



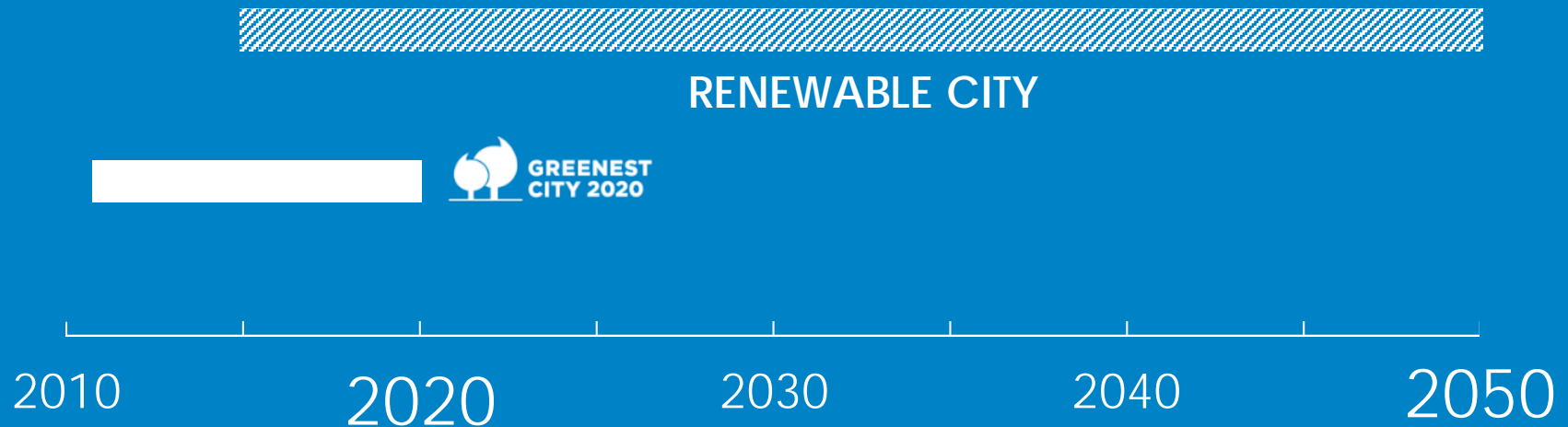
# GREENEST CITY & RENEWABLE CITY INITIATIVES

Planning, Urban Design &  
Sustainability  
November 16, 2016

# RENEWABLE CITY STRATEGY (RCS)

## 2020 AND BEYOND

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

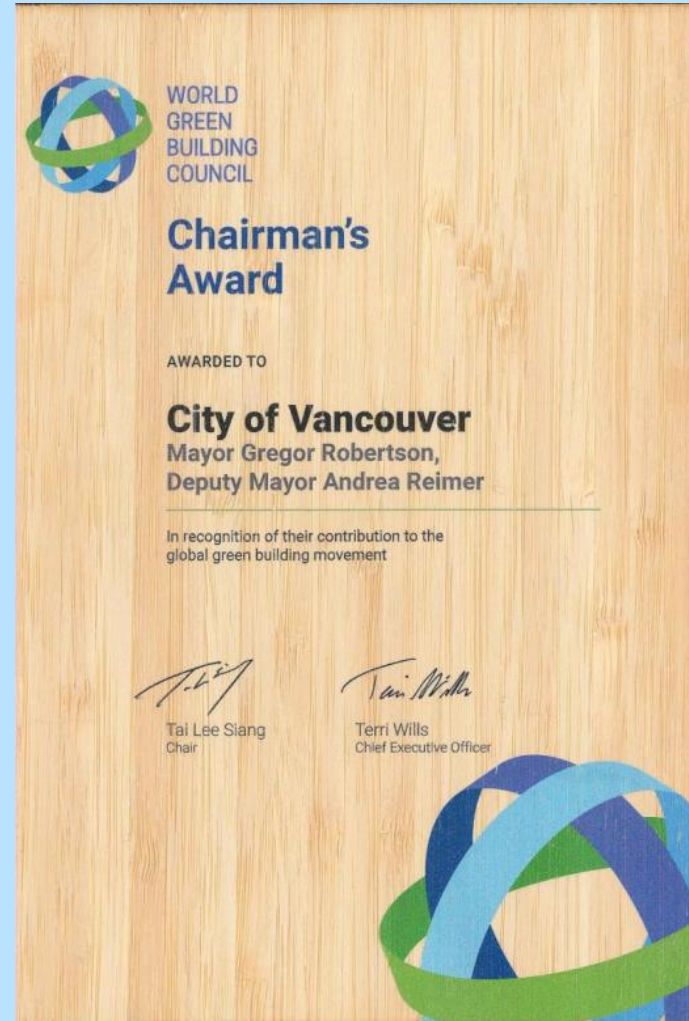


# RCS 2016 HIGHLIGHTS

RCS approved  
~ November 2015

*Zero Emissions  
Building Plan* ▶  
~ July 2016

Engagement  
and education  
~ ongoing







# RENEWABLE CITY

## OUR FUTURE TO 2050

 [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  
Rezoning Update*





# EV ECOSYSTEM STRATEGY

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Sustainability Group  
REPORT TO COUNCIL  
November 16, 2016





The Vancouver Context for EVs

The EV Ecosystem

The City's Role and Approach

# 85% of Vancouverites

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

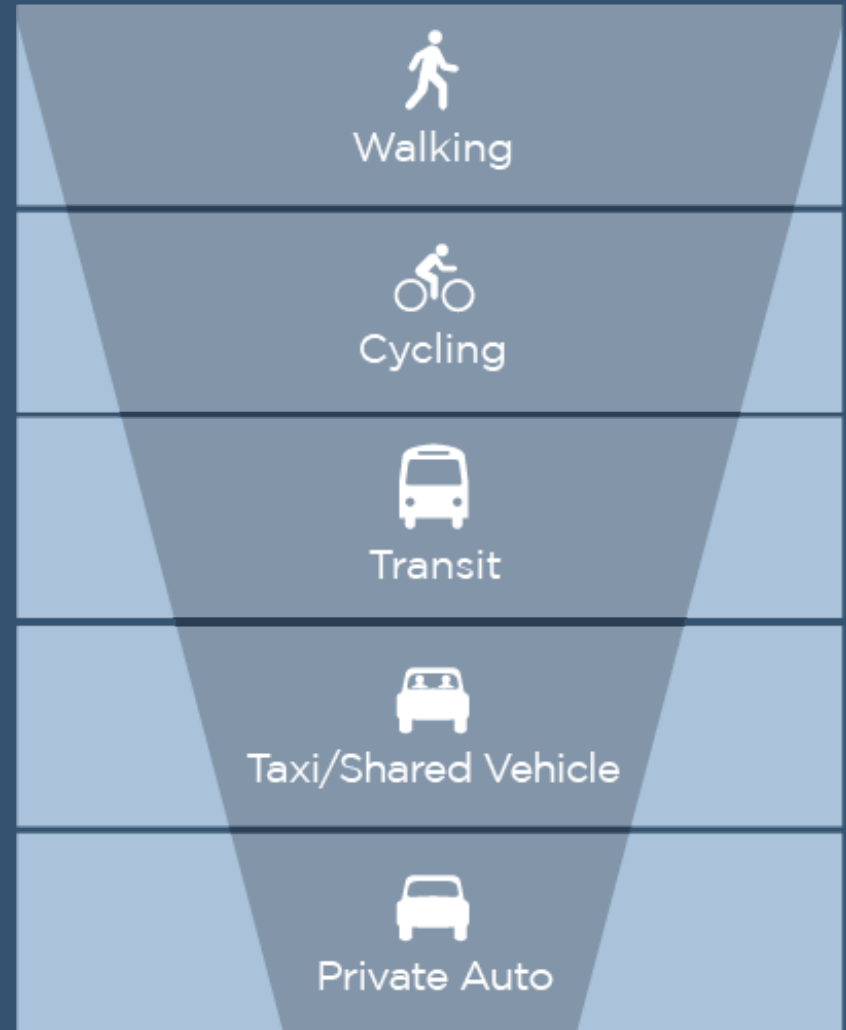




## CITY POLICY CONTEXT

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

EV charging infrastructure supports these areas

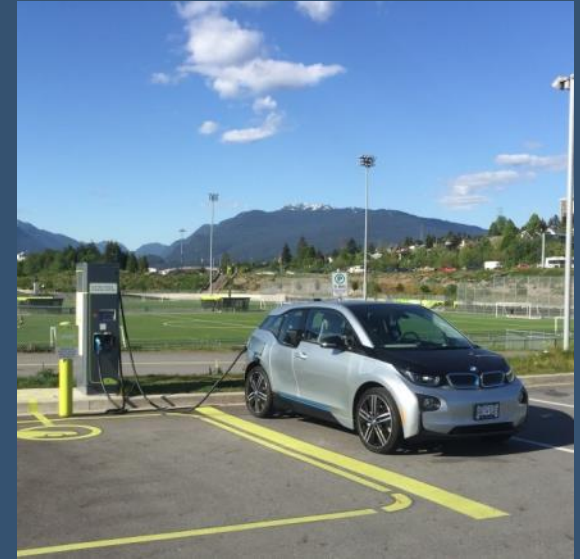


# OTHER LEADING JURISDICTIONS





# 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

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Lack of home  
charging access

Current network  
does not meet user needs

Range < peak driving need

Business risk

Lack of vehicles



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 triangle logo with the text "ChargePoint Network" inside. The background is a blurred outdoor setting with green foliage.

ChargePoint  
Network

## OBJECTIVE

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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;

*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*



# REMOVING BARRIERS

Accessibility  
Affordability

Economic Opportunity

*Expanded access to workplace charging*

*EHub for fast recharging of Commercial vehicles*

*Workplace retrofit incentive program*

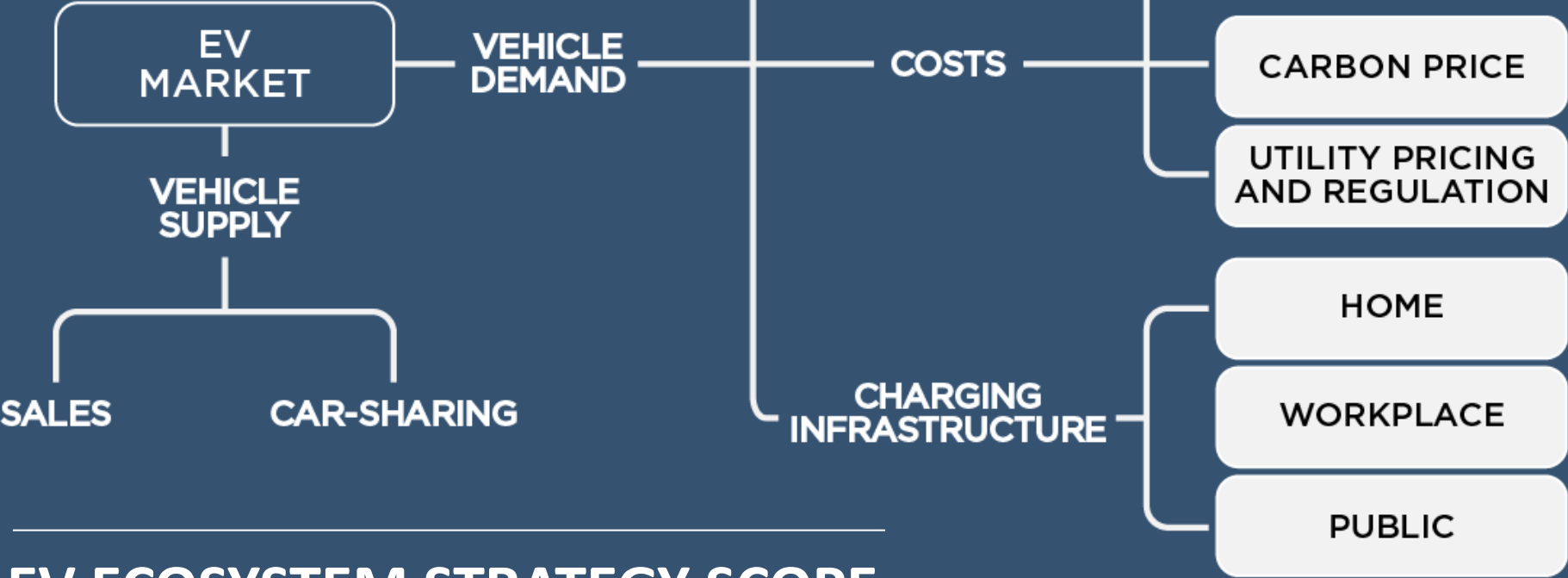
*Commercial curbside pilot project  
Supported by storefront*





IN SCOPE

*excludes public transit*



# 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

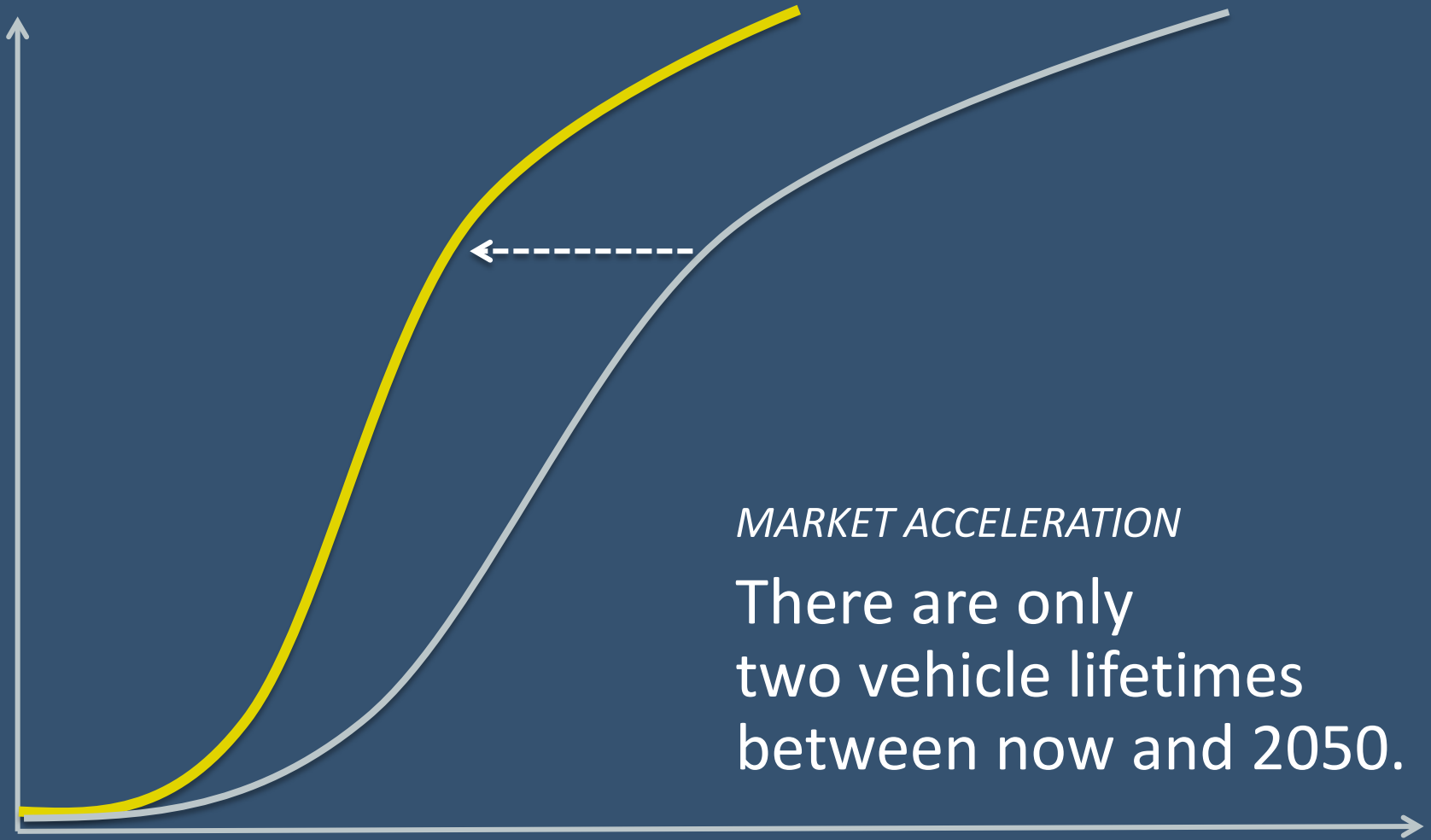
**OPTION TO EXIT**

potential transition  
to private sector

EV SALES

# CITY AS MARKET ACCELERATOR

Market without intervention



*MARKET ACCELERATION*

There are only two vehicle lifetimes between now and 2050.

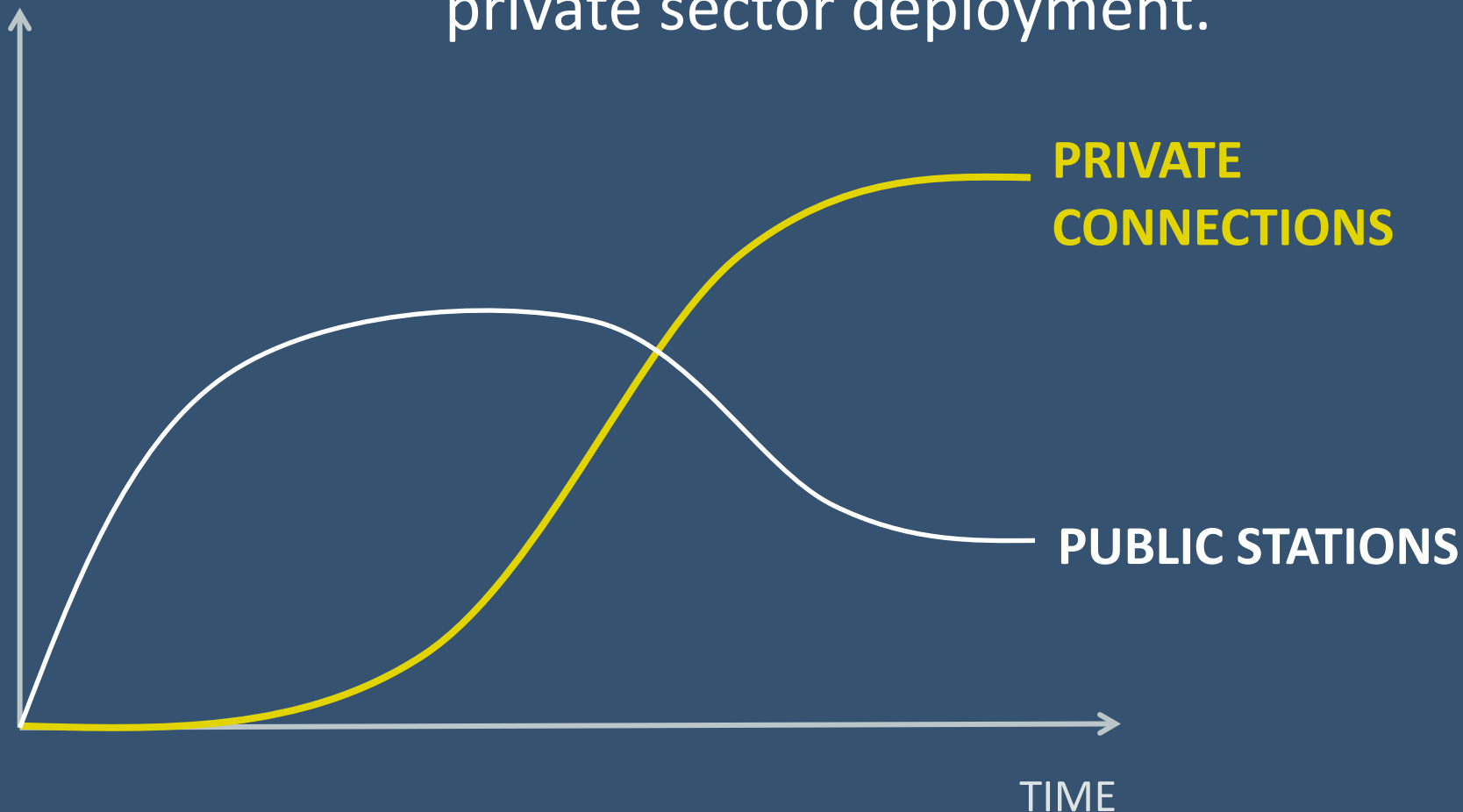
TIME



## LONG-TERM BUILD-OUT

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

# STATIONS



TIME

# CAPITAL REQUEST **\$3M** over five years

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

*Level 2 charging expanded to all public facing City properties*

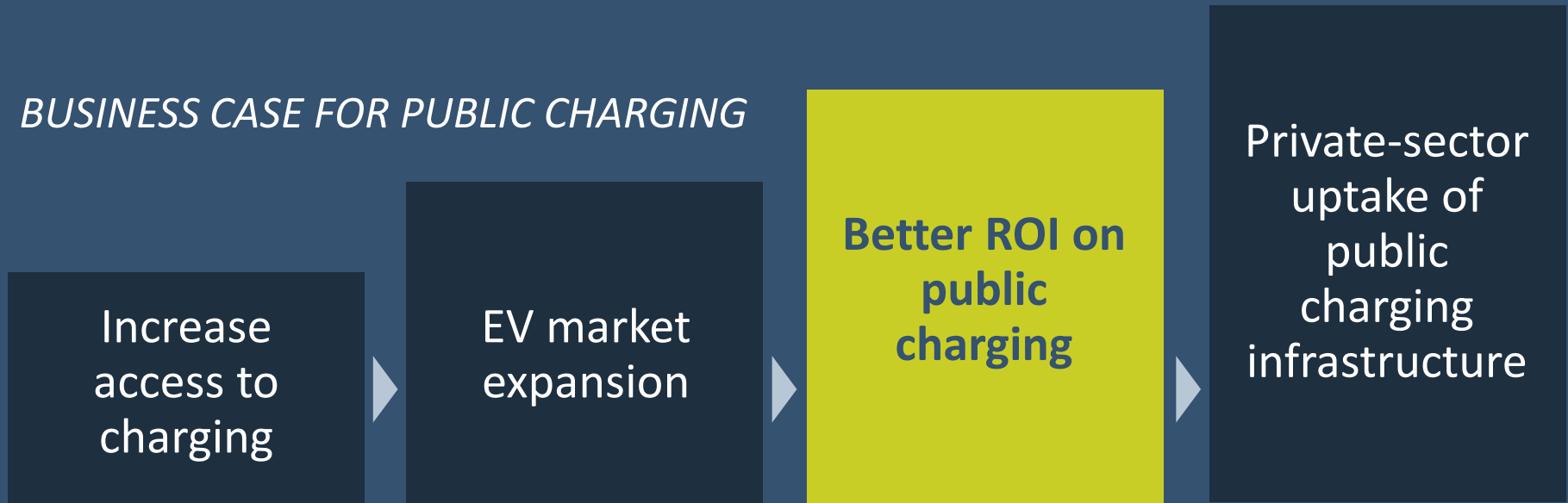


*Maintain focus on walking cycling and transit*

*Labelling of EV charging circuits improves visibility to new residents*

*Preferential parking rules under development*

## BUSINESS CASE FOR PUBLIC CHARGING



*Estimated # of EVs in Vancouver*



**~1,000**

*in 2016*

**~30,000**

*by mid-2020s*

**~200,000**

*by 2050*



# APPROACH

Expand access  
to home and  
workplace charging

Improve the  
public charging  
network

Integrate EV  
infrastructure  
planning into core  
City processes

A person is shown from the side, wearing a dark blue long-sleeved shirt and a watch, plugging a black EV charging cable into the charging port of a dark-colored car. The background is a light-colored wall with horizontal siding.

## 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

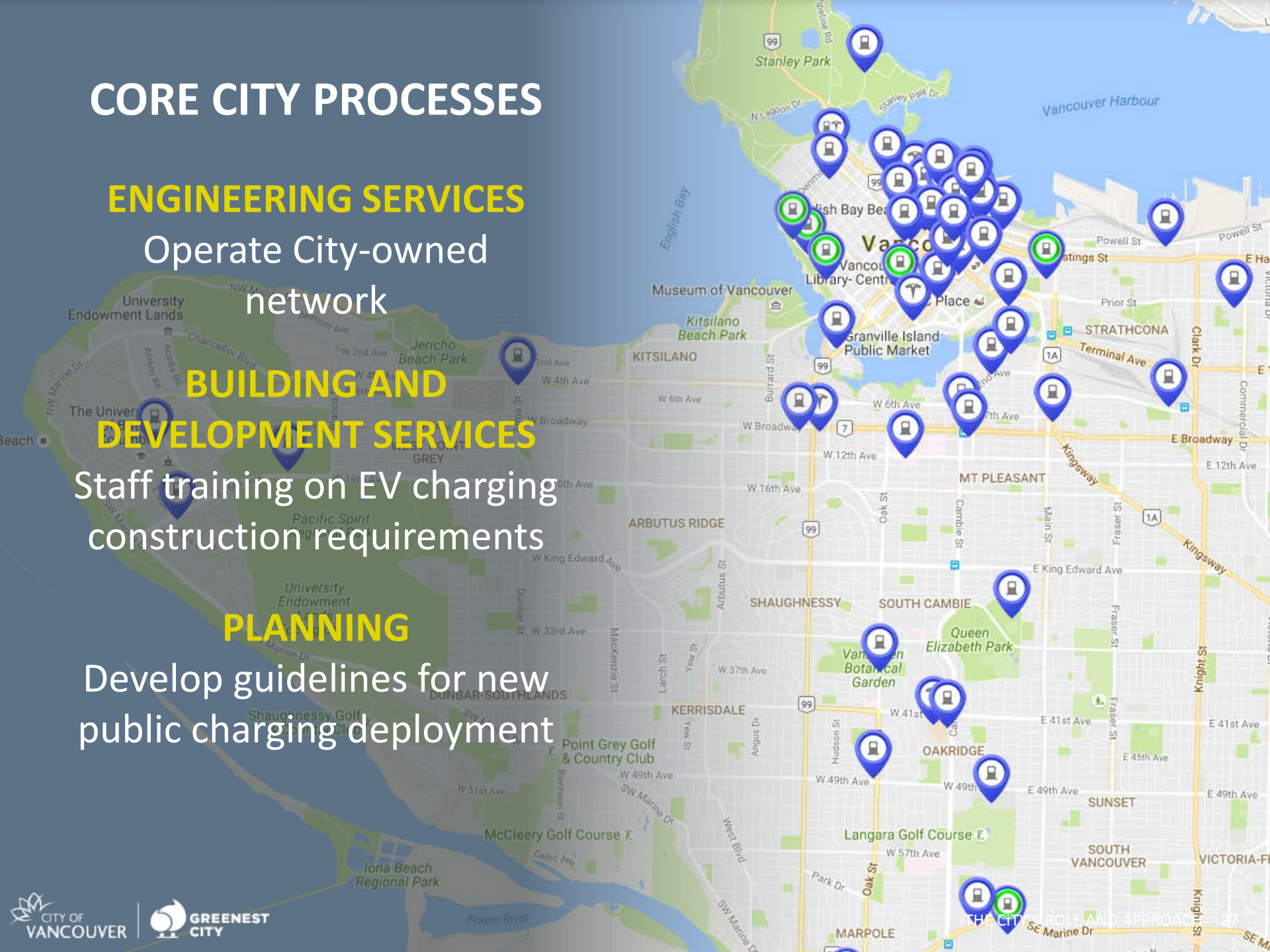
Operate City-owned  
network

## 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<sub>2</sub>e**

annual savings  
by mid-2020s

*All parking stalls in 100% of new homes equipped with Level 2 circuit*

*EV charging expanded to all public-facing City properties*

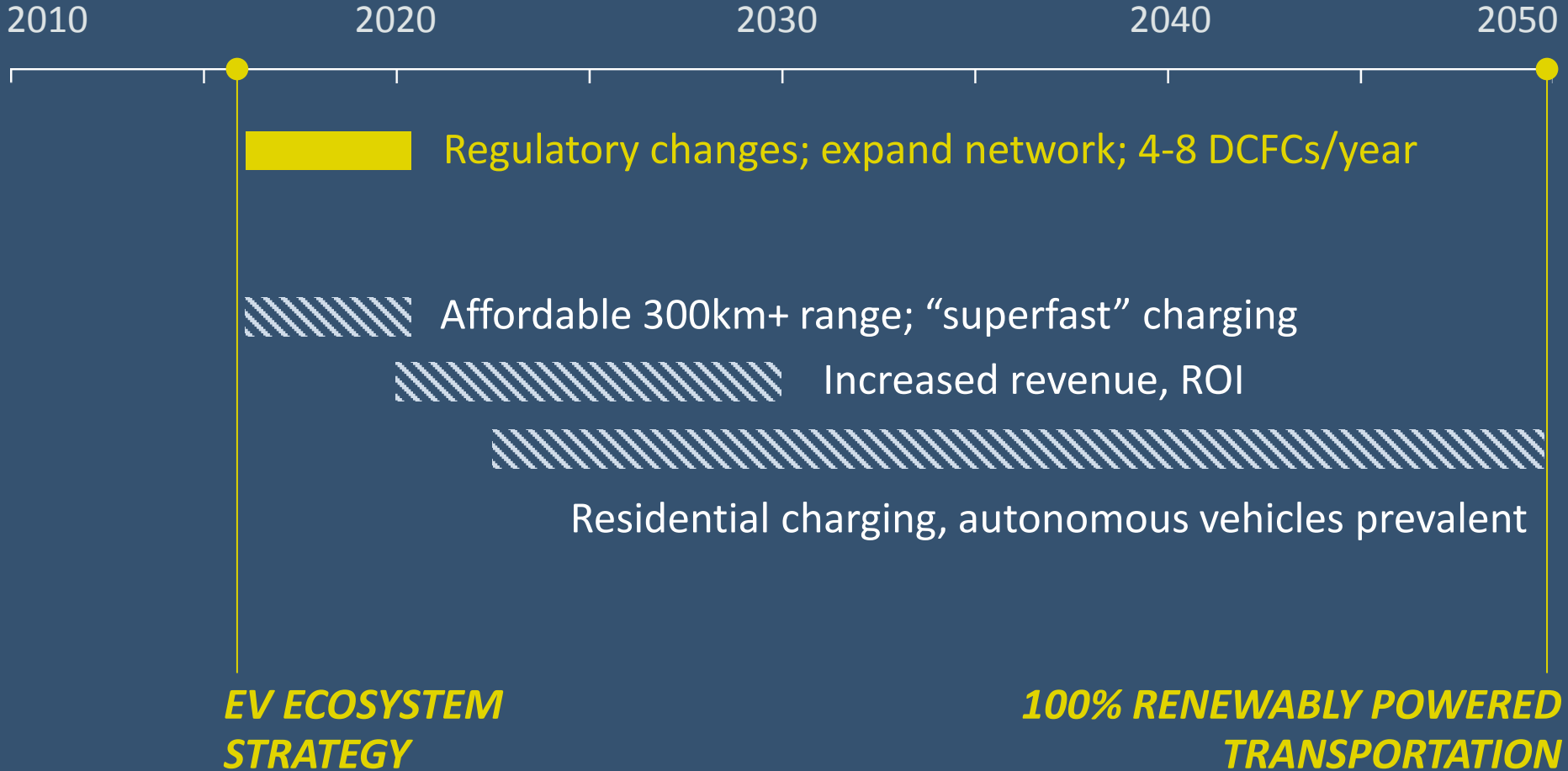
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# WHERE WE'RE GOING



**EV ECOSYSTEM STRATEGY**

**100% RENEWABLY POWERED TRANSPORTATION**





# NEXT STEPS

*NOVEMBER*

Final strategy to stakeholders  
Park Board  
ACES Working Group

*DECEMBER-JANUARY*

Regional Pricing Committee  
Quick Start actions



Reserved for  
electric vehicles



Reserved for  
electric vehicles





*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*



# Questions?

*Public fast charging enables EV car-sharing,  
EV commercial fleets and EV taxis*