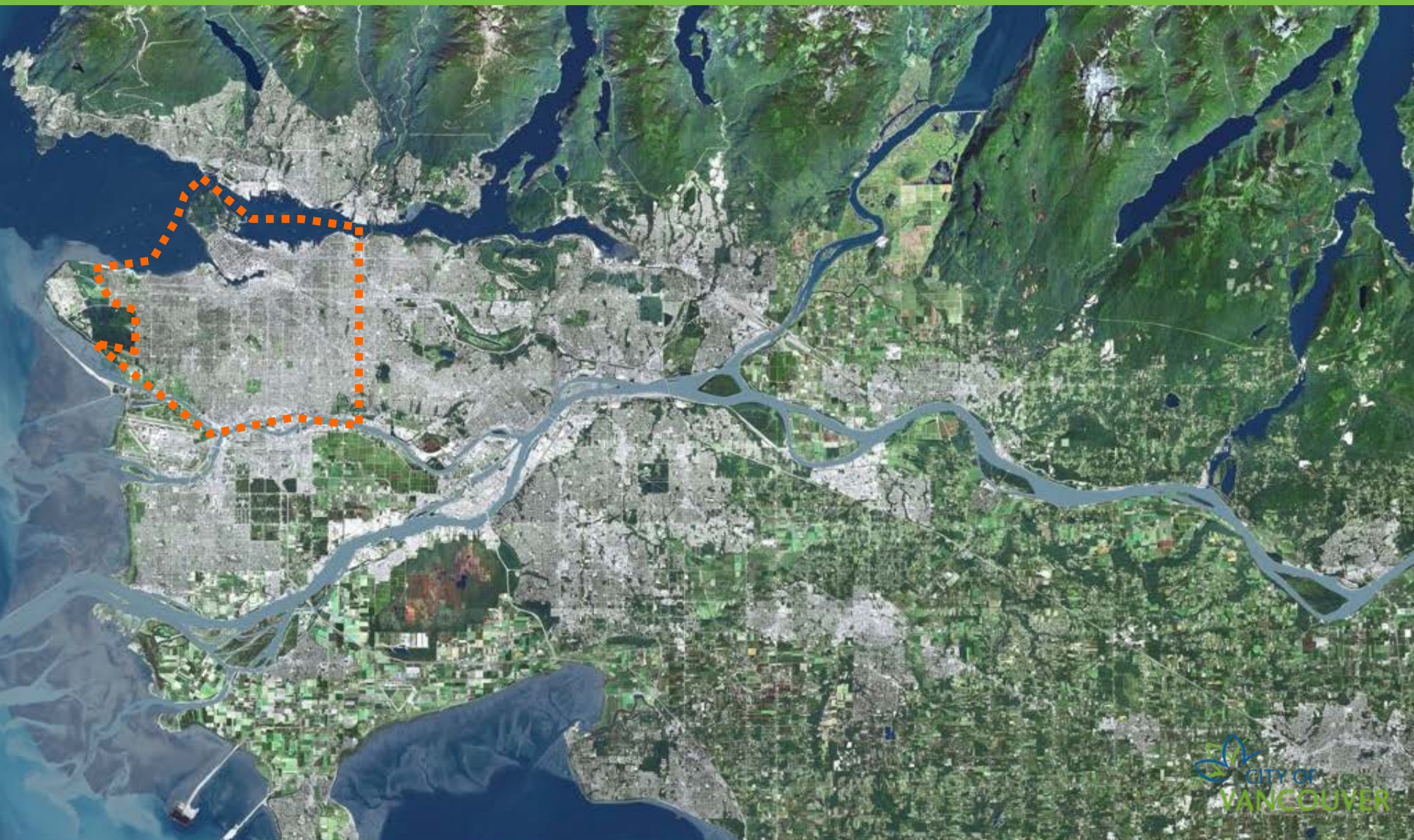
Lon LaClaire P.Eng., M.Eng.

