GREENEST CITY & RENEWABLE CITY INITIATIVES

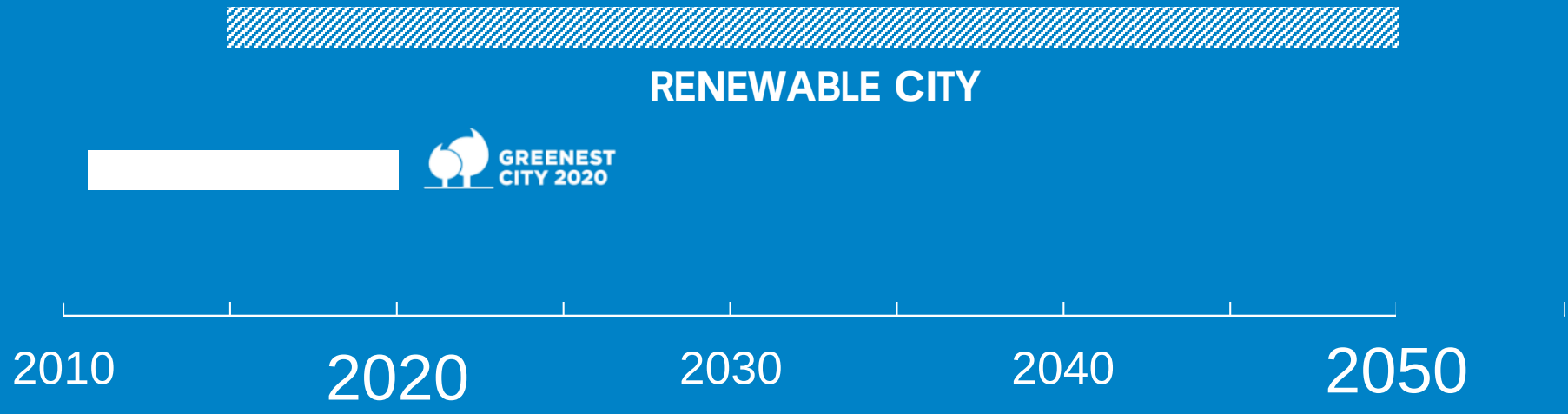
Planning, Urban Design & Sustainability
November 16, 2016

CITY OF VANCOUVER | GREENEST CITY

RENEWABLE CITY STRATEGY (RCS)

2020 AND BEYOND

In November 2015, City Council committed to achieving 100% renewable energy use before 2050.

