



Local Leadership on Electric Mobility

Brendan McEwen

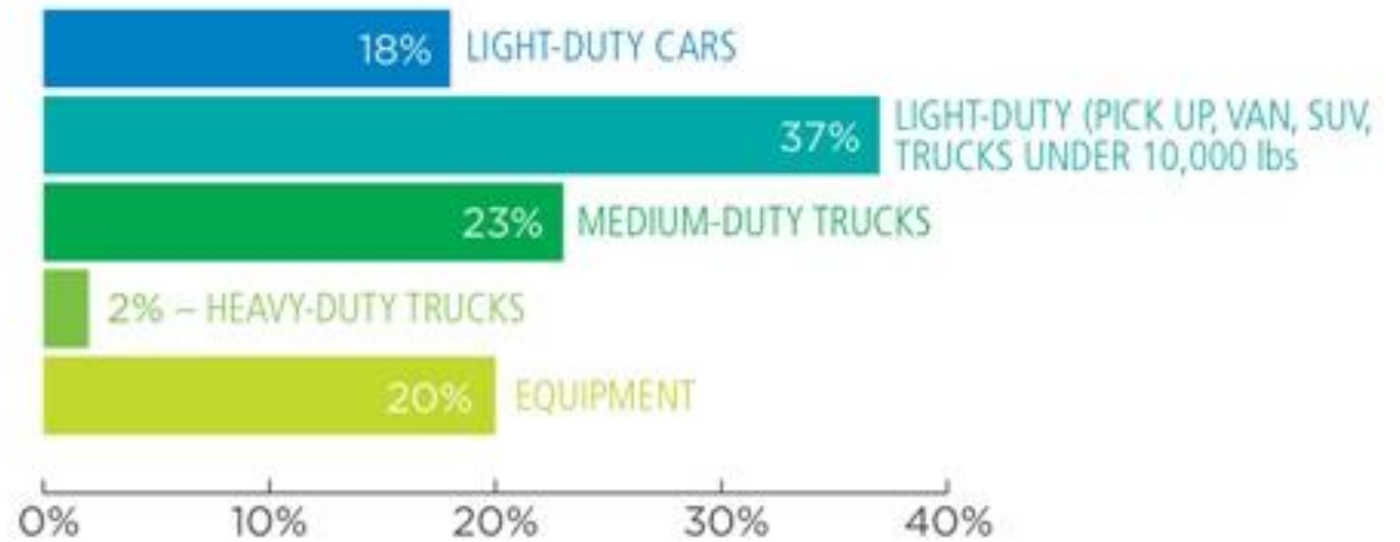
Principal Consultant

McEwen Climate and Energy

Fleets

“Electric First” procurement policies

City of Richmond – Fleet Composition



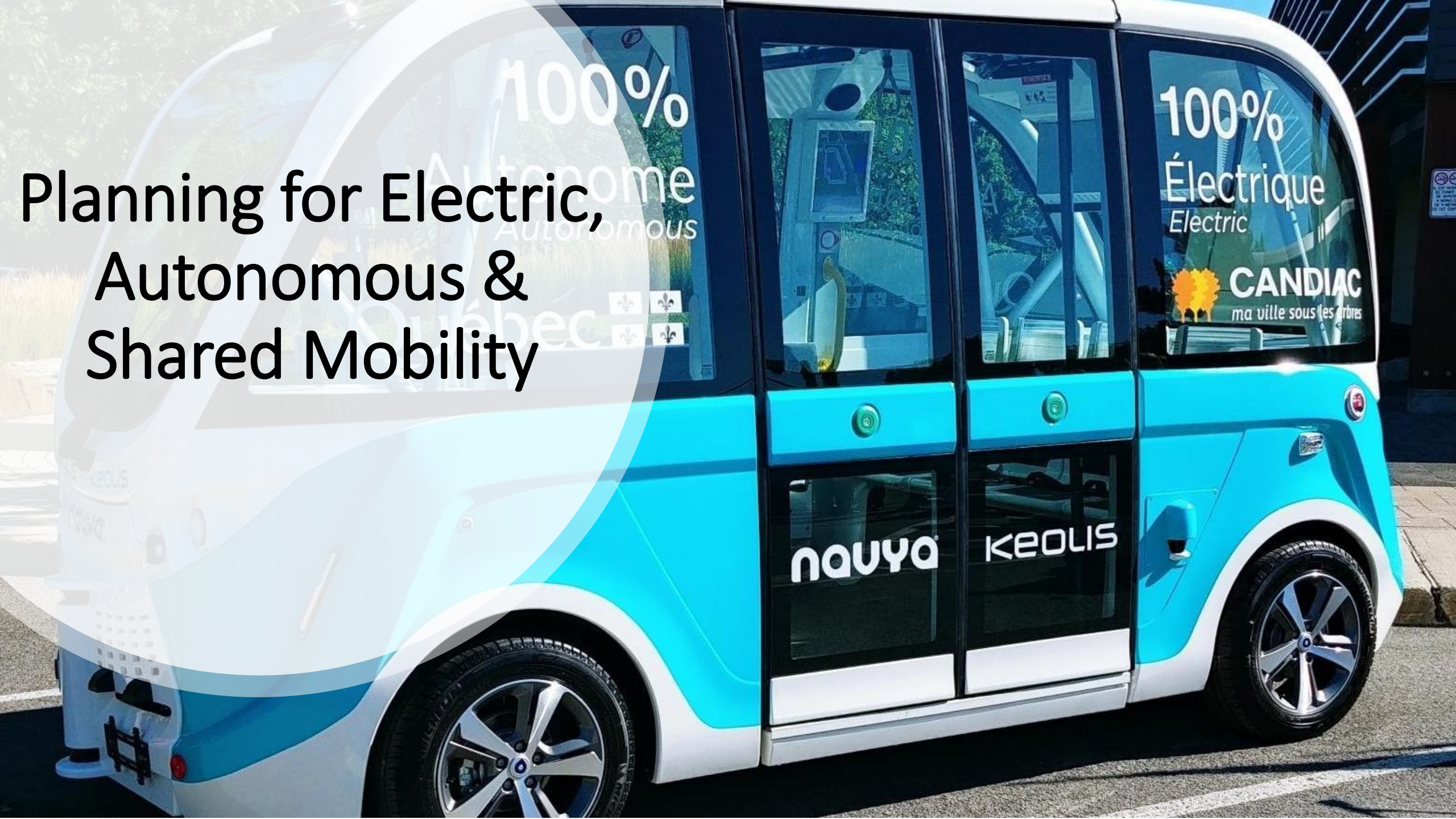
Transit

- **Fossil Fuel Free Streets Declaration –**
Cities Procuring only electric buses by 2025

Société de Transport de Montréal (STM) and the
Société de Transport de Laval (STL); New Flyer.



Public EV Charging Networks



Planning for Electric, Autonomous & Shared Mobility

100%

Autonome
Autonomous

Québec

100%

Électrique
Electric



CANDIAC
ma ville sous les arbres

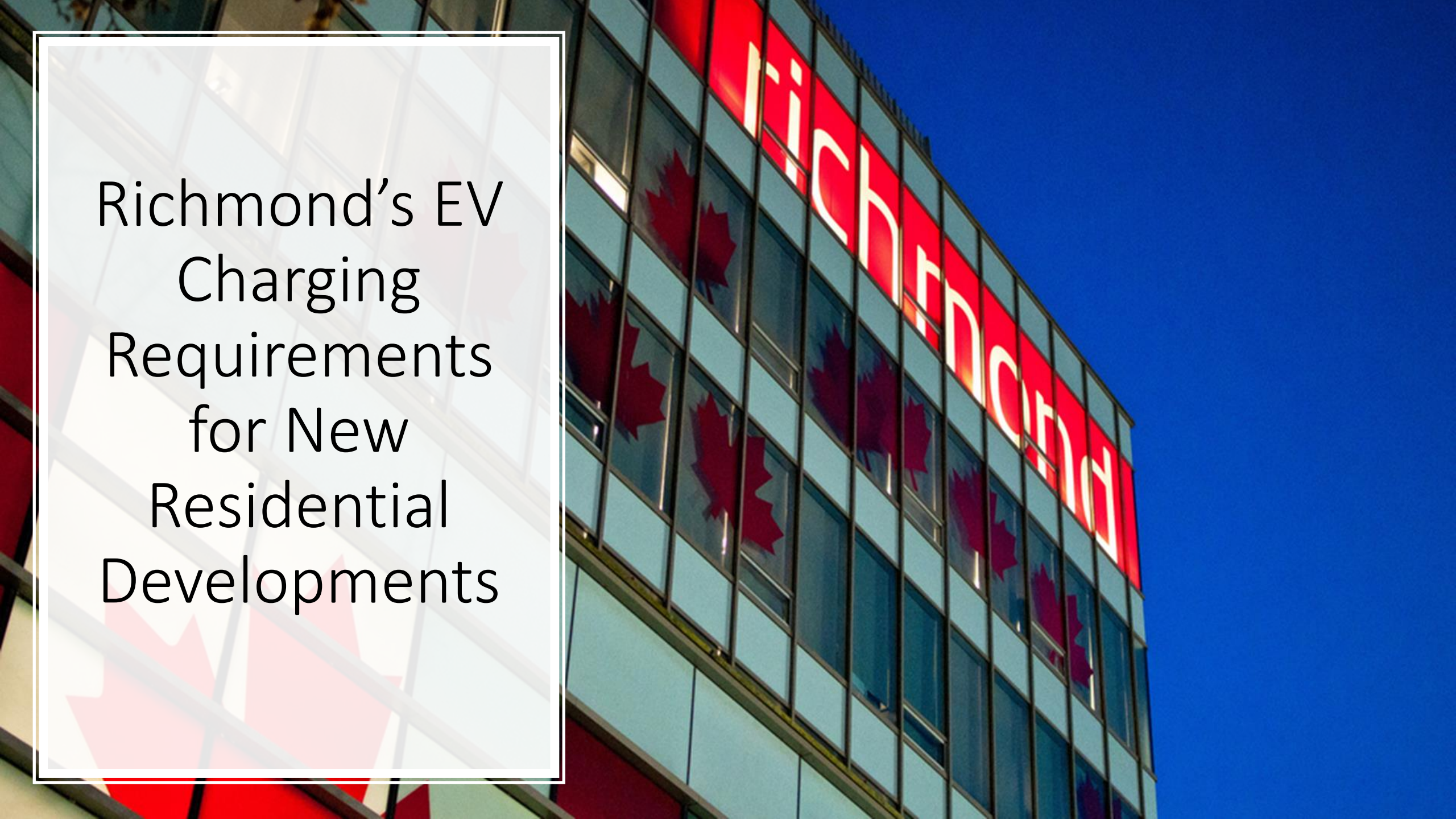
navyo

KEOLIS

Supporting “At Home”, “At Work” & “On the Go”

- Requirements for new private developments
- Programs for “garage orphans”, multifamily buildings & workplaces – City of North Vancouver



The background of the slide is a photograph of the Richmond City Hall building. The building features a grid of windows, many of which have red maple leaf patterns. A large red sign with the word "Richmond" in white letters is visible on the right side of the building. The sky is a clear, bright blue. A white rectangular box with a thin black border is overlaid on the left side of the image, containing the text.

Richmond's EV
Charging
Requirements
for New
Residential
Developments

“At Home” Charging

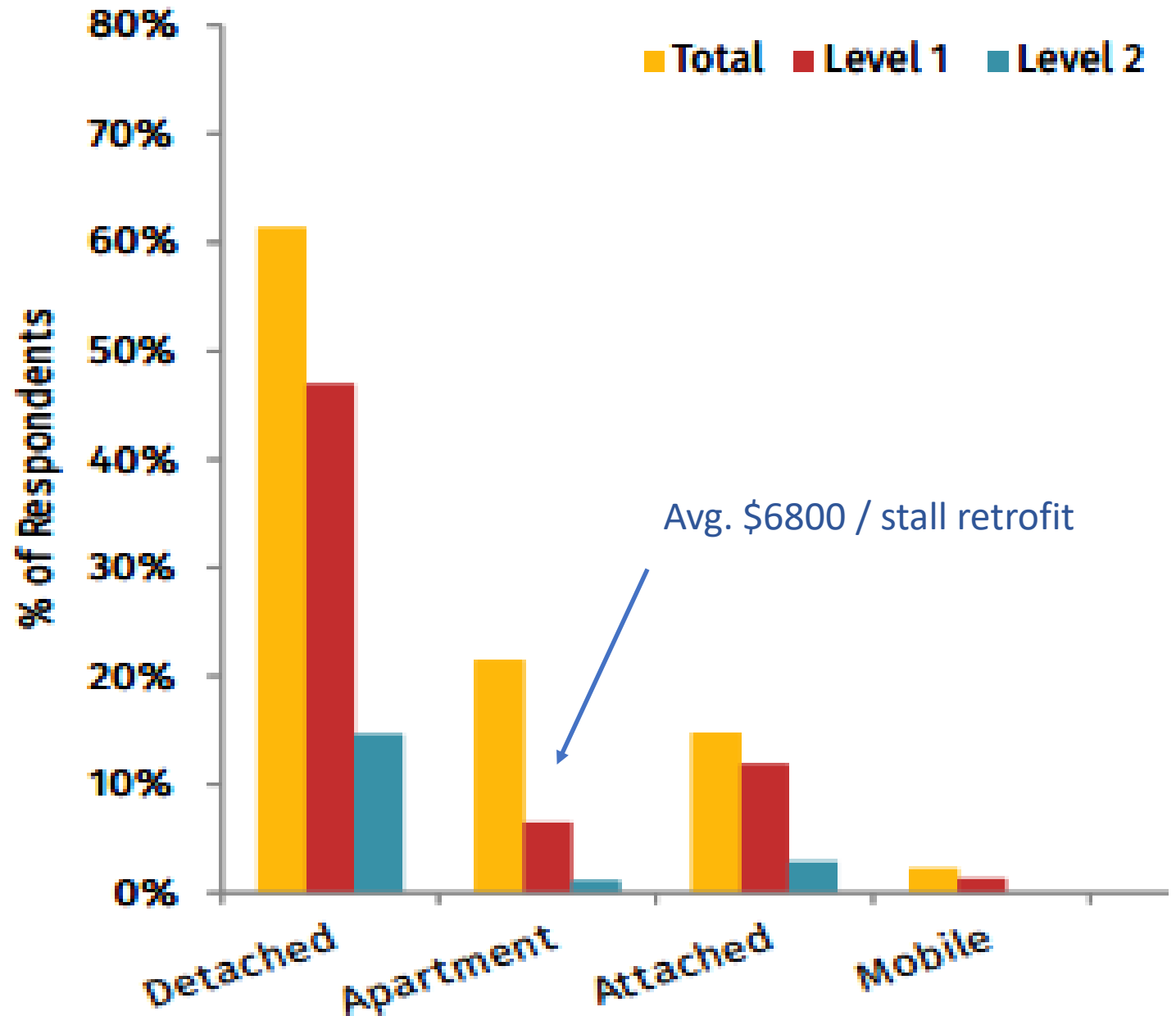
- Most convenient
- Lowest cost
- Crucial factor in households’ EV adoption

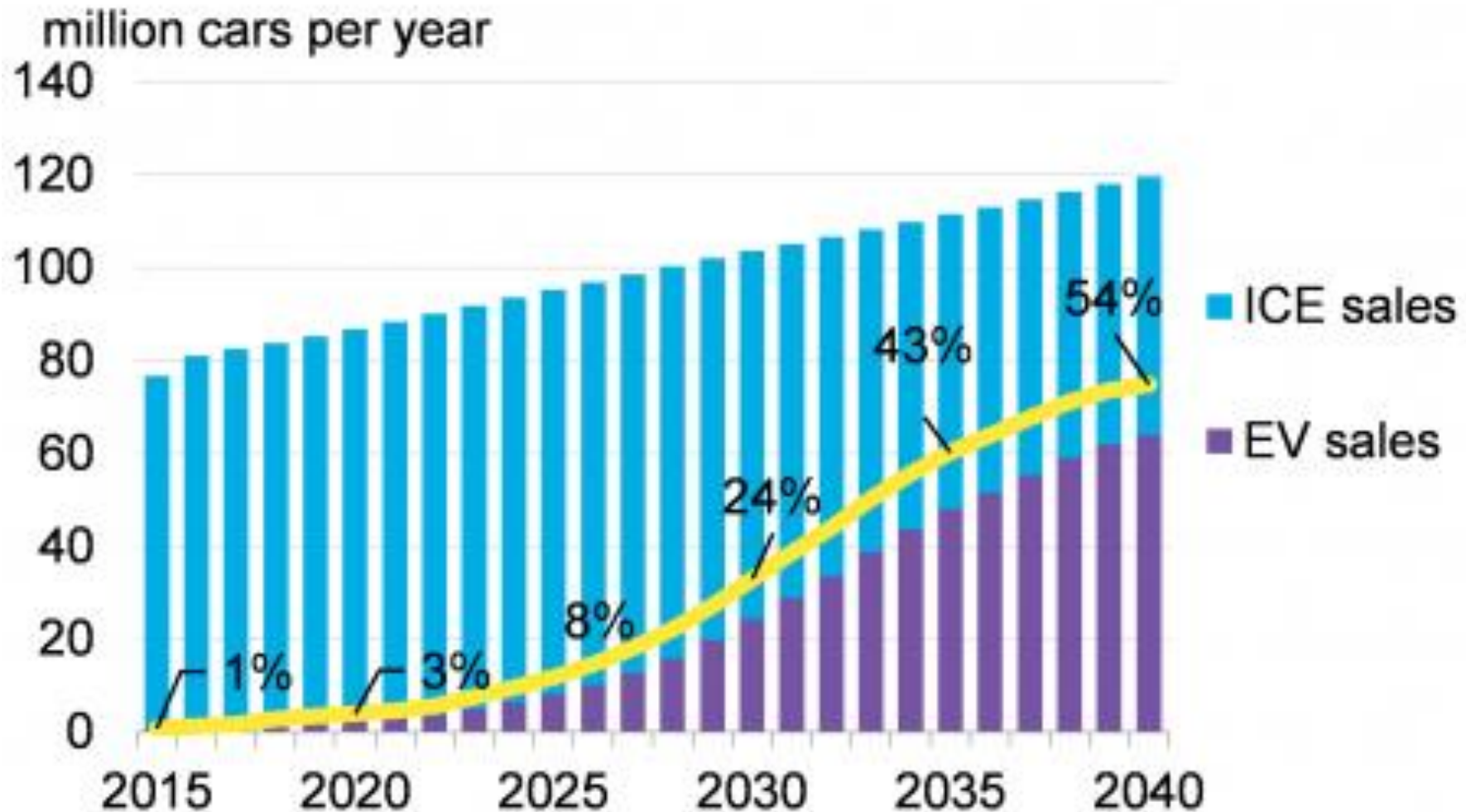


EV Charging Hierarchy

Image: Argonne National Laboratory

BC Residents' Access to EV charging by Residence Type



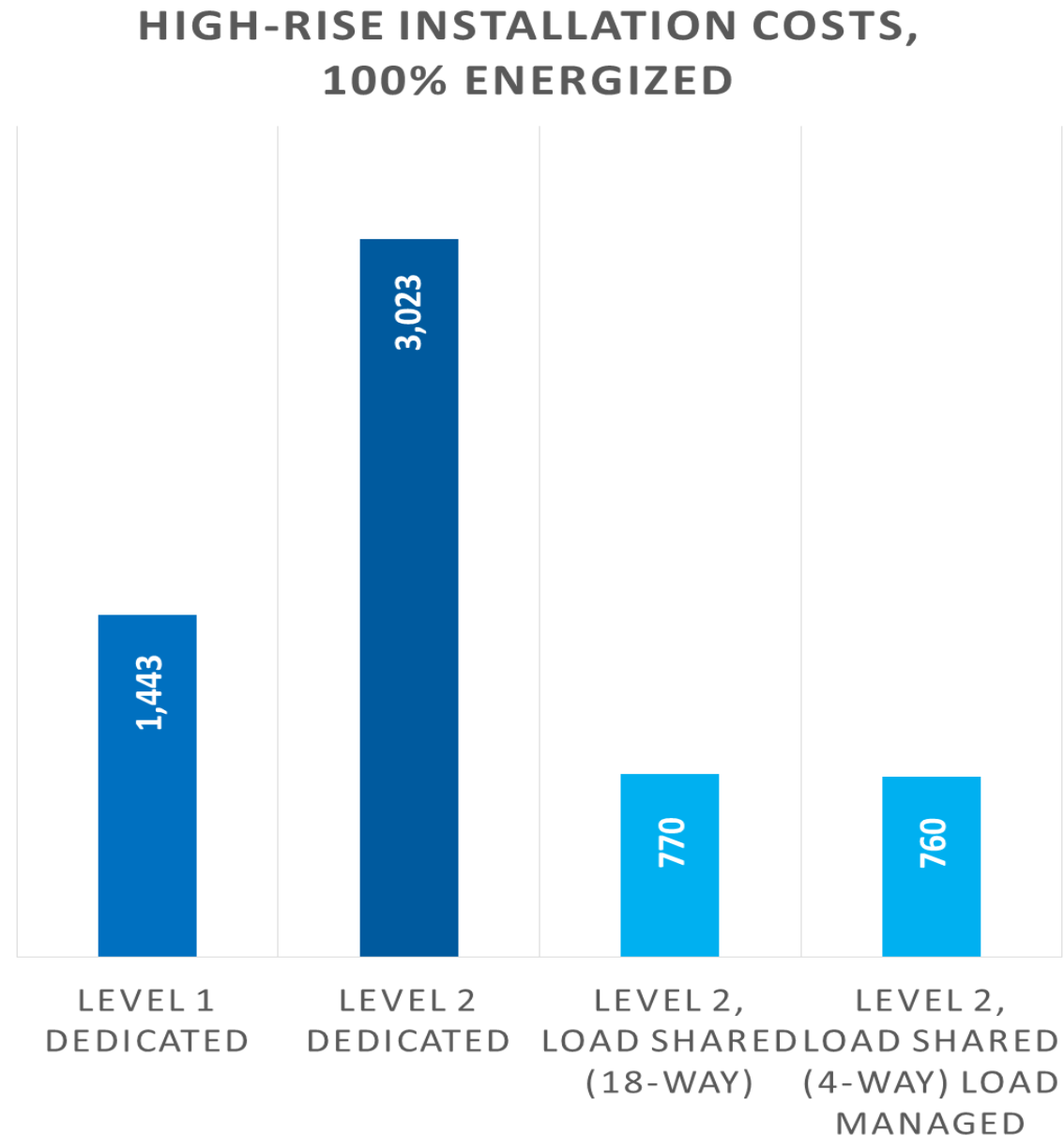


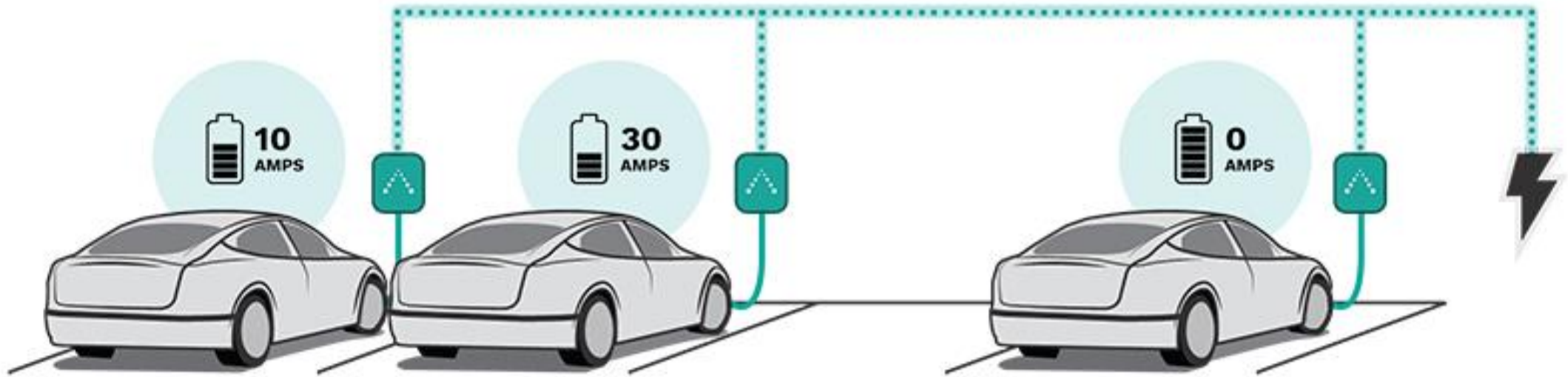
“There is a credible path forward for strong EV growth, but much more investment in charging infrastructure is needed globally. ***The inability to charge at home in many markets is part of the reason why we forecast EVs making up just 54% of sales in 2040, and not a much higher figure.***”

- Bloomberg New Energy Finance

Richmond Costing Study - Multifamily Buildings

- EV Energy Management Systems can be designed for, significantly reducing upfront costs





Source: Evercharge.

EV Energy Management Systems

- Reduce electrical demand & infrastructure size
- Reduces costs of construction & utility demand charges
 - Enabled in Canada Electrical Code

December 2017 – City of Richmond adopted amendment to Zoning Bylaw's Parking & Loading section, requiring 100% of residential parking to be “EV ready” with energized outlet

- *For new buildings... **all residential parking spaces, excluding visitor parking spaces, shall feature an energized outlet capable of providing Level 2 charging or higher.***
- Outlets will be **labelled** for EV charging
- For designs using EV Energy Management Systems, a **performance standard** can be set by Director of Engineering

RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 9756



What is an “Energized Outlet”?

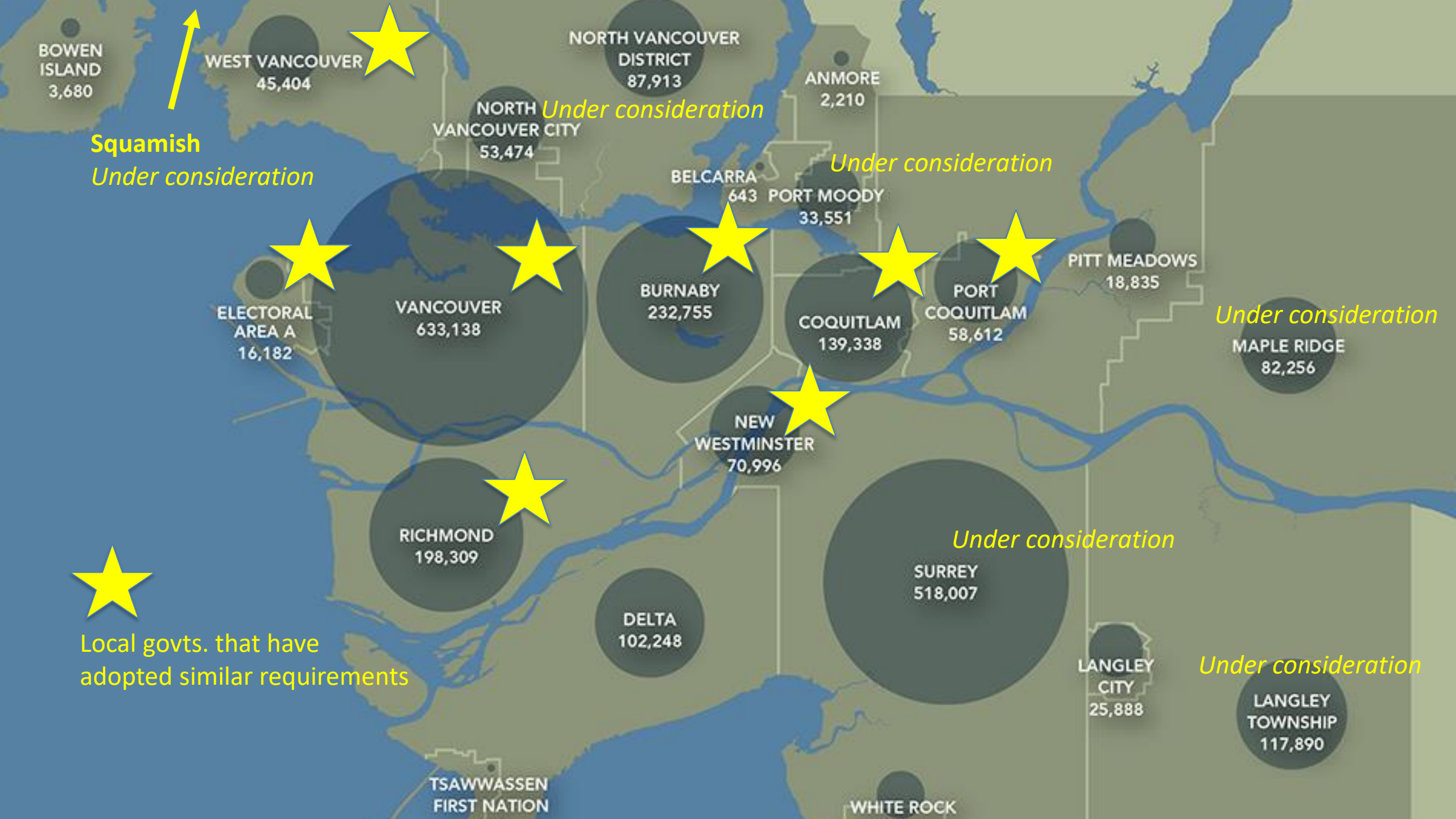


Junction Box



Receptacle

EVSE implementation welcomed, but not required



Squamish
Under consideration

★
Local govts. that have adopted similar requirements

Under consideration

Under consideration