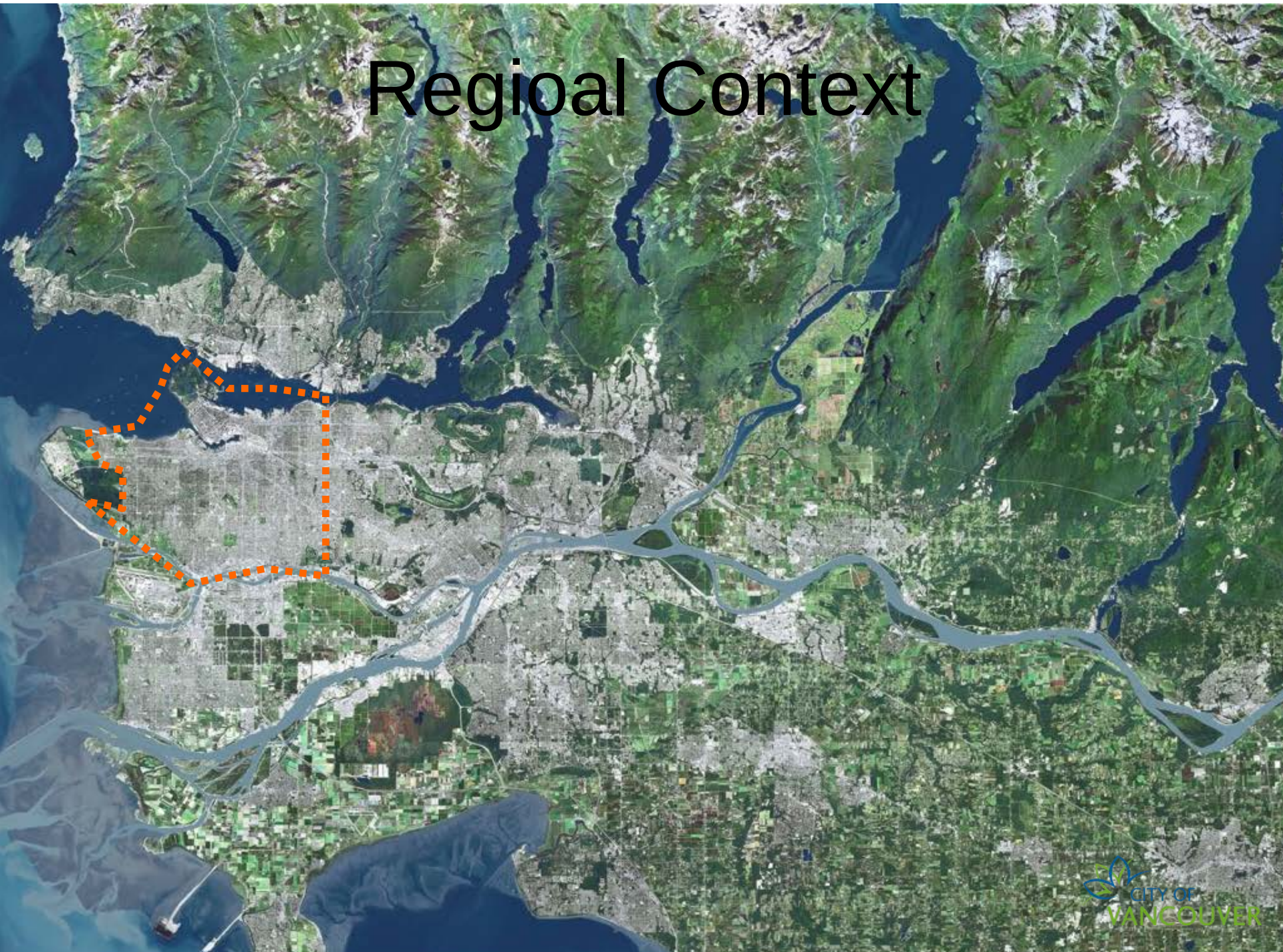
Acting **Director of Transportation**

CITY OF **VANCOUVER**

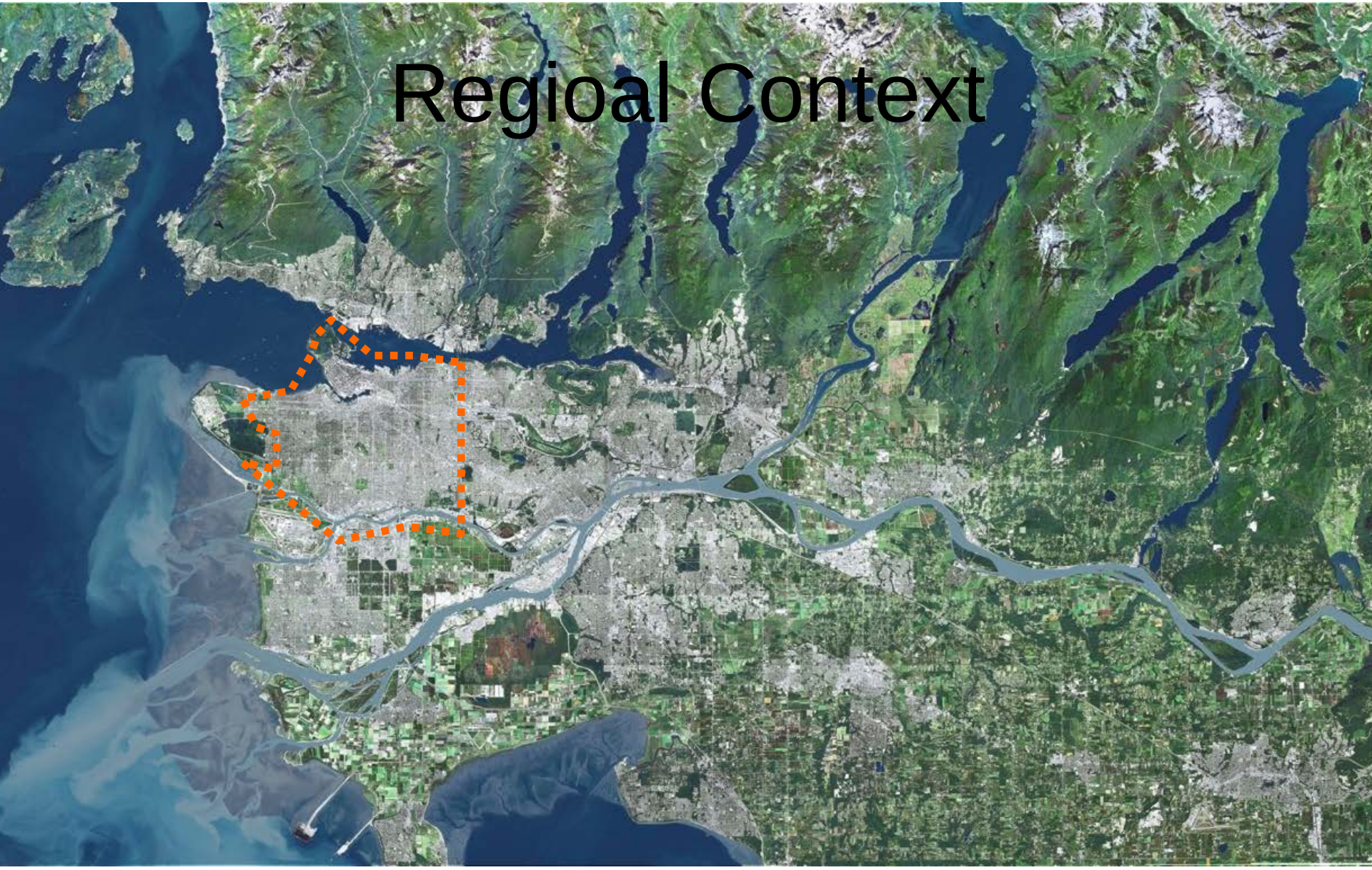
Regional Context



Regioal Context



Regioal Context



CITY OF VANCOUVER

Government Roles & Responsibilities

Federal

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

Provincial

- Provincial highways; project funding

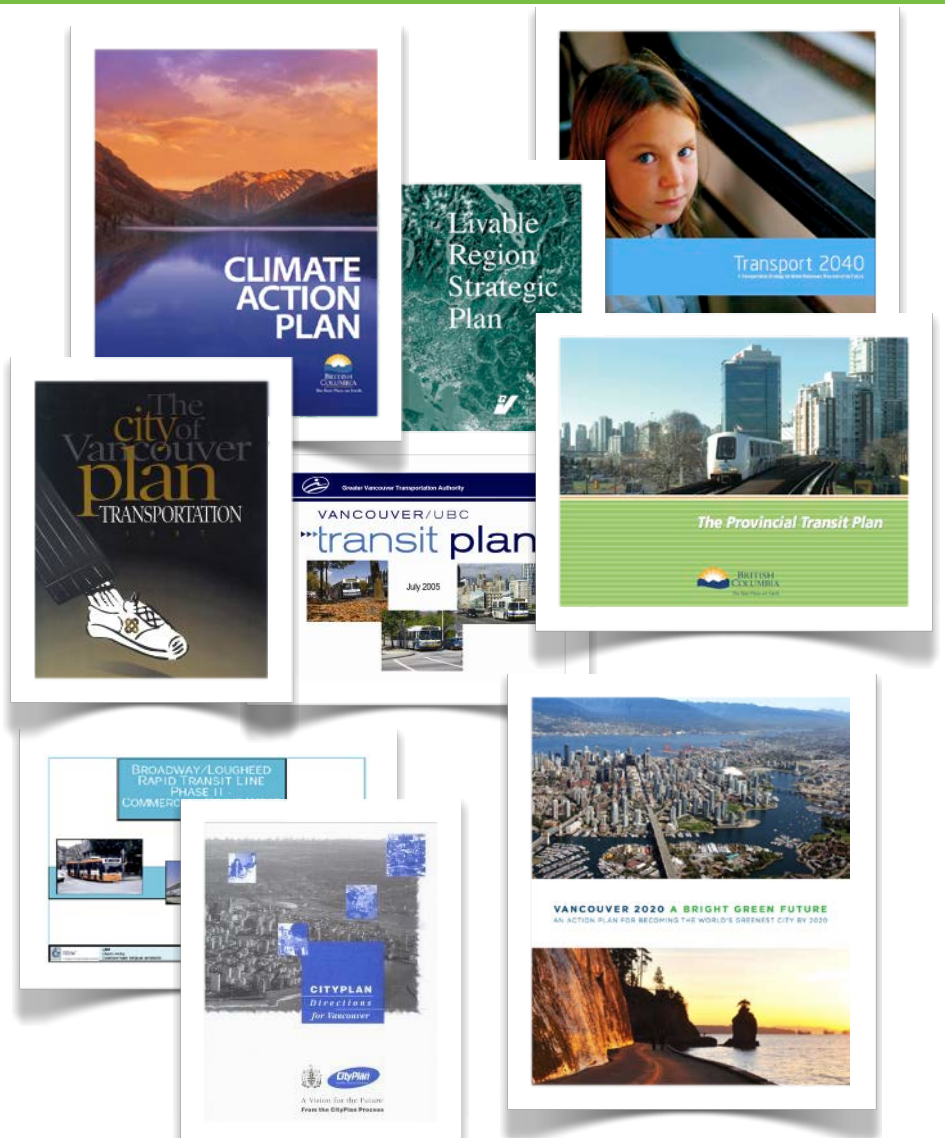
Regional

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

Municipal

- Land use planning; builds & maintains street infrastructure

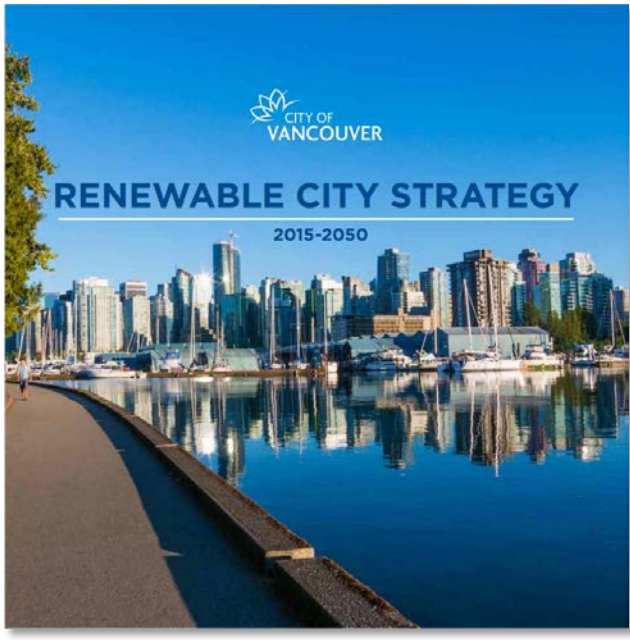
Understanding the City's Role



- Recognize city jurisdiction
- Support regional & provincial plans
- Provide leadership to other municipalities
- Build partnerships with outside agencies
- Empower citizens

CITY OF VANCOUVER

Greenest City Action Plan



Transportation 2040

Transportation 2040

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

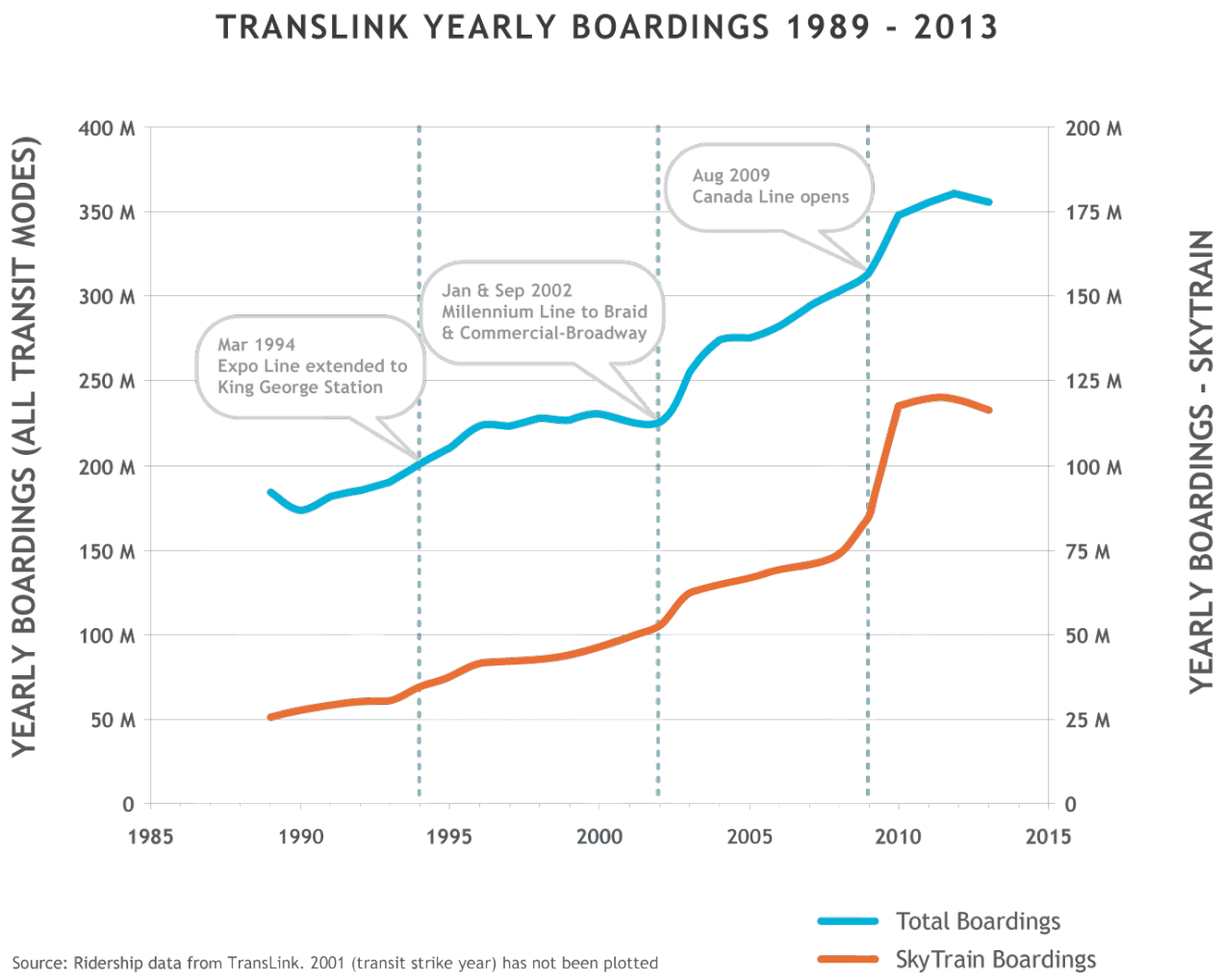
City of Vancouver | February 2016

ECONOMY
PEOPLE
ENVIRONMENT
VANCOUVER

• Mobility
• Health
• Safety
• Accessibility
• Affordability
• Public Life
• Resiliency

Since 1997 Plan: More Trips, Fewer Cars

Past investments in rapid transit have yielded big dividends



Source: Ridership data from TransLink. 2001 (transit strike year) has not been plotted

- Since 2006, our transit mode shift is unmatched in North America
- Ridership spiked during the 2010 Olympics… and growth continued!

CITY OF VANCOUVER

Ridership in Metro Vancouver vastly outperforms cities of similar size

City	Metro Population	Annual Boardings (thousands)	Annual Boardings / Capita
Metro Vancouver	**2,313,328**	**363,163**	**157/capita**
Portland	2,289,800	113,728	50/capita
Denver	2,645,209	86,660	33/capita
Pittsburgh	2,360,733	65,464	28/capita
Cleveland	2,063,535	48,153	23/capita
San Antonio	2,234,003	47,147	21/capita
Orlando	2,223,674	29,364	13/capita
Sacramento	2,196,482	27,281	12/capita
Charlotte	2,296,569	26,412	12/capita
Kansas City	2,038,724	16,507	8/capita
Cincinnati	2,128,603	16,357	8/capita

- Ten peer cities of similar size in the US and Canada (±300k)

Metro Vancouver has higher ridership than 9 of these peer cities combined

Source: American Public Transportation Association 2012 Q4 Ridership Report

CITY OF VANCOUVER

Metro Vancouver is the fourth most transit-oriented region

City	Metro Population	Annual Boardings (thousands)	Annual Boardings / Capita
New York City	19,831,858	3,893,854	196/capita
Montreal	3,824,221	724,494	189/capita
Toronto	5,583,064	1,041,249	187/capita
Metro Vancouver	**2,313,328**	**363,163**	**157/capita**
Boston	4,640,802	399,594	86/capita
Washington, DC	5,860,342	456,915	78/capita
San Francisco Bay	6,349,948	476,219	75/capita
Chicago	9,522,434	658,203	69/capita
Philadelphia	6,018,800	336,981	56/capita
Los Angeles	13,052,921	620,903	48/capita

- Among best in North America
- Smallest metro area
- All others have heavy rail and commuter rail
- **4th in per capita ridership behind only New York, Montreal and Toronto**

Source: American Public Transportation Association 2012 Q4 Ridership Report, CUTA 2012 Transit Fact Book

CITY OF VANCOUVER

Recent rail investments have shifted people from cars to transit

City	Transit Mode Share – Journey to work			
	1990/96	2009/11	Change	% Change
Metro Vancouver	**14.7%**	**19.7%**	**+5.0%**	**+34.0%**
Calgary	12.8%	15.9%	+3.1%	+24.2%
Seattle	7.4%	8.7%	+1.3%	+17.6%
Toronto	22.8%	23.3%	+0.5%	+2.2%
Denver	4.4%	4.6%	+0.2%	+4.5%
Portland	6.0%	6.1%	+0.1%	+1.6%
New York	30.7%	30.5%	-0.2%	-0.7%
Los Angeles	6.5%	6.2%	-0.3%	-4.6%
Dallas	3.2%	1.5%	-1.7%	-53.1%

Note: Data for US cities covers a 19 year period from 1990-2009;
Data for Canadian cities covers a 15 year period from 1996-2011

- Among regions that have invested in rail rapid transit, Metro Vancouver has seen the highest shift in mode share

Source: Statistics Canada, United States Census Bureau

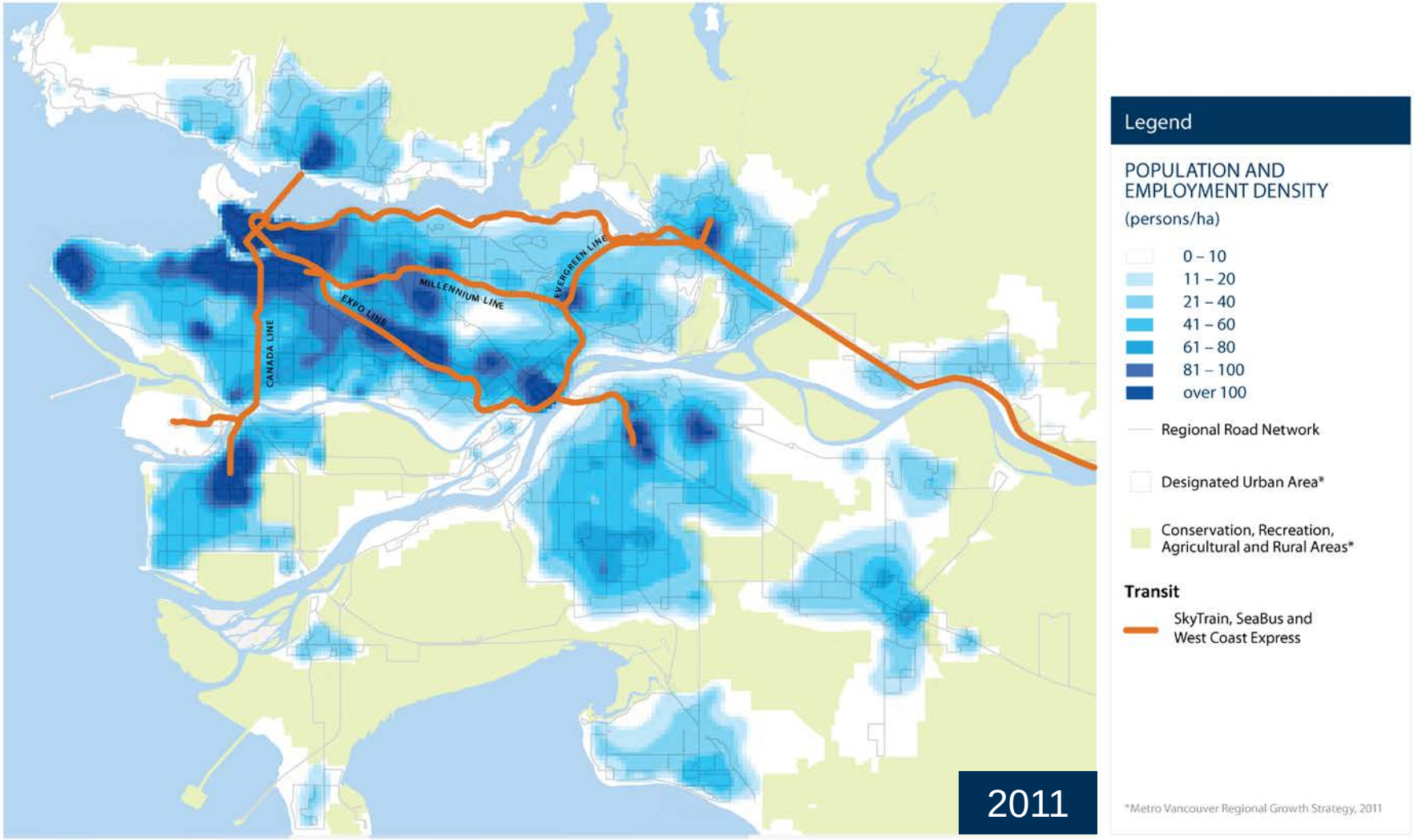
CITY OF VANCOUVER

Metro Vancouver is a rapidly growing region

Metro Vancouver's population will increase by more than **1 million people** and **600 thousand jobs** over the next 30 years

	2011	2041
People:	**2.3 Million**	**3.4 Million**
Jobs:	**1.2 Million**	**1.8 Million**

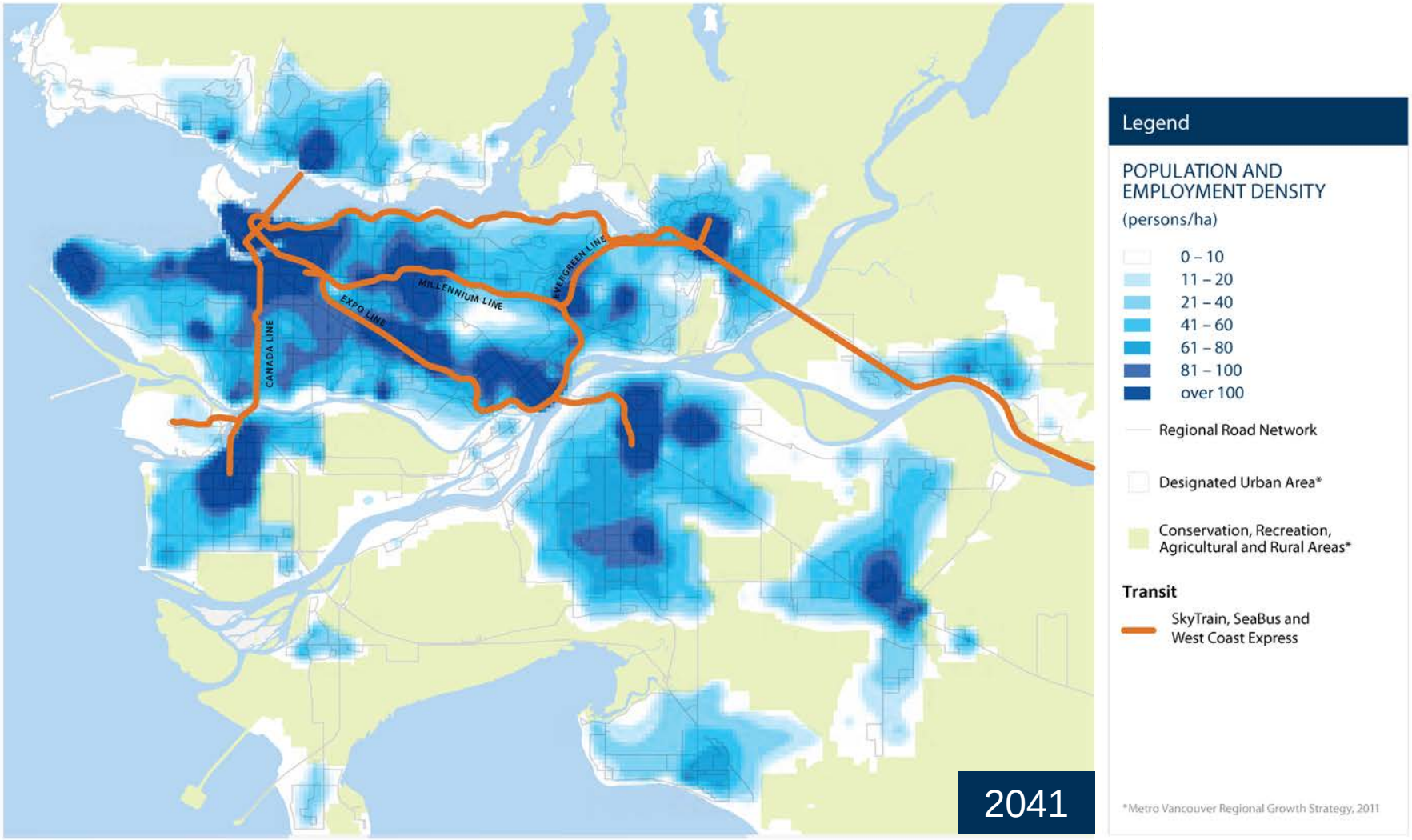
Past growth has occurred along rapid transit lines



Source: Data from Regional Growth Strategy, 2011, map from Regional Transportation Strategy, 2013

CITY OF VANCOUVER

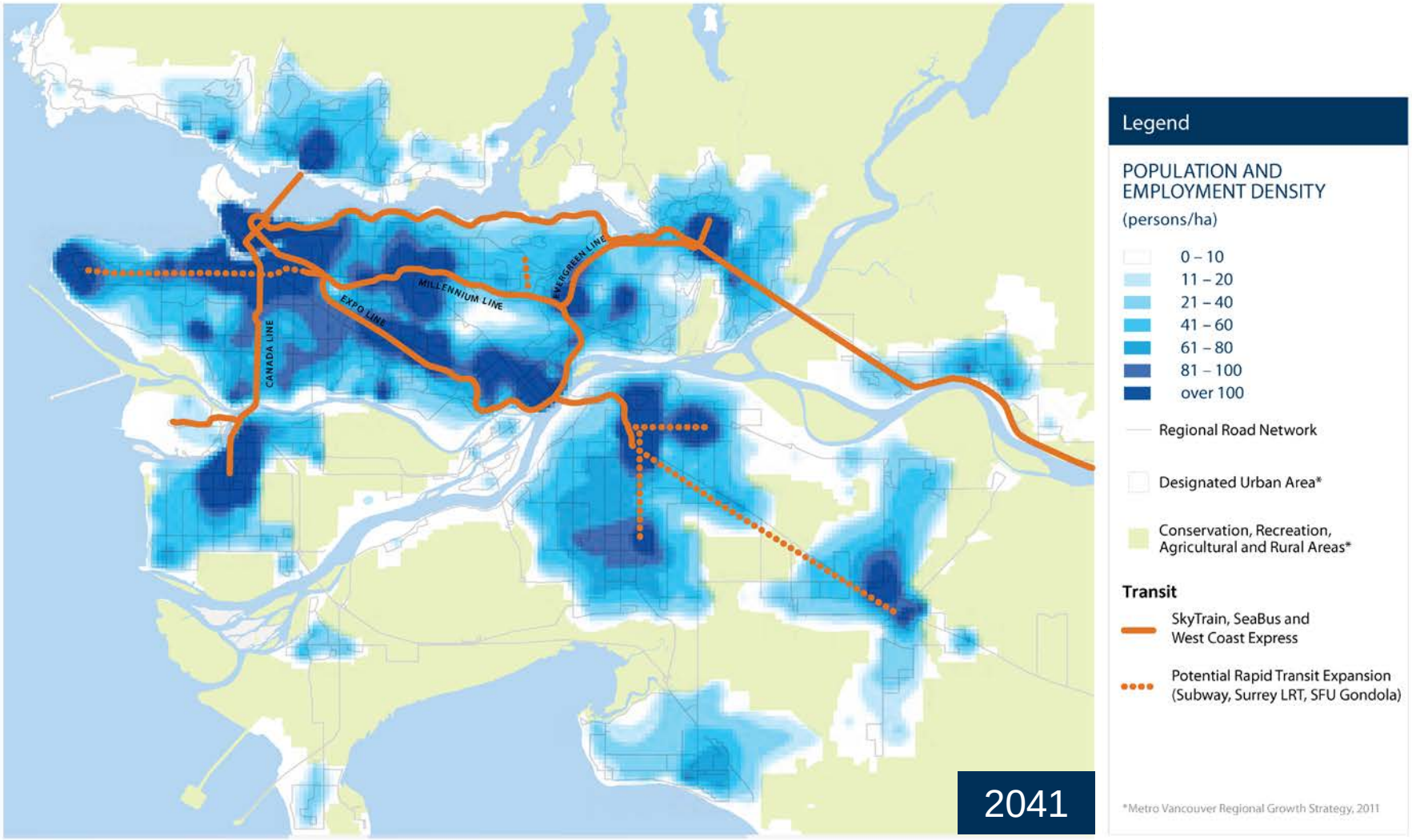
Future growth will continue along rapid transit lines



Source: Data from Regional Growth Strategy, 2011, map from Regional Transportation Strategy, 2013

CITY OF VANCOUVER

Rapid transit expansion is key to serving future growth areas



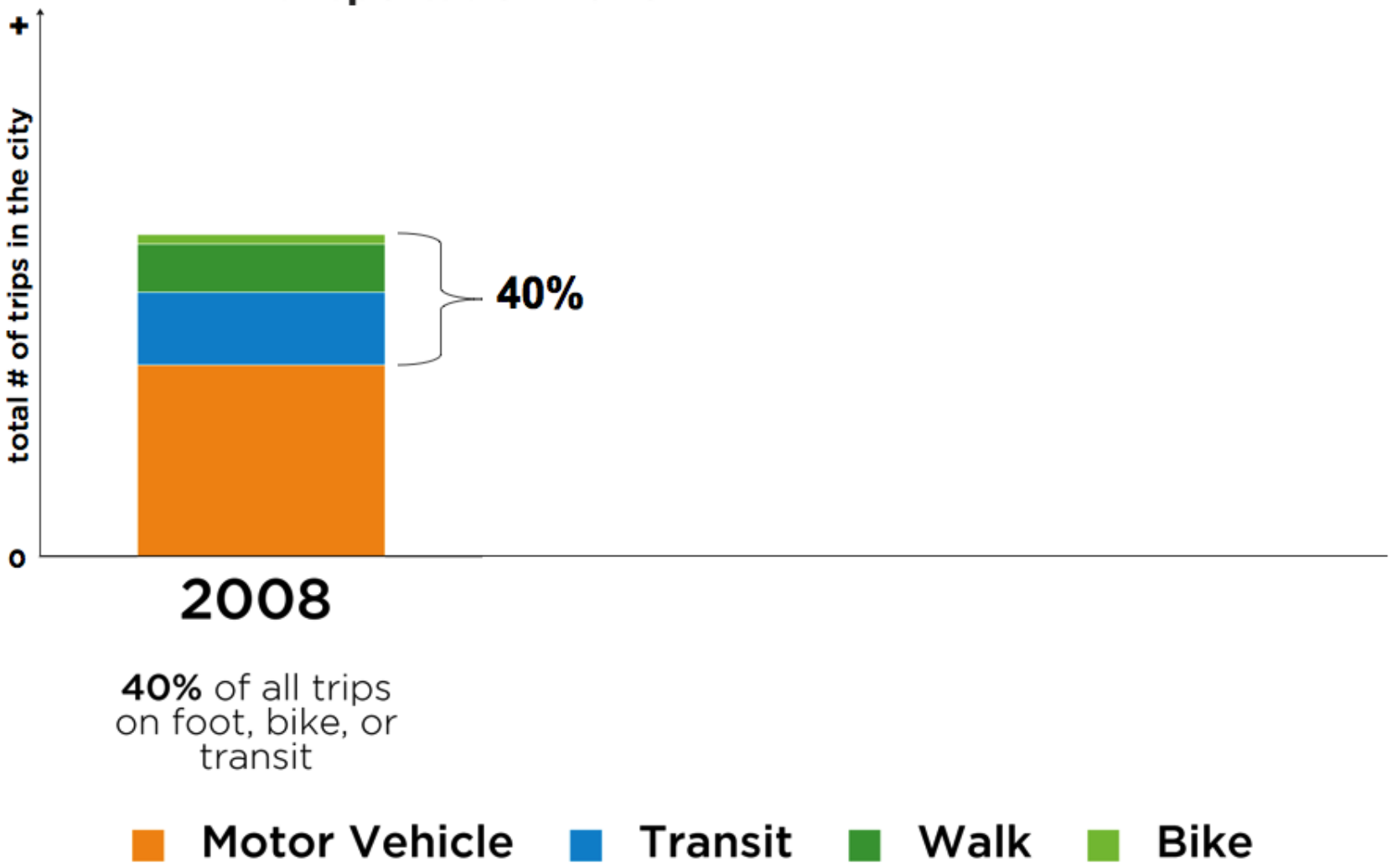
Source: Data from Regional Growth Strategy, 2011, map from Regional Transportation Strategy, 2013

CITY OF VANCOUVER

TALKVANCOUVER.com

PLAN TARGETS

Transportation 2040

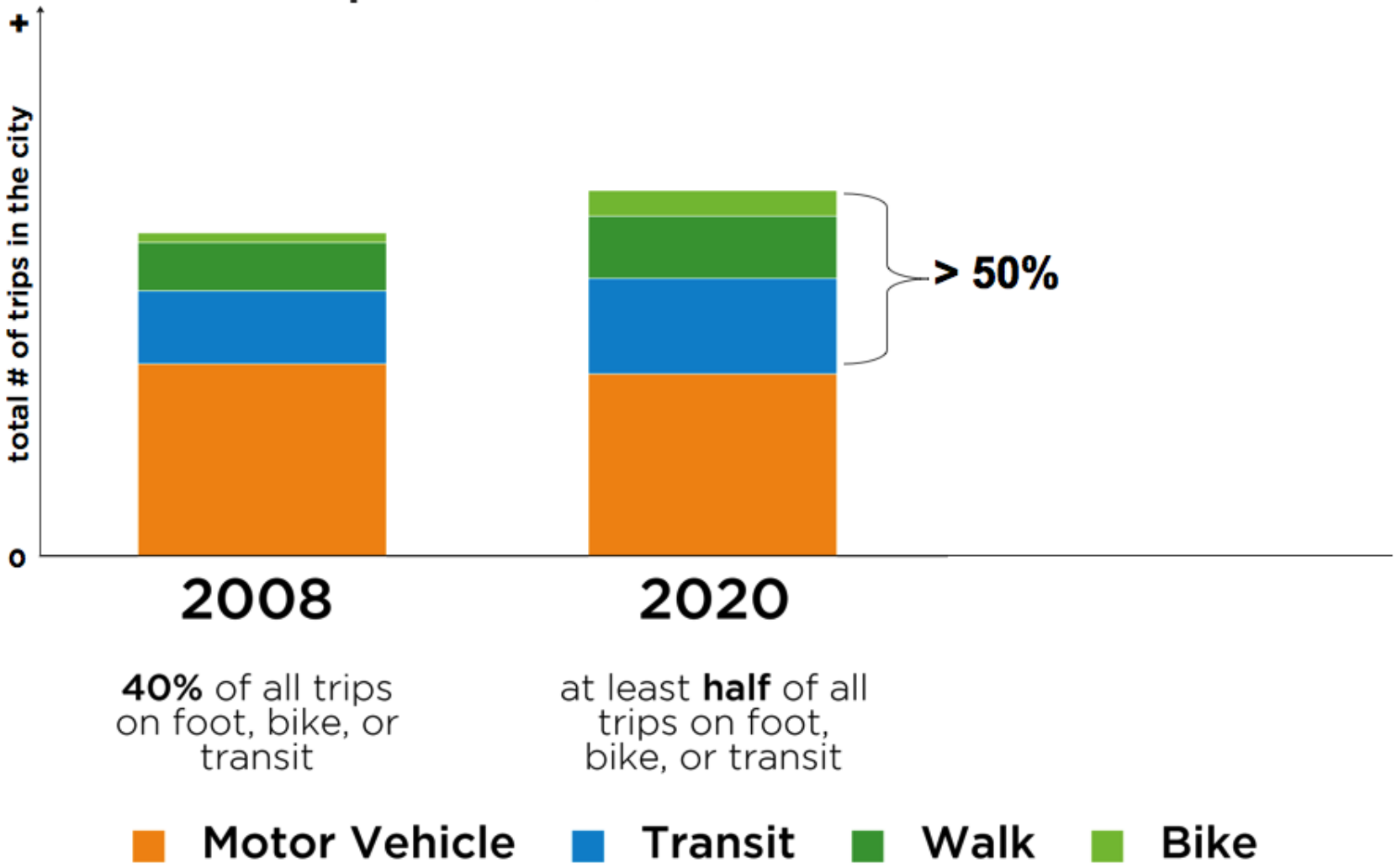


For all trips originating in the City of Vancouver.
2008 data source: TransLink Trip Diary Survey. Trips by commercial drivers (couriers, taxis, trucks, and bus drivers) not included.

TALKVANCOUVER.com

PLAN TARGETS

Transportation 2040



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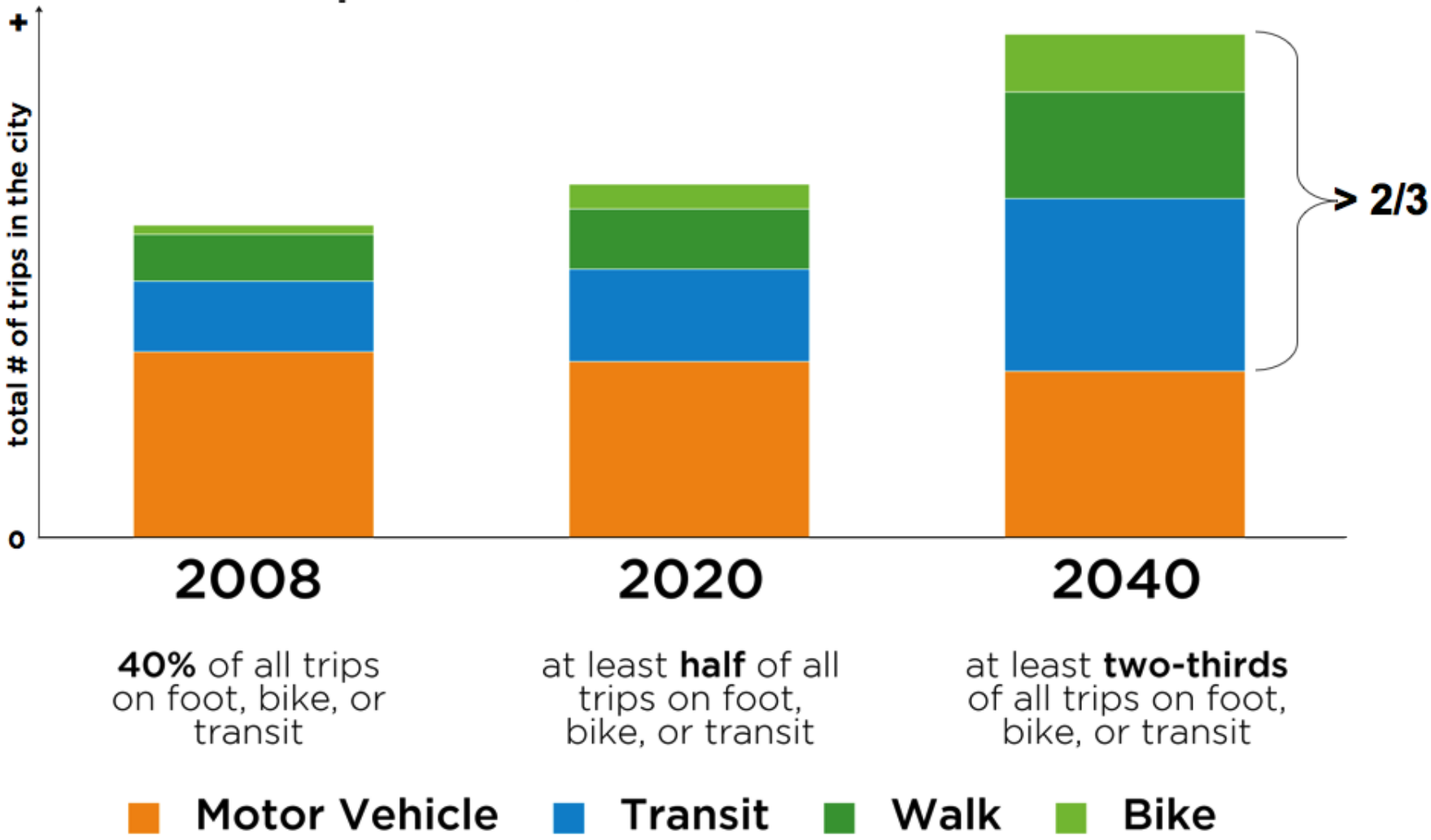
PLAN TARGETS

Transportation 2040



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Zero Fatality
Safety Target

Moving People

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

Moving Goods

- Port
- Local

Directions

Land Use

Walking
Cycling
Transit
Motor Vehicles
Goods and Services

Education, Encouragement, Enforcement

LAND USE

support **shorter trips** & **sustainable transportation choices**

Prioritize a **dense & diverse mix around transit**

Locate **major activity generators** near **great transit**

Design buildings to support **safe**, **interesting** public realm

WALKING

make walking

safe, **convenient** &

delightful

support a

vibrant public life

Make streets **safer**, more **comfortable** & more **accessible**

Address **gaps** in the pedestrian network

Address **gaps** in the pedestrian network

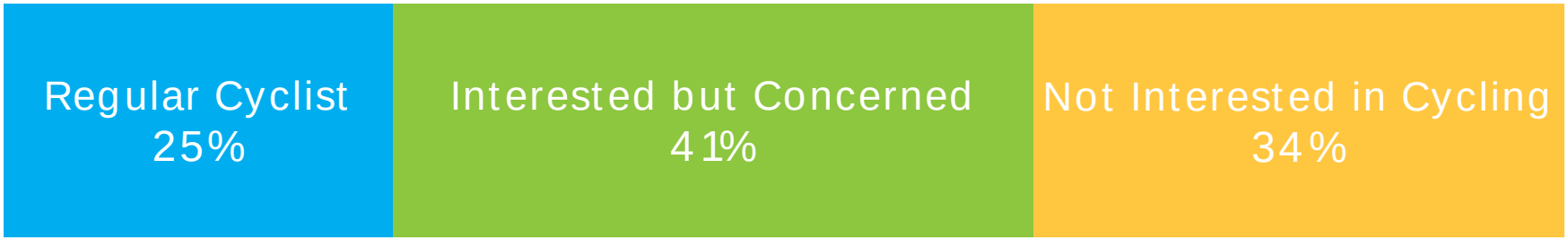
Create **vibrant** & interesting **streets** & **public spaces**

Create **vibrant** & interesting **streets** & **public spaces**

CYCLING

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

Riding a bicycle should not require bravery



Many people are interested in cycling but afraid of motor vehicle traffic

Source: TransLink market research for Metro Vancouver. "Regular cyclists" were defined as those who take at least one bicycle trip per week in at least one season. "Interested but concerned" includes "occasional cyclists" (13% of residents) who cycle 1-3 times per month in at least one season, "infrequent cyclists" (9%), who cycle at least once per year, and "potential cyclists", who do not currently cycle but are interested in taking up cycling. Those "not interested in cycling" currently do not own or have access to a bicycle and say they are not interested in cycling at all in the future.

Before
Homer St
After
Build routes that are **comfortable** & **convenient**
Photo: Paul Krueger

DESIGNING FOR ALL AGES & ABILITIES

Reduce car speeds & volumes

Physically separate users

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

Provide **secure** & **abundant** parking

Photo: Paul Krueger

Improve **integration** with **transit**

Photo: Paul Krueger

Promote cycling as an **everyday option**

Photo: Paul Krueger

TRANSIT

increase capacity

ensure service is
fast, **frequent**, **reliable**,
accessible & **comfortable**

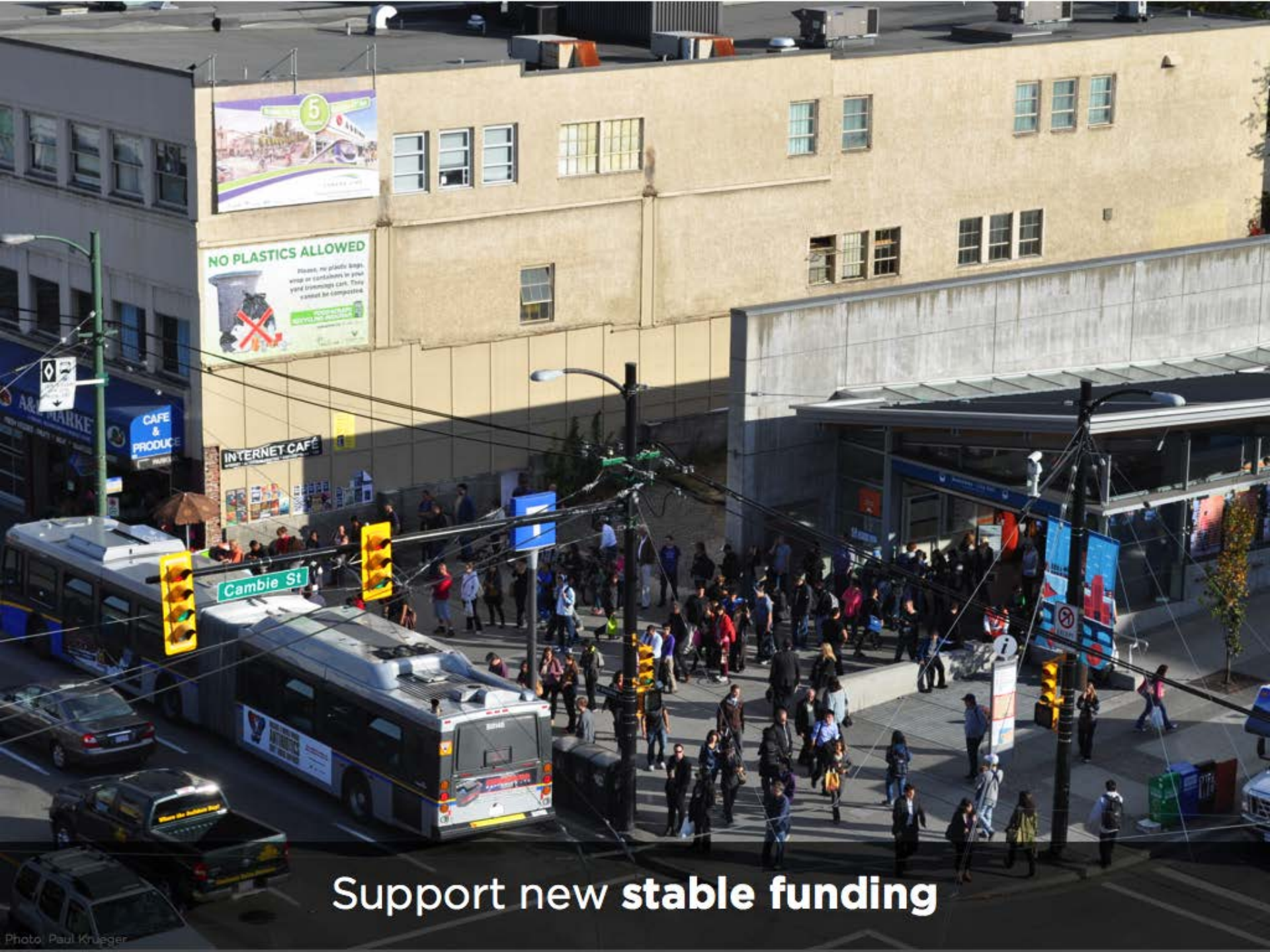
Advance **local** and **rapid transit improvements**

Photo: Paul Krueger

Build a **transit-supportive public realm**

Support **reduced emissions**

Photo: Paul Krueger



Support new **stable funding**

Photo: Paul Krueger

MOTOR VEHICLES

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

make it easier to **drive less**

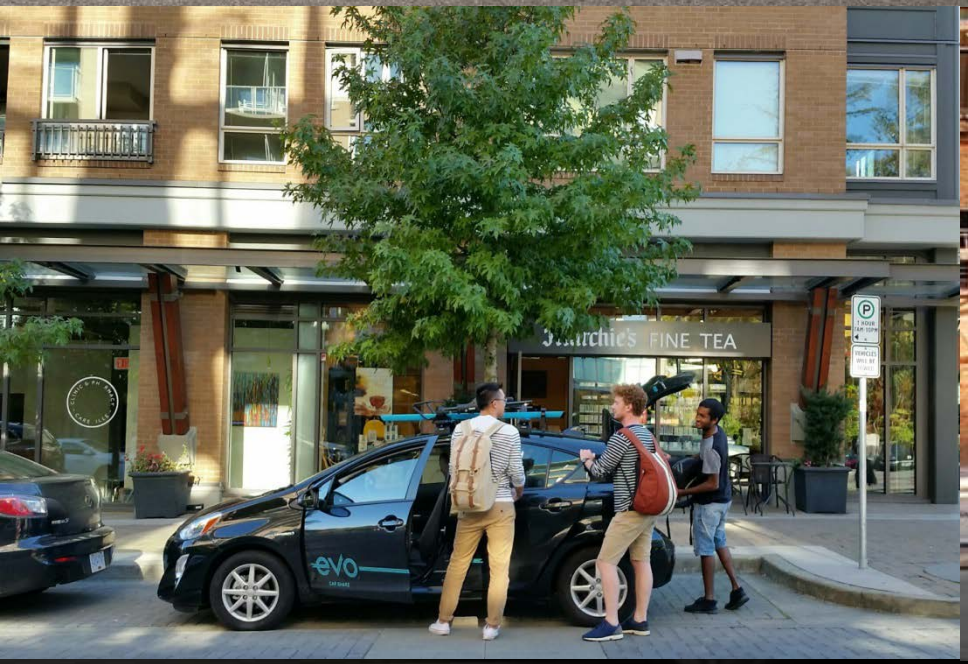
accelerate shift to **low carbon vehicles**

Manage **traffic congestion**

Photo: Paul Krueger

Manage **parking** comprehensively

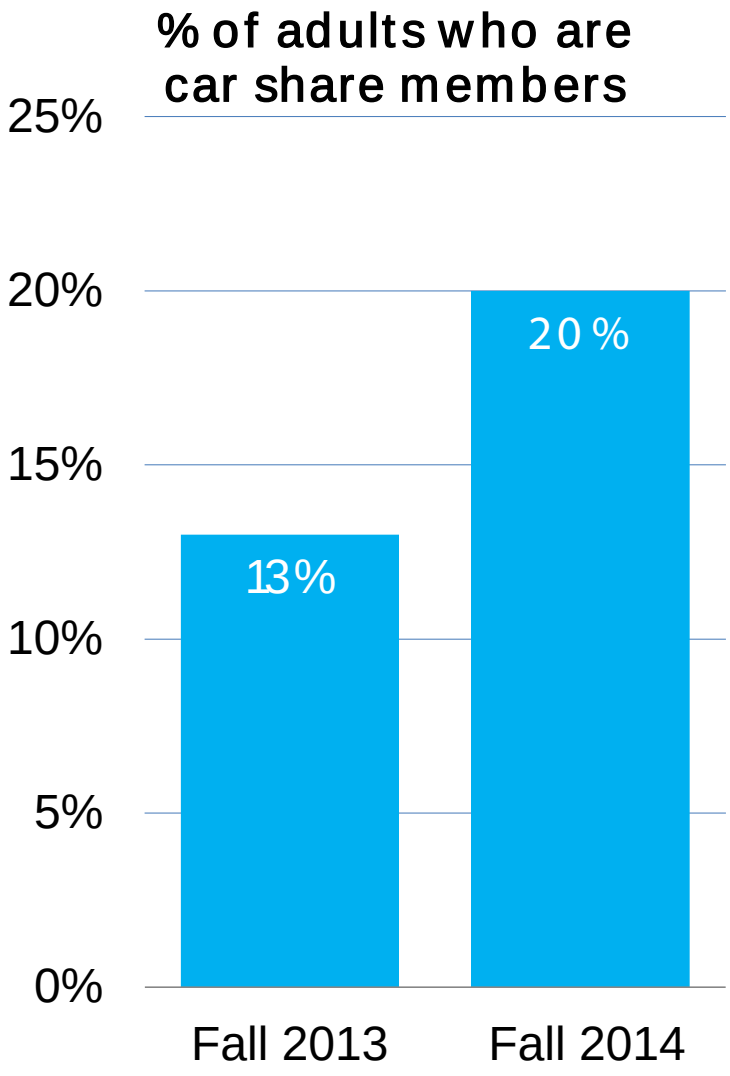
Photo: Paul Krueger

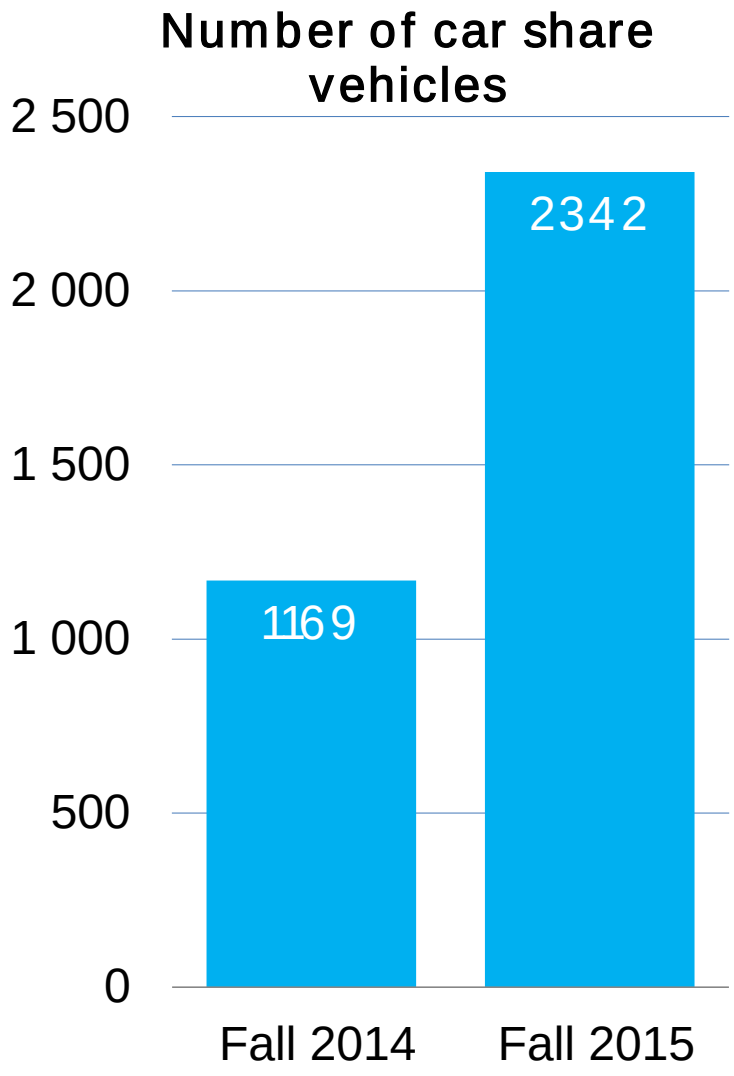


Support **car sharing** and other **TDM** programs

Photo: Paul Krueger

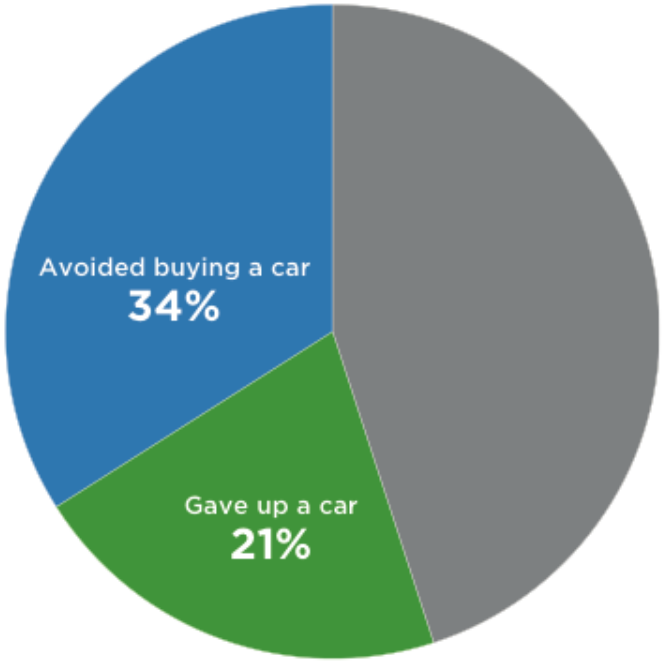
Growing car share in the City of Vancouver





Benefits of Car Sharing

Car sharing makes it easier to go car light or car-free, since members still have access to a car when they really need one.



More than **1 in 5** people who join carshare give up a car, and more than **3 in 10** avoid buying a car altogether.

One shared vehicle replaces up to **20** personally owned vehicles

Accelerate the shift to **low carbon vehicles**

Photo: Paul Krueger

GOODS & SERVICES

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

ensure **effective emergency response**

Support **different scales** of movement

Photo: Paul Krueger

Ensure efficient **loading** and **deliveries**

Photo: Paul Krueger

Reduce **environmental** and **neighbourhood impacts**

Maintain **effective emergency response times**

Photo: Paul Krueger

Developing the Plan

Stakeholder and Peer Input

Local Experts

- Internal Stakeholder Advisory Group
- External Stakeholder Advisory Group
- Carbon Talks
- Plan Consultants

International Peer Review

CITY OF VANCOUVER

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

Public Consultation

Phase 1 (2011): Listening and Learning

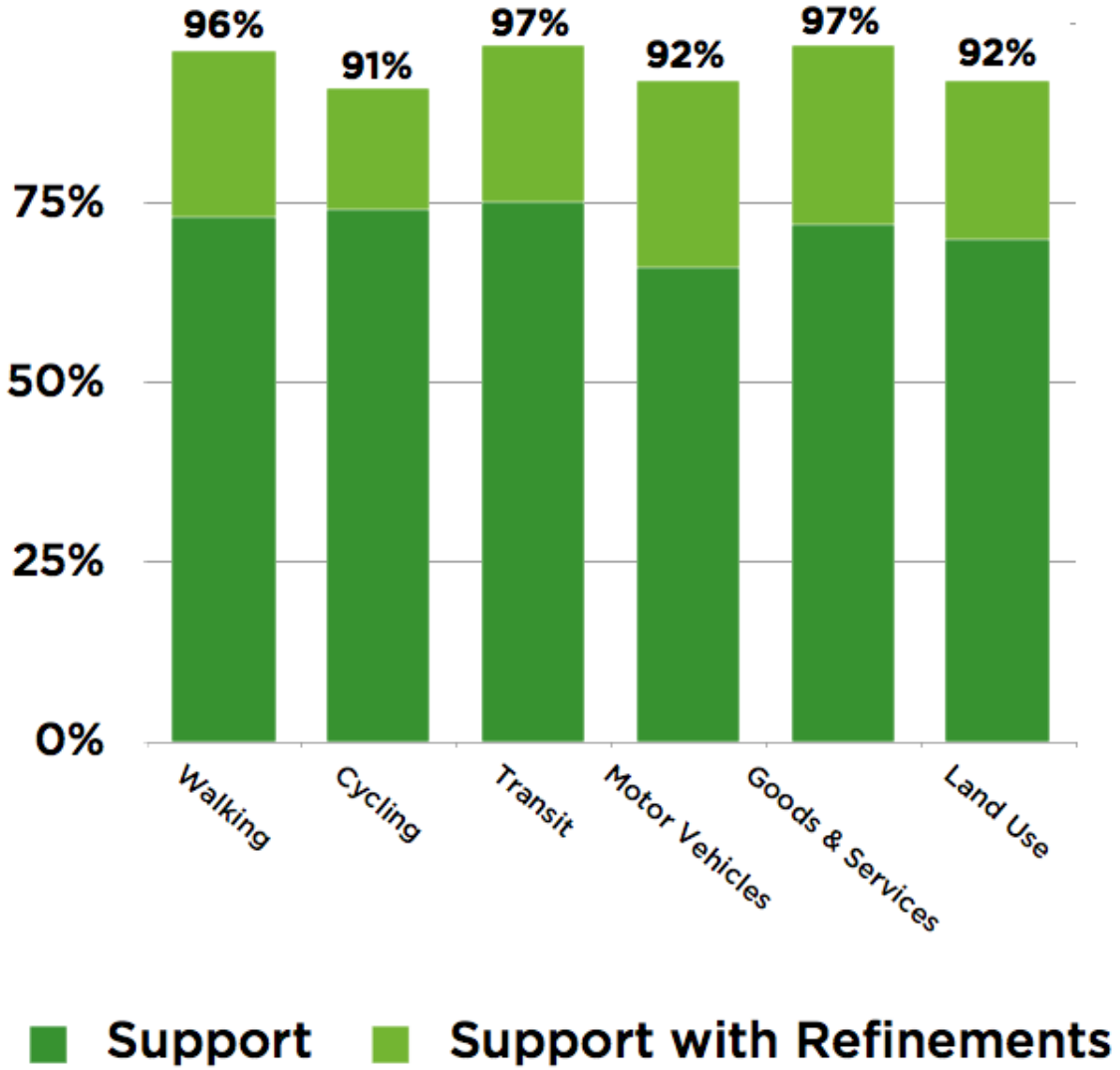
8,000+ participants

Phase 2 (2012): Directions and Discussion

10,000+ participants

CITY OF VANCOUVER

Strong Public Support



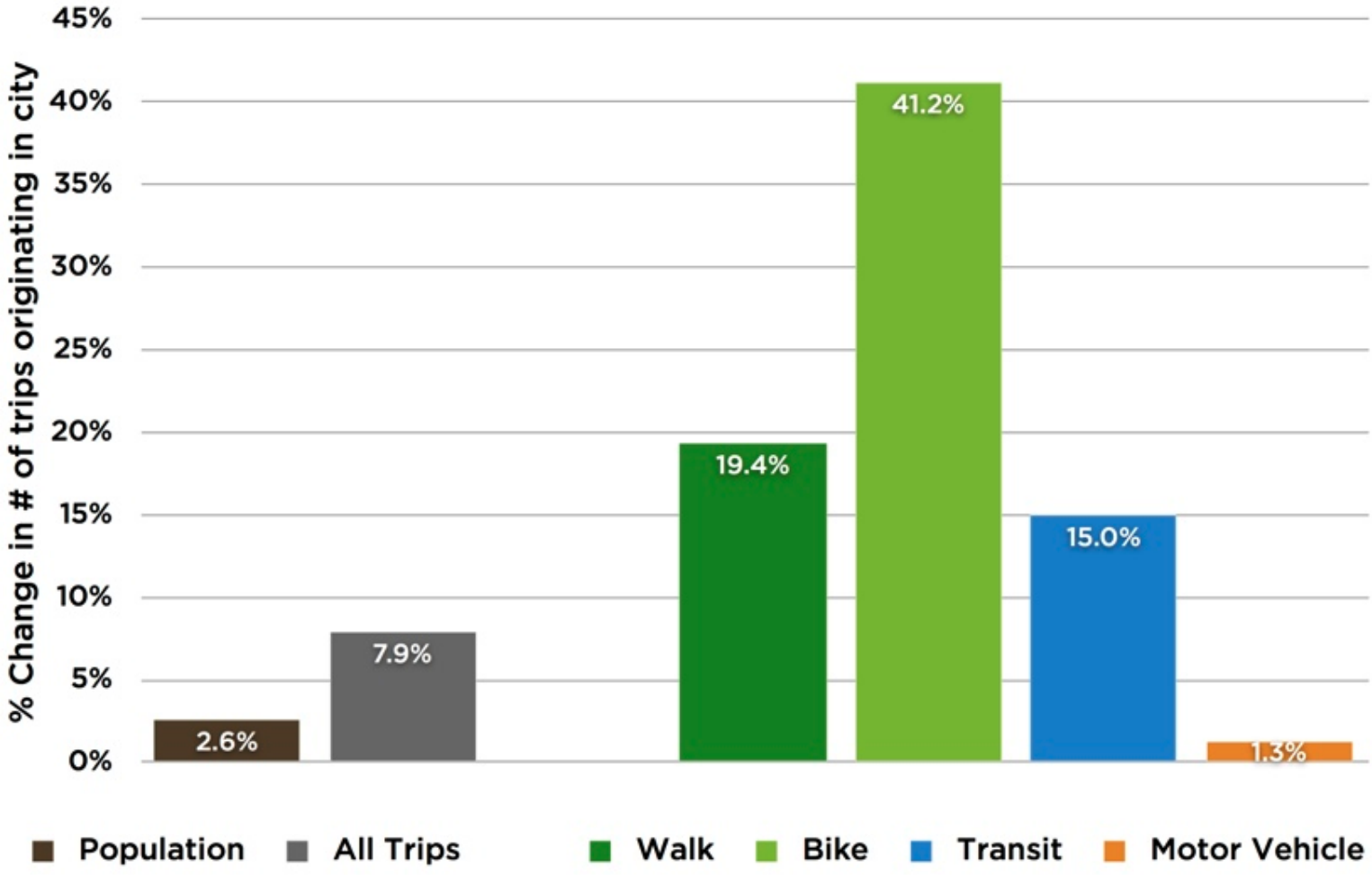
Over **90%** support or conditional support for draft directions.

Delivering the Plan

IMPLEMENTATION PRINCIPLES

- Invest wisely
- Think big picture
- Be opportunistic
- Innovate
- Monitor, learn, adapt
- Work together
- Involve & empower locals

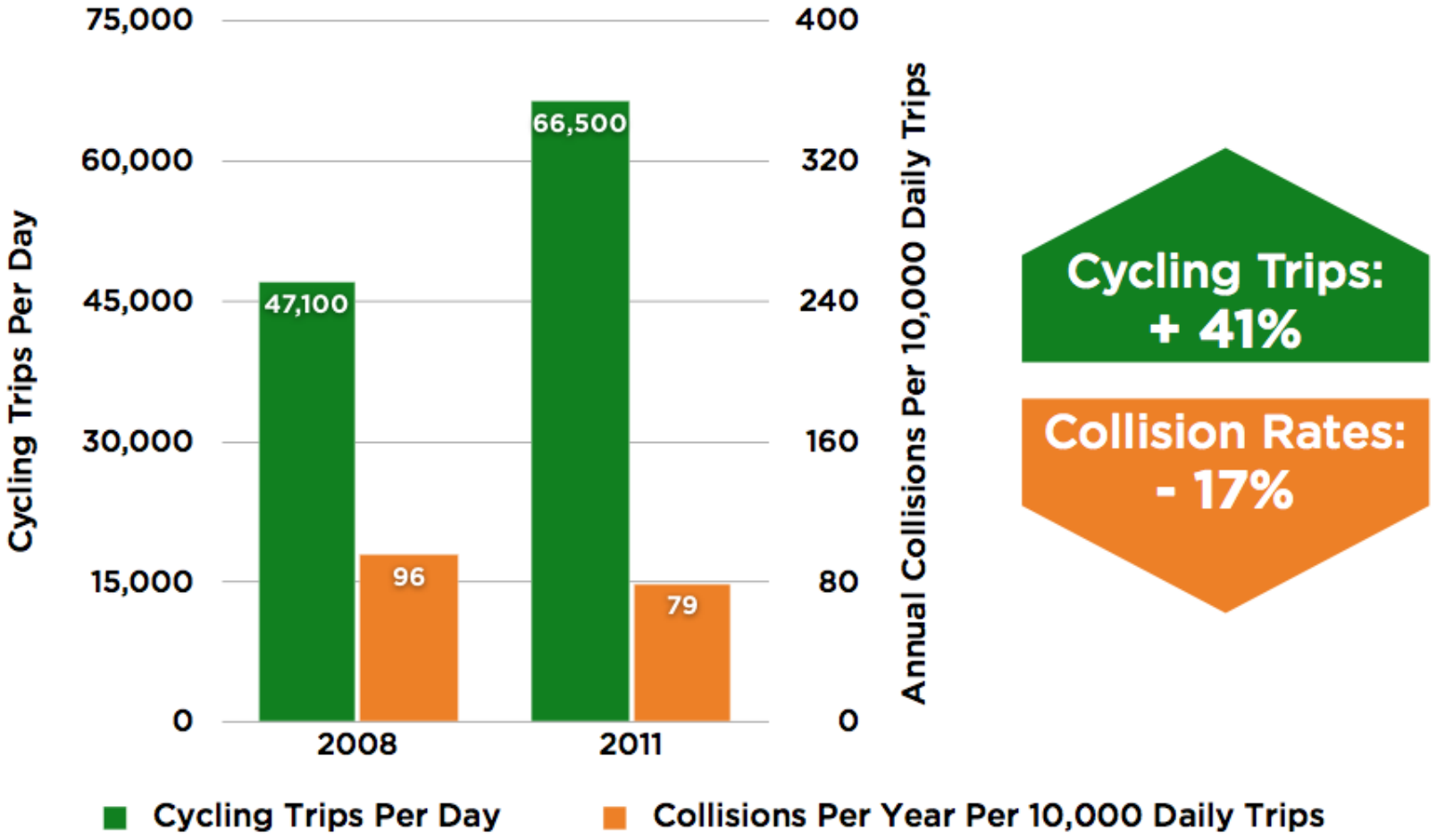
Percentage Change in # of Trips, 2008 to 2011



Source: 2008 and 2011 TransLink Trip Diaries

Safety in Numbers

Collision rates between motor vehicles & cyclists decrease as more people bike



All numbers for the City of Vancouver. Collision rates based on ICBC data averaged over 3 years (2007-2009 and 2010-2012). Trip rates based on TransLink trip diaries conducted in Fall 2008 and Fall 2011. Opinions expressed do not necessarily represent the views of TransLink.

CITY OF VANCOUVER
GREENEST CITY
2020 ACTION PLAN
PART TWO: 2015-2020

TRANSPORTATION 2040
MOVING FORWARD
CITY OF VANCOUVER

CITY OF VANCOUVER
RENEWABLE CITY STRATEGY
2015-2050

Renewable City Strategy

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.

2015: Renewable City Public Consultation

- 15 events
- 43,000+ people included
- 13,000+ people engaged

Vancouver is primed for success

GREENHOUSE GAS EMISSIONS PER-CAPITA
(tonnes CO_2e)

Stockholm 2012	3.0
Copenhagen 2011	3.9
Vancouver 2014	**4.2**
Tokyo 2010	4.7
Seattle 2012	5.9
San Francisco 2012	6.6

CITY OF VANCOUVER | GREENEST CITY

GOAL

VANCOUVER IS A CITY THAT USES ONLY RENEWABLE SOURCES OF ENERGY

renewable energy is
naturally replenished as it is used

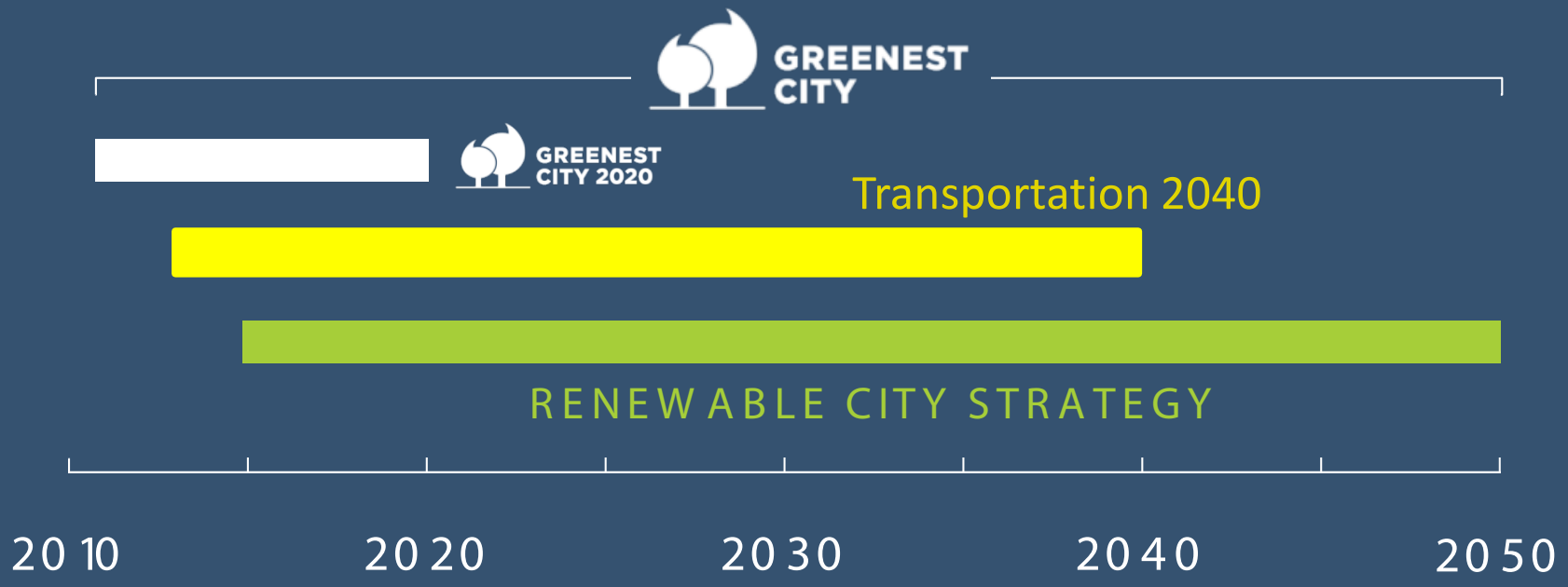
TARGETS

Derive 100% of the energy used in Vancouver from renewable sources before 2050

Reduce greenhouse gas emissions by 80% below 2007 levels before 2050

2020 AND BEYOND

In March 2015, City Council renewed its commitment beyond 2020 to a renewable future.



ECONOMIC OPPORTUNITIES

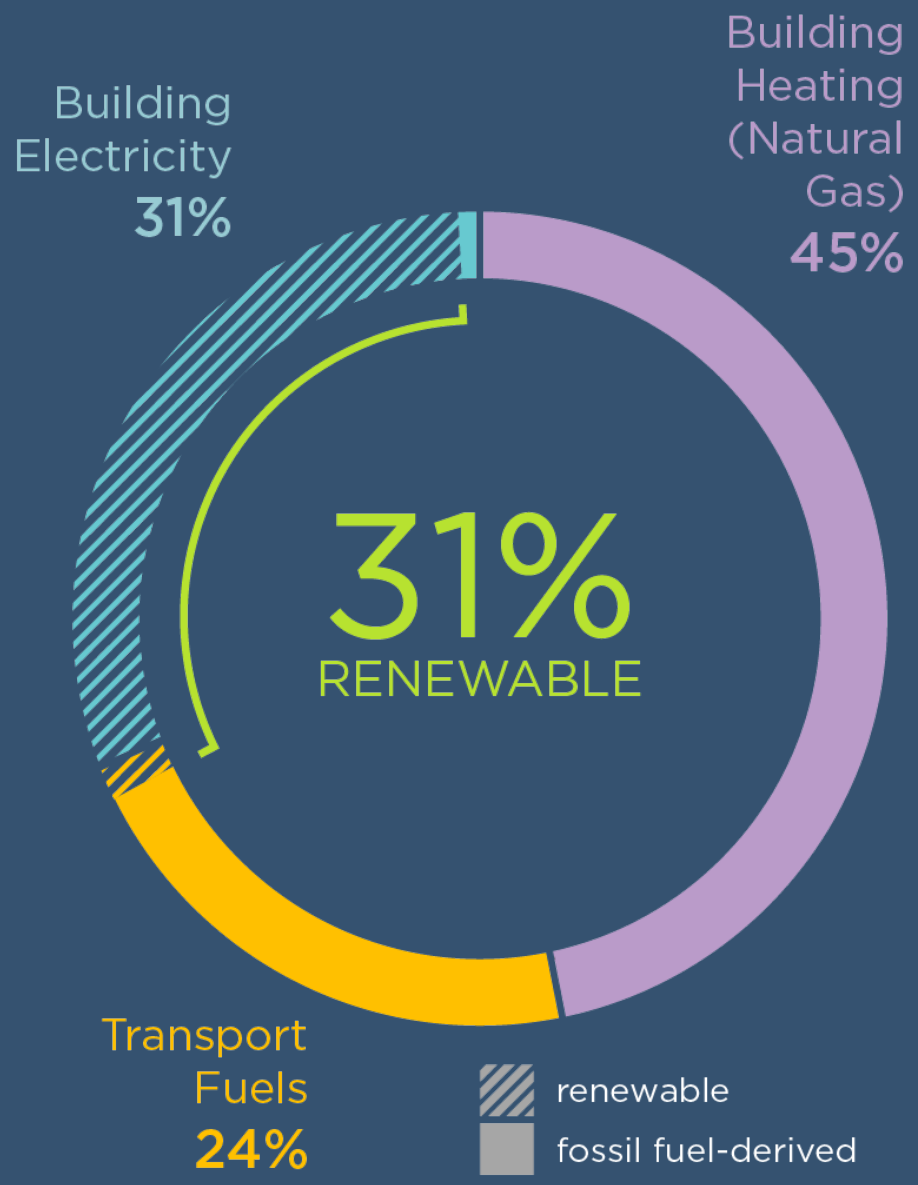
Foster innovation

Strengthen businesses & economy

Attract "green capital"

We can do this.

31% is Vancouver's energy is already renewable.



ENERGY USED IN VANCOUVER IN 2014

1

REDUCE ENERGY USE

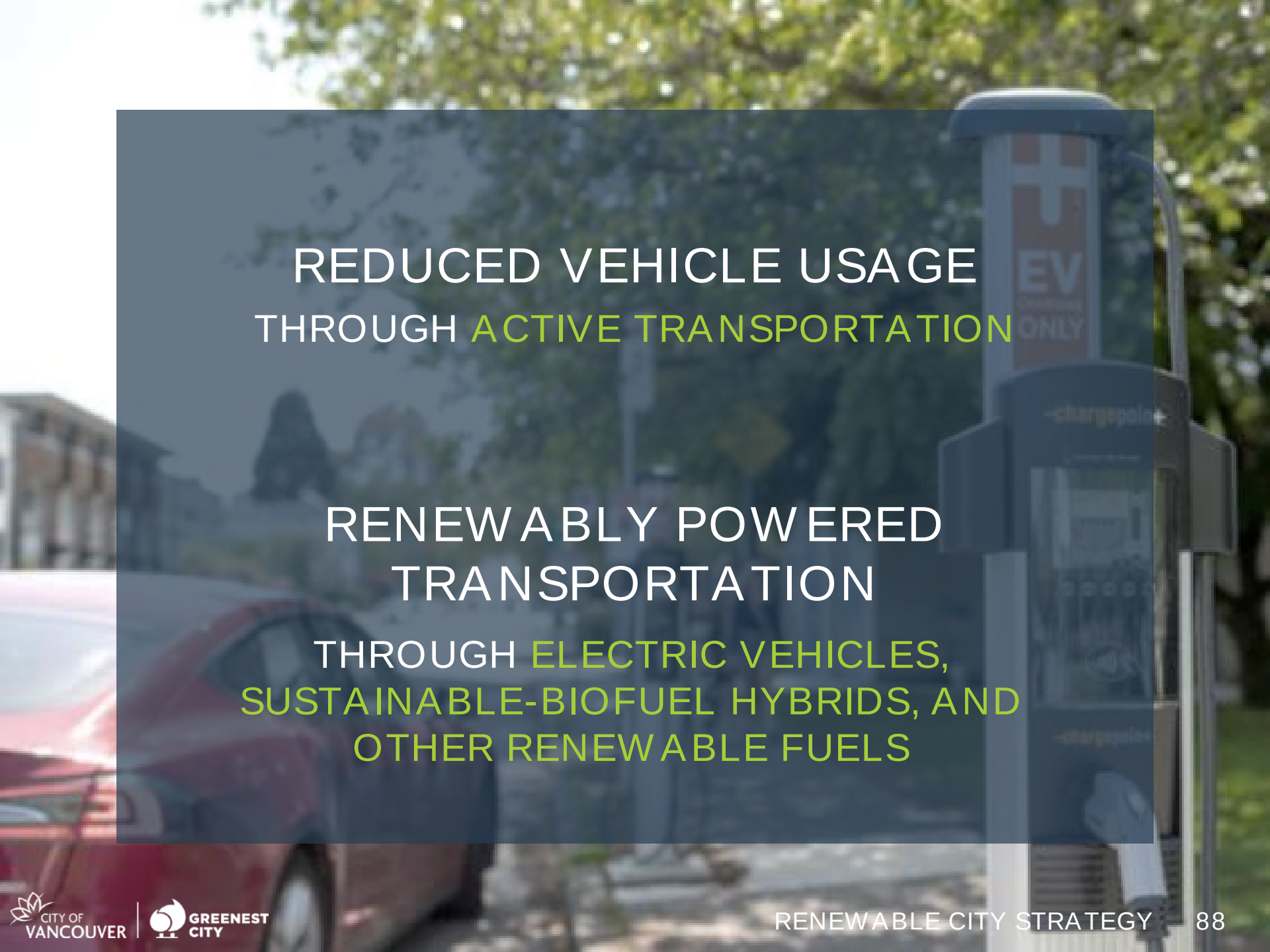
2

INCREASE USE OF RENEWABLE ENERGY

3

INCREASE SUPPLY OF RENEWABLE ENERGY

A strategic approach to 100% renewable



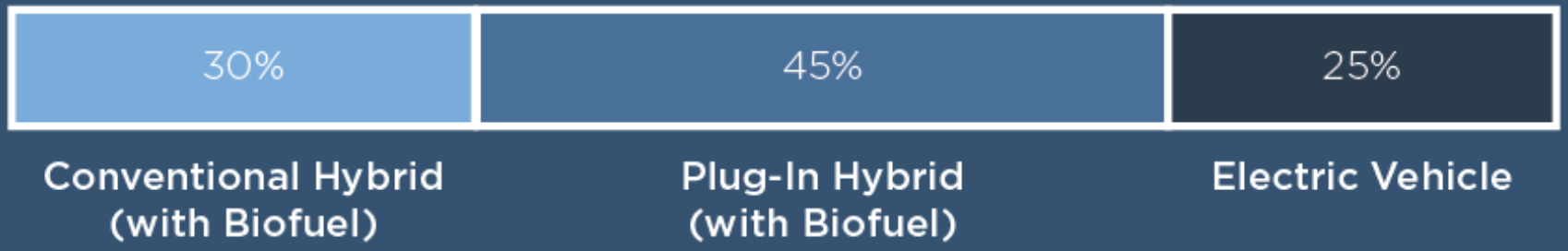
REDUCED VEHICLE USAGE

THROUGH ACTIVE TRANSPORTATION

RENEWABLY POWERED TRANSPORTATION

THROUGH ELECTRIC VEHICLES, SUSTAINABLE-BIOFUEL HYBRIDS, AND OTHER RENEWABLE FUELS

PASSENGER VEHICLE FUEL TYPES BY 2050



REDUCE ENERGY USE

- Active transportation
- Transit

INCREASE USE AND SUPPLY OF RENEWABLE ENERGY

- Electric vehicles
- Biofuel-powered vehicles
- Car-sharing

PASSENGER VEHICLES

COMMERCIAL TRANSPORT

Small in number but energy intensive

Projected future technologies » Sustainable biofuels, biomethane, hydrogen, electricity

T.1 Use land-use & zoning policies to develop complete compact communities and complete streets that encourage active transportation and transit

T.2 Improve transit services as set out in *Transportation 2040*

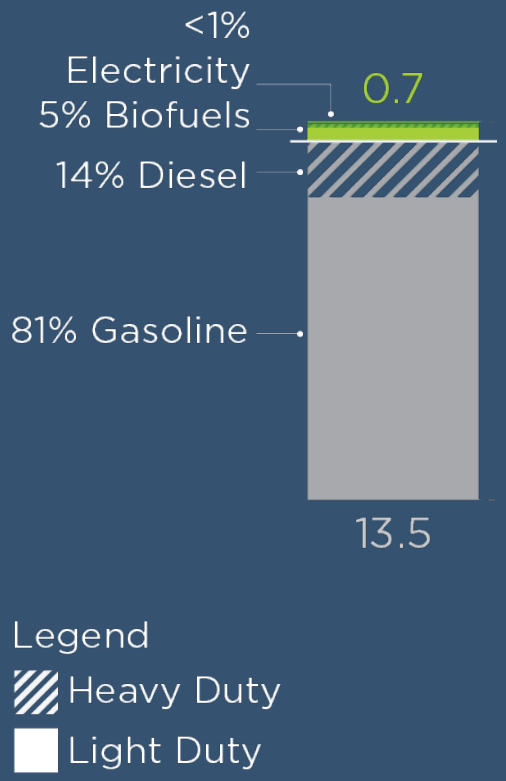
T.3 Transition light-duty vehicles (cars & light trucks) to be predominantly electric, plug-in electric or sustainable biofuel powered

T.4 Develop car-sharing and regional mobility pricing to encourage rational journey choice

T.5

Better manage commercial vehicle journeys and transition heavy-duty (commercial) vehicles to sustainable biofuels, biomethane, hydrogen and electricity

TOTAL ENERGY USE *in million GJ*	2014
	14.2
RENEWABLE	5%



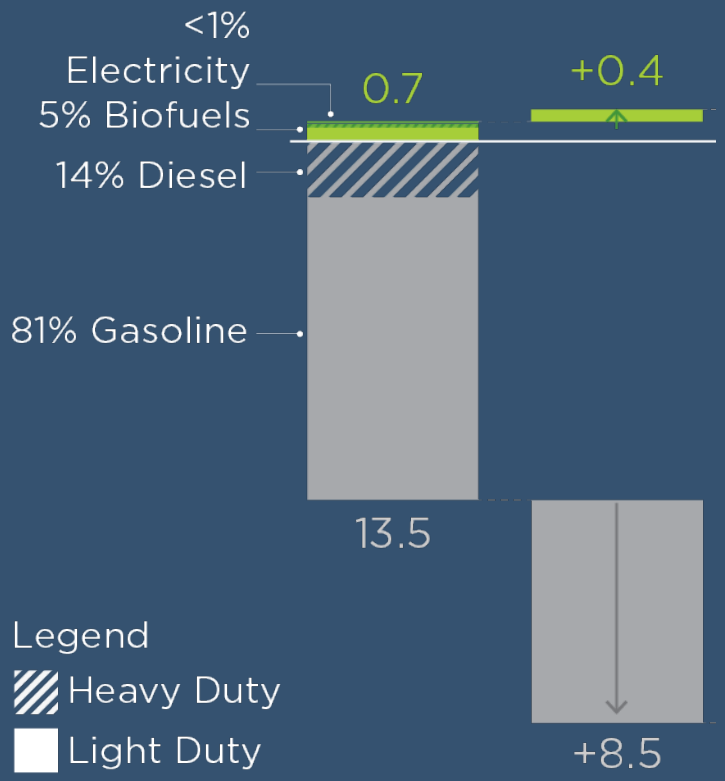
TRANSPORTATION ENERGY USE IN VANCOUVER IN 2014

TOTAL ENERGY USE
in million GJ

23.1

RENEWABLE

5%



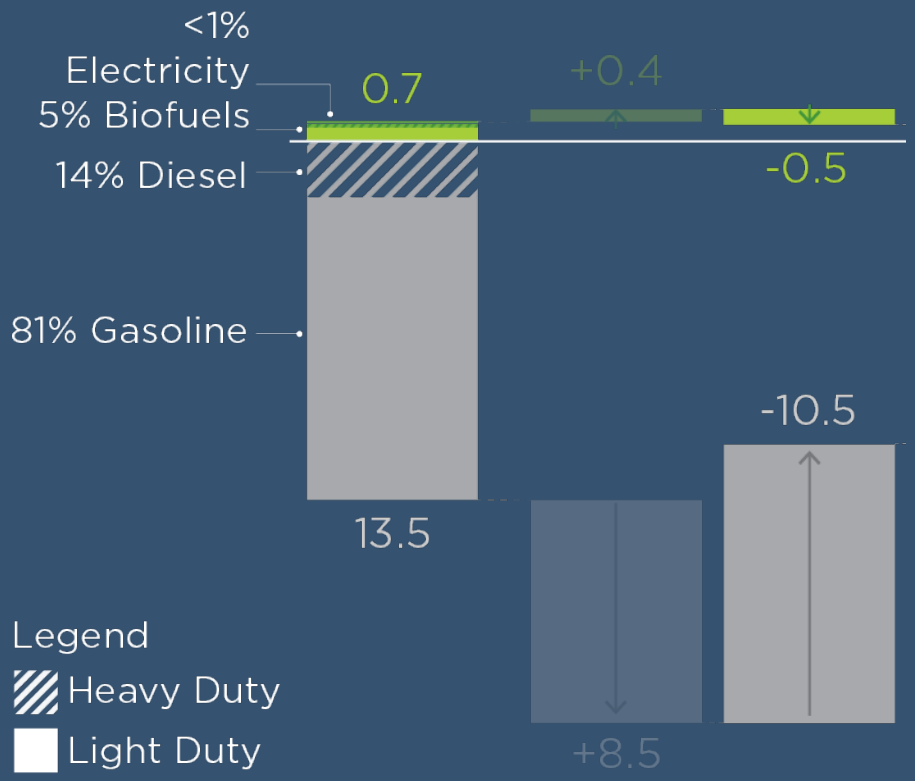
BUSINESS-AS-USUAL GROWTH TO 2050

TOTAL ENERGY USE
in million GJ

RENEWABLE

12.1

5%



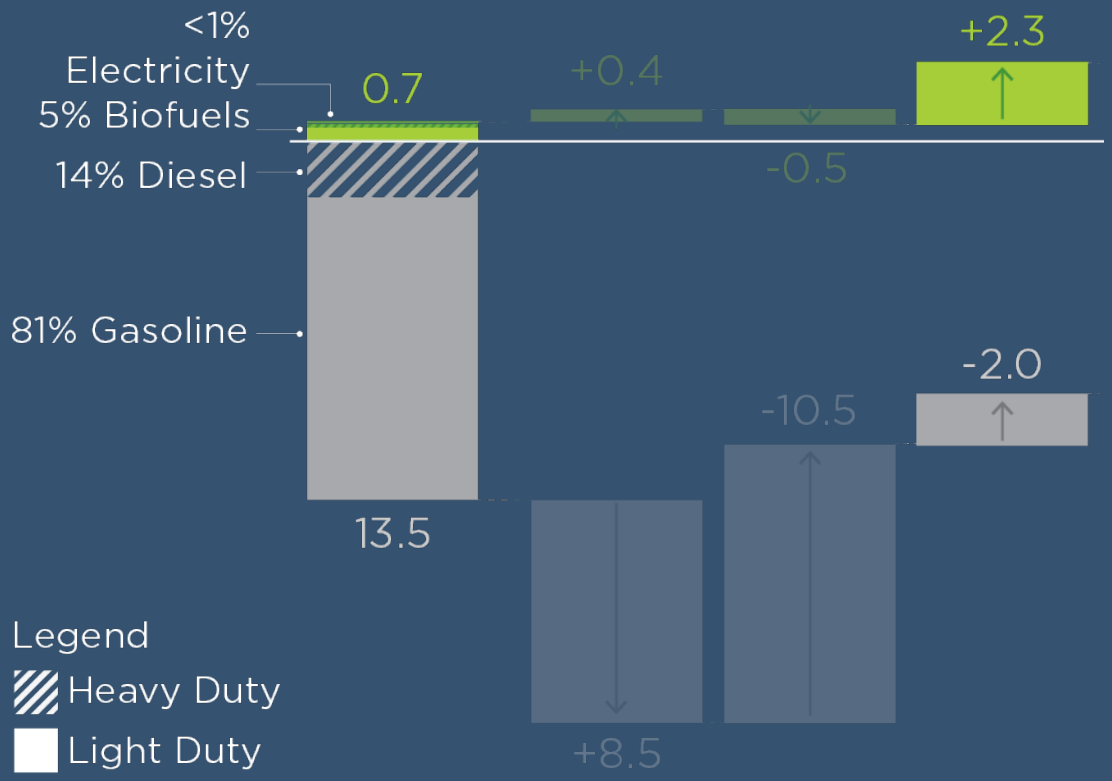
1. DECREASE ENERGY DEMAND

TOTAL ENERGY USE
in million GJ

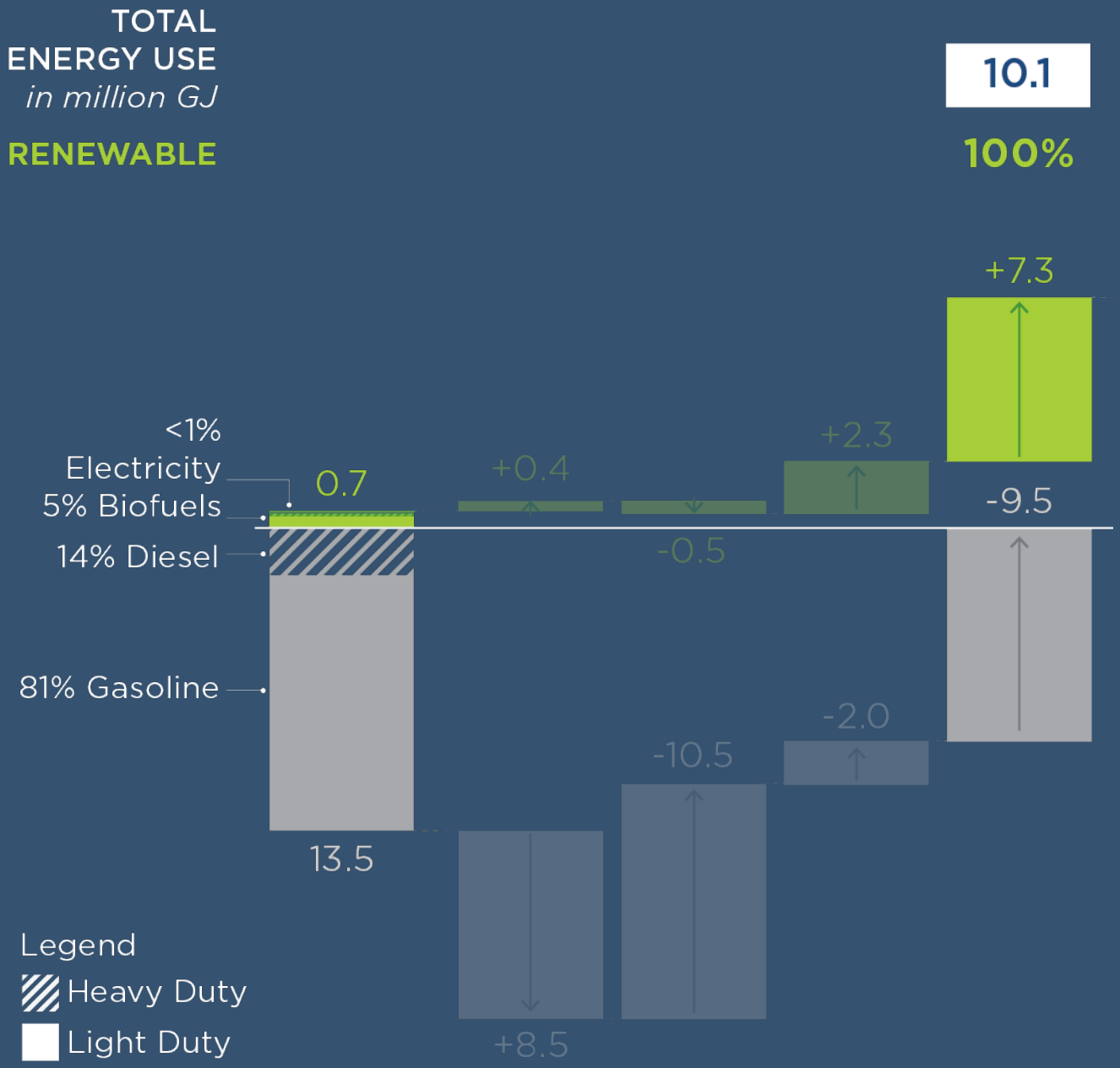
RENEWABLE

12.4

23%



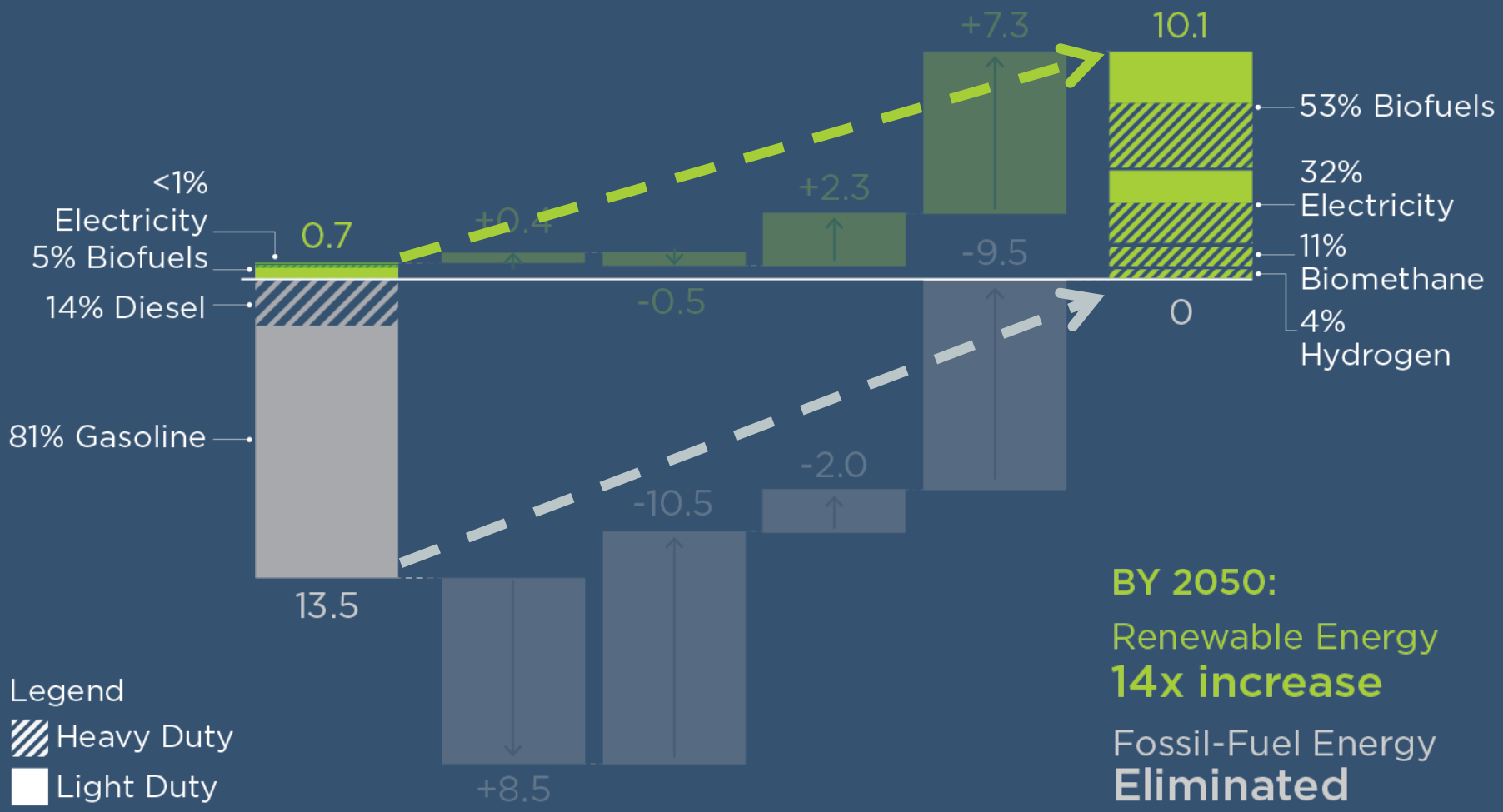
2. INCREASE USE OF RENEWABLE ENERGY



3. INCREASE SUPPLY OF RENEWABLE ENERGY

TRANSPORTATION

	2014	2050
TOTAL ENERGY USE *in million GJ*	14.2	10.1
RENEWABLE	5%	100%



BY 2050:

Renewable Energy
14x increase

Fossil-Fuel Energy
Eliminated

Questions?