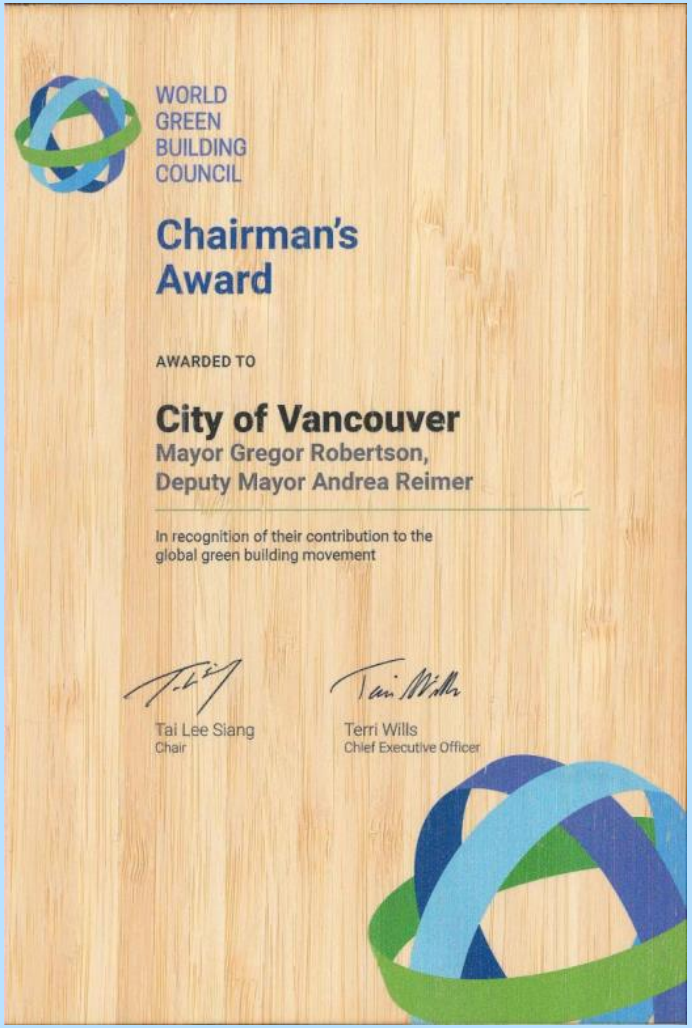


RCS 2016 HIGHLIGHTS

RCS approved
~ November 2015

Zero Emissions Building Plan
~ July 2016

Engagement and education
~ ongoing



▶ *PLAY VIDEO*

IN 2017

Renewable Energy Strategy for City Facilities

VBBL Amendments for Energy Efficient Low-Rise MURBs

Building Retrofit Plan Update

RCS Implementation Plan

TODAY *EV Ecosystem Strategy*

Greenest City Fund

Green Building Policy for Rezonings Update

EV ECOSYSTEM STRATEGY

Sustainability Group
REPORT TO COUNCIL
November 16, 2016

CITY OF VANCOUVER | GREENEST CITY

The Vancouver Context for EVs

The EV Ecosystem

The City's Role and Approach

CITY OF VANCOUVER | GREENEST CITY

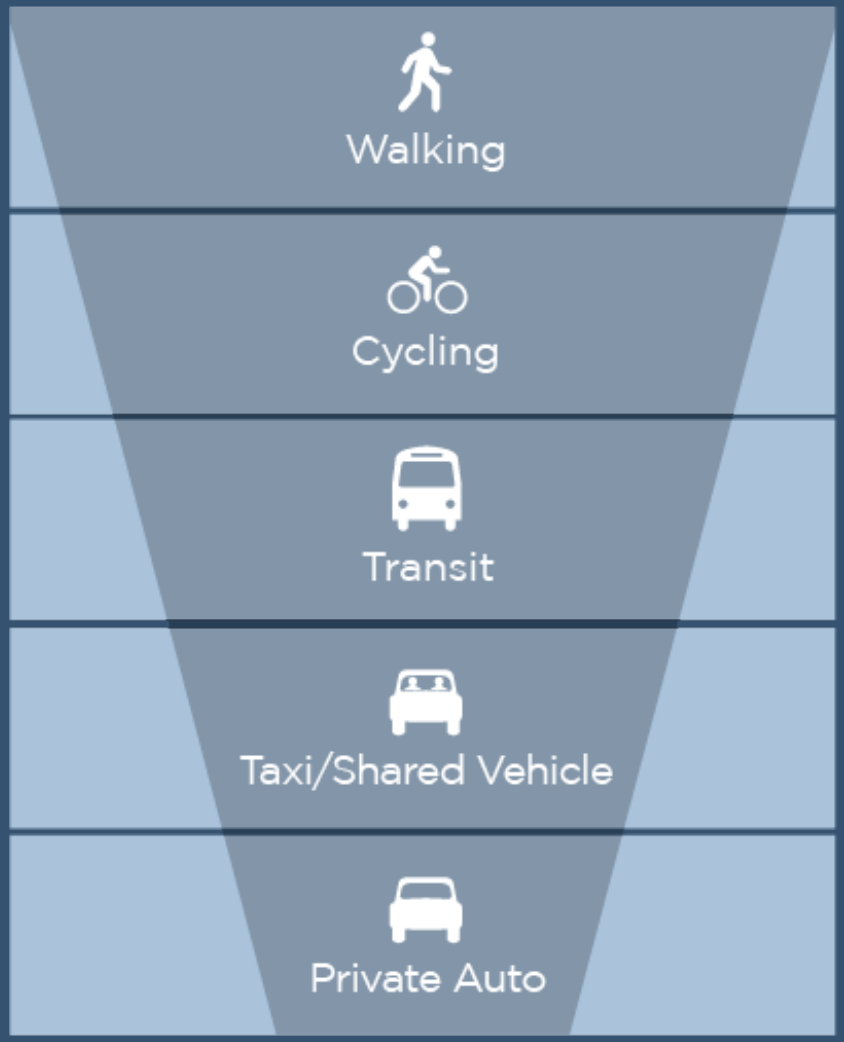
85% of Vancouverites

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

CITY POLICY CONTEXT

» Renewable City Strategy
» Greenest City Action Plan
» Transportation 2040
» Healthy City Strategy

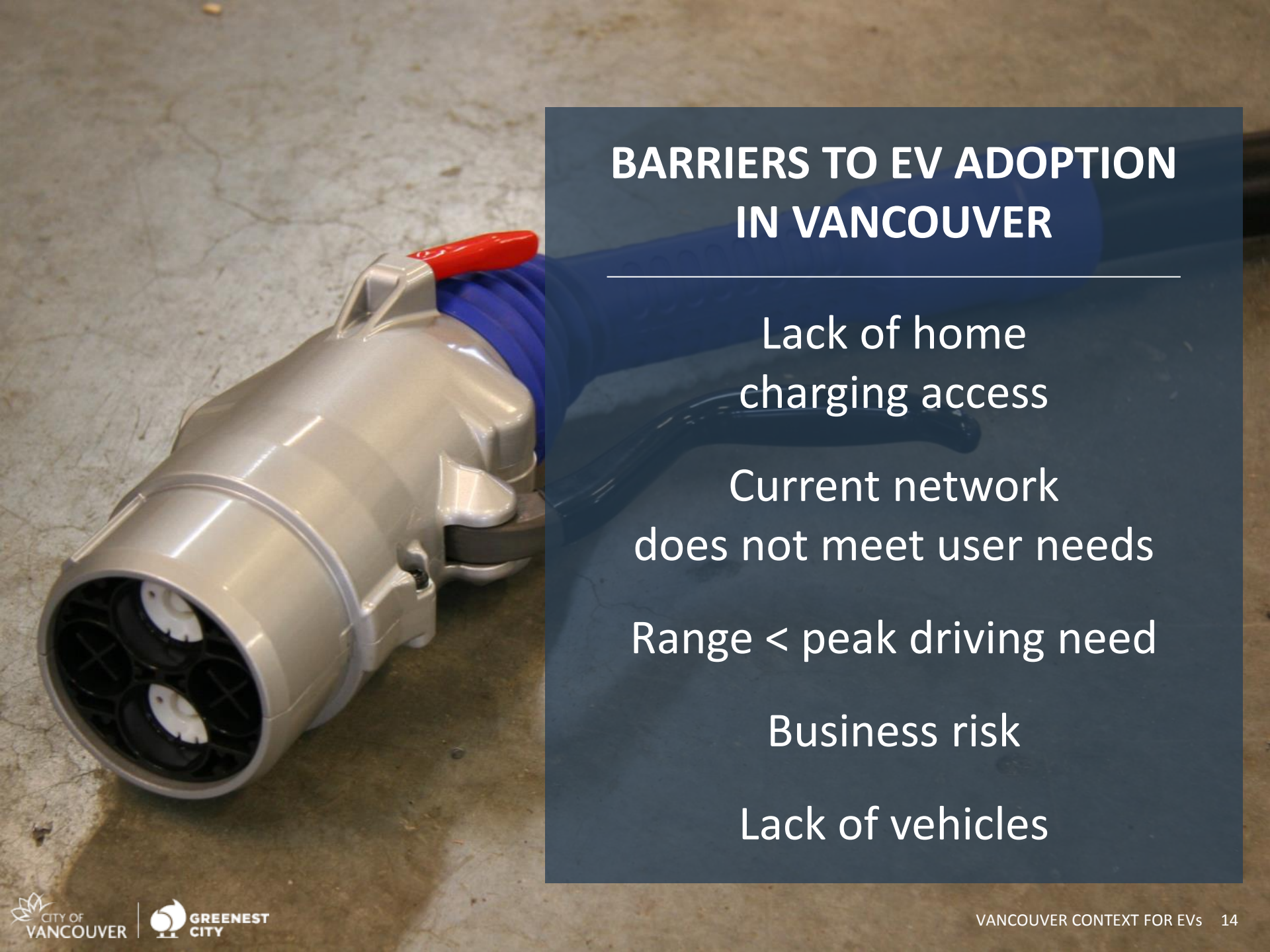
EV charging infrastructure supports these areas



OTHER LEADING JURISDICTIONS

VANCOUVER'S CHARGING INFRASTRUCTURE

2007	EV Working Group
2009	**Vancouver Building By-Law**
2010	Project Get Ready
2011-2014	Charge & Go
2016	DC Fast Charge



BARRIERS TO EV ADOPTION IN VANCOUVER

Lack of home charging access

Current network does not meet user needs

Range < peak driving need

Business risk

Lack of vehicles

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.

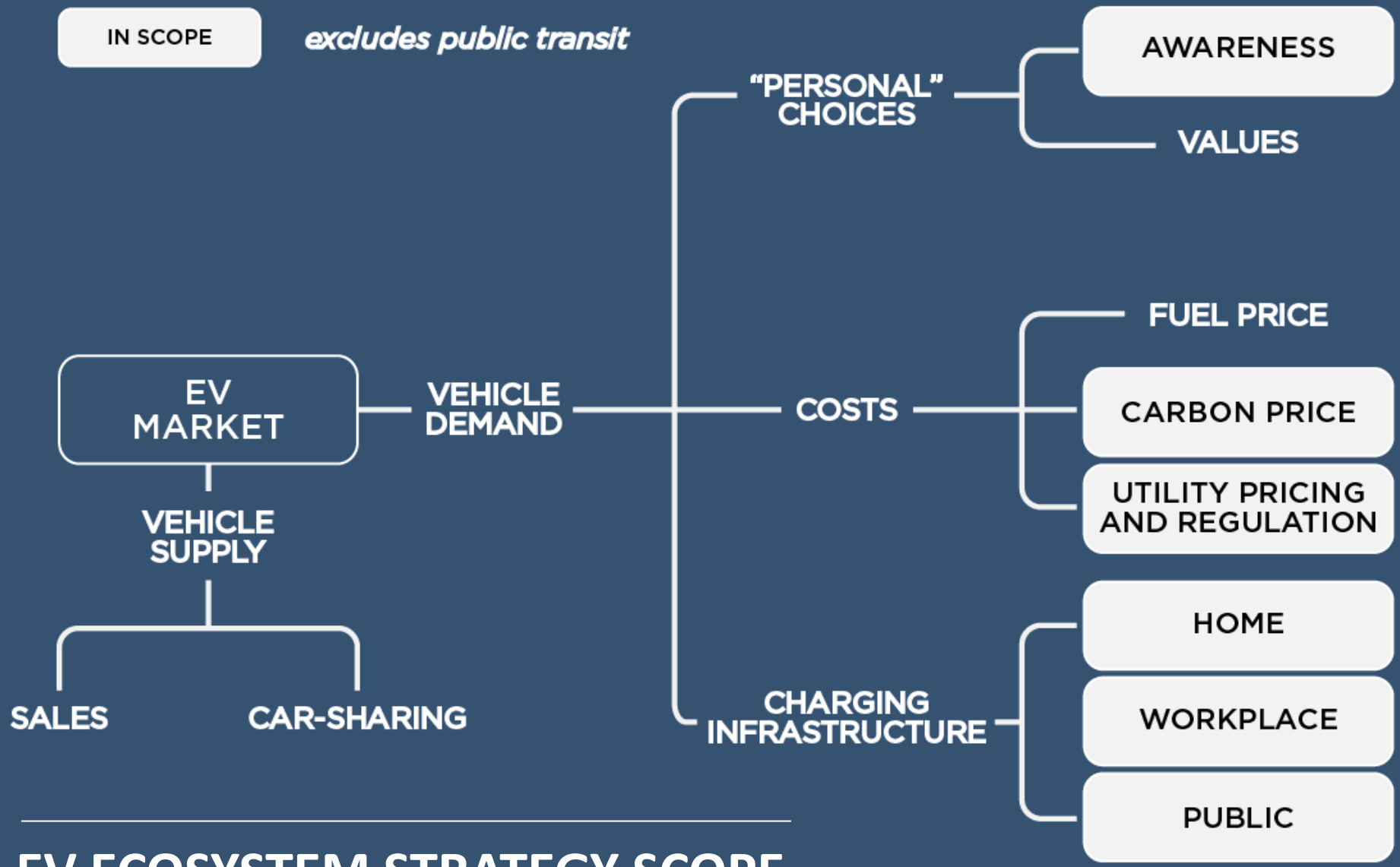
THE EV ECOSYSTEM

Charging needs by neighbourhood and building use

Integrated and adaptable; part of City planning process;

REMOVING BARRIERS

Accessibility
Affordability
Economic Opportunity



EV ECOSYSTEM STRATEGY SCOPE

2016-2021

Five year strategy with long-term view

MARKET SUPPORT

available and reliable infrastructure

THE CITY'S ROLE

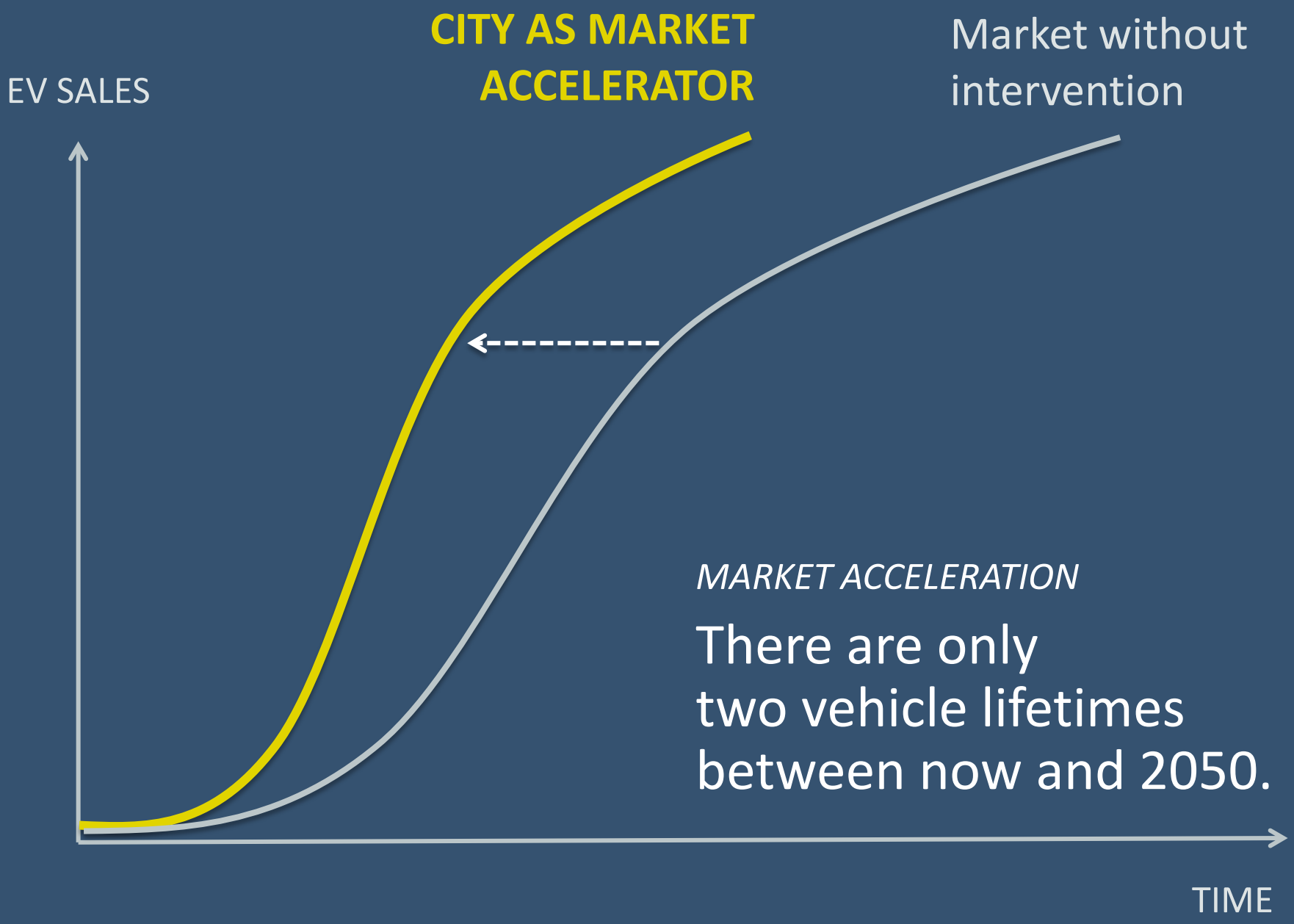
POLICY LEVERS

Land-use and building policies

OPTION TO EXIT

potential transition to private sector

CITY AS MARKET ACCELERATOR

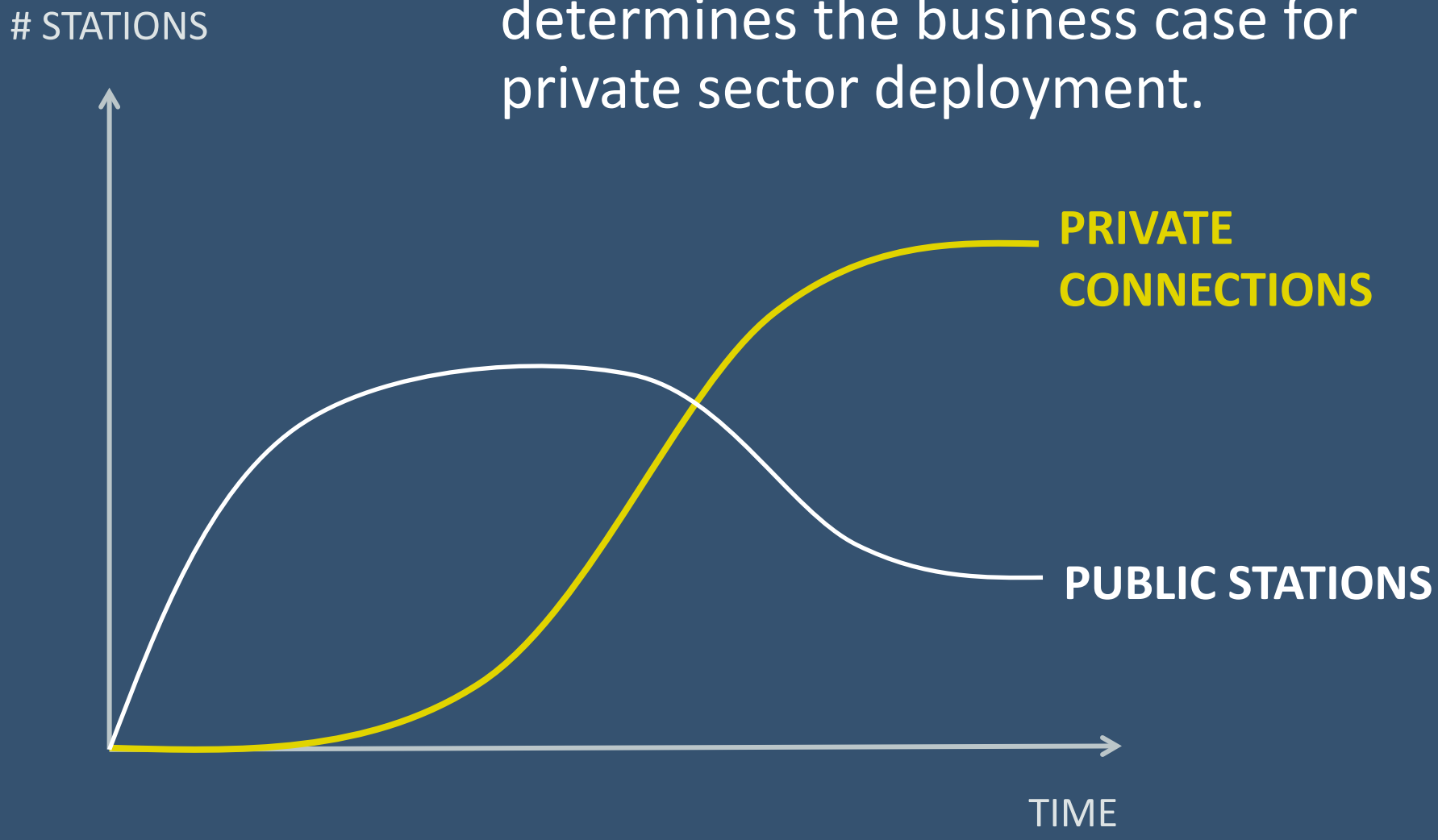


MARKET ACCELERATION

There are only two vehicle lifetimes between now and 2050.

LONG-TERM BUILD-OUT

Market size (i.e., # customers) determines the business case for private sector deployment.



CAPITAL REQUEST $3M over 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

Estimated # of EVs in Vancouver

~1,000	**~30,000**	**~200,000**
in 2016	*by mid-2020s*	*by 2050*

APPROACH

Expand access to home and workplace charging

Improve the public charging network

Integrate EV infrastructure planning into core City processes

HOME AND WORKPLACE

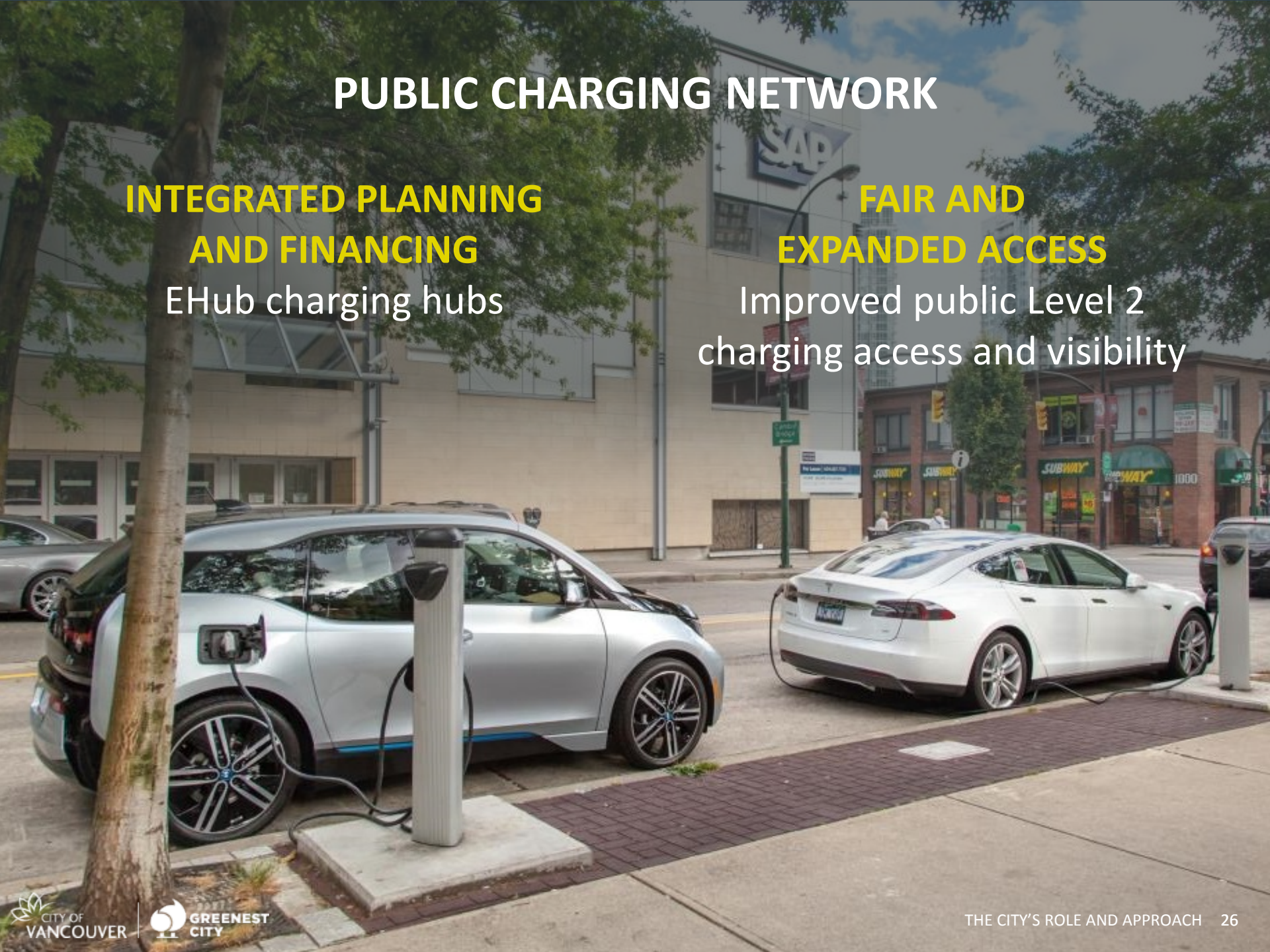
FLEXIBILITY AND SIMPLICITY
Expand EV charging requirements

VISIBILITY
Require specific, highly visible labelling

FINANCIAL SUPPORT
Develop incentive programs

ADVOCACY
Provide certainty of access

PUBLIC CHARGING NETWORK



INTEGRATED PLANNING AND FINANCING

EHub charging hubs

FAIR AND EXPANDED ACCESS

Improved public Level 2 charging access and visibility

CORE CITY PROCESSES

ENGINEERING SERVICES

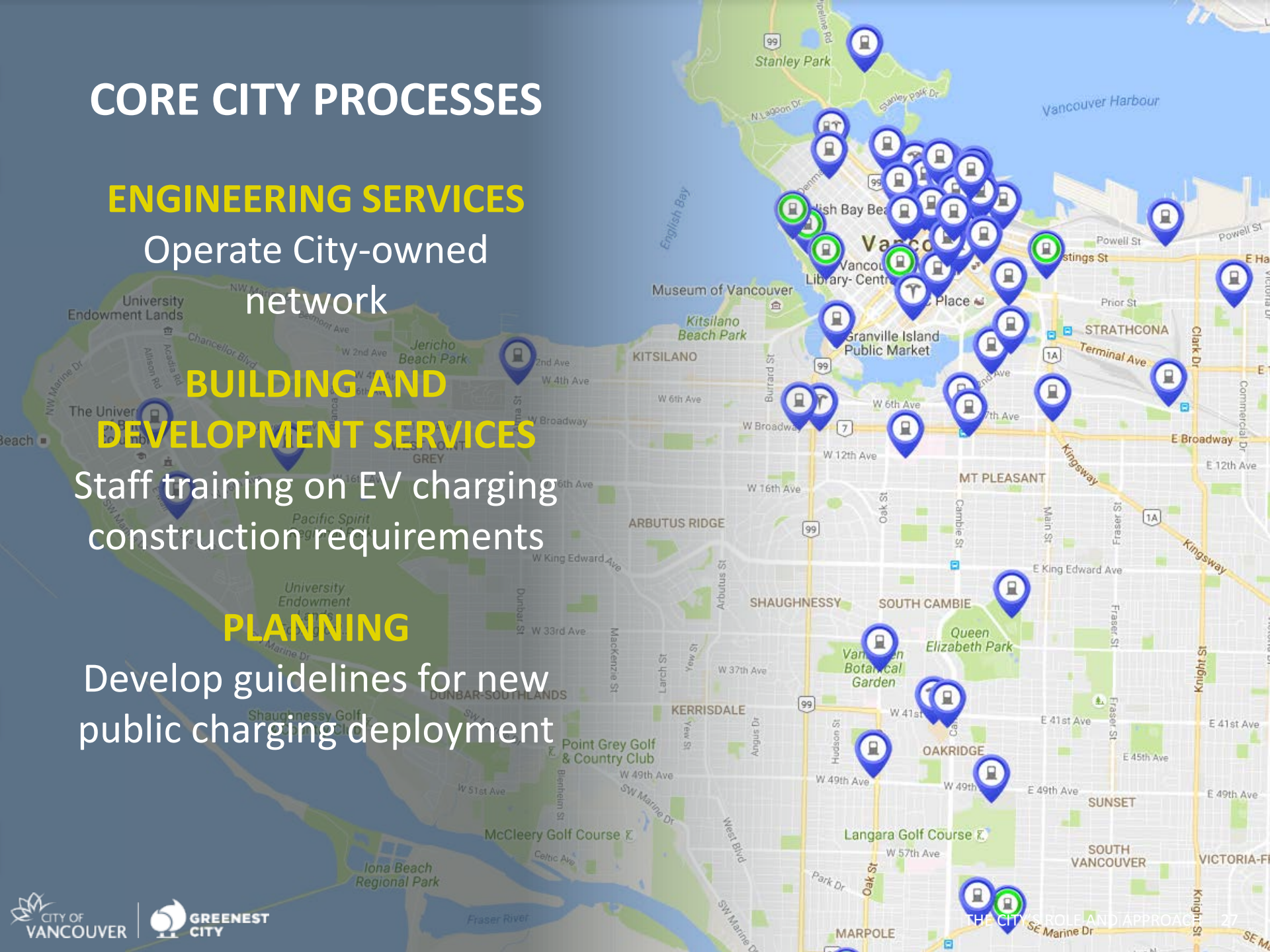
Operate City-owned network

BUILDING AND DEVELOPMENT SERVICES

Staff training on EV charging construction requirements

PLANNING

Develop guidelines for new public charging deployment



CAPITAL REQUEST

$3M over five years

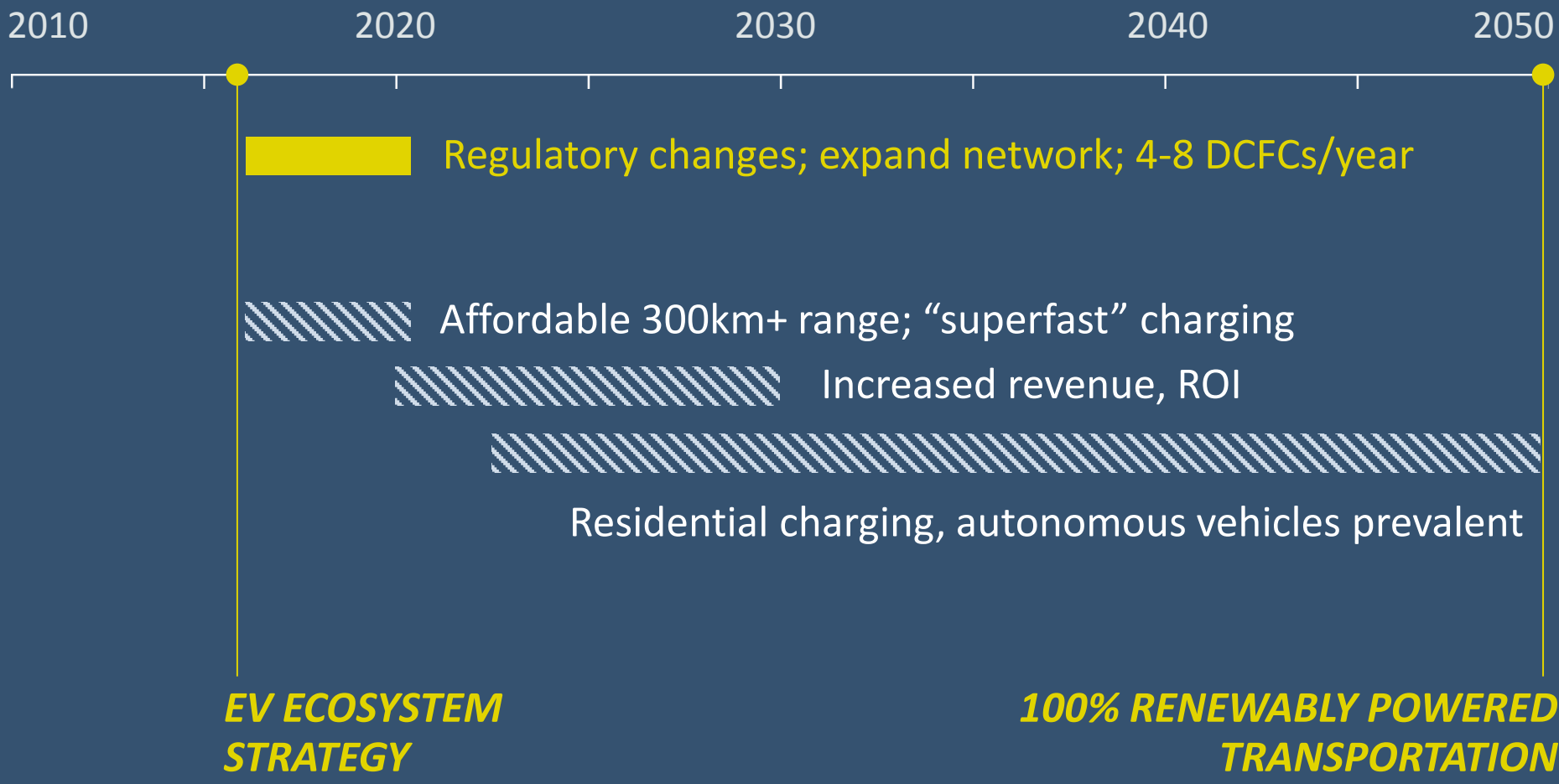
EV ECOSYSTEM STRATEGY OUTCOMES

20 - 25
fast charging stations

40
Level 2 stations

$40M
117,000 tCO_2e
annual savings by mid-2020s

WHERE WE'RE GOING



NEXT STEPS

NOVEMBER

Final strategy to stakeholders

Park Board

ACES Working Group

DECEMBER-JANUARY

Regional Pricing Committee

Quick Start actions


MURB retrofit incentive increases
EV affordability in existing buildings
Cellular repeaters in underground parking for EV charging network services and preparation for autonomous vehicles
E Hubs supplement home charging
Construction requirements reflect building use
MARKET
VANCOUVER
mobi
Public fast charging enables EV car-sharing, EV commercial fleets and EV taxis

Questions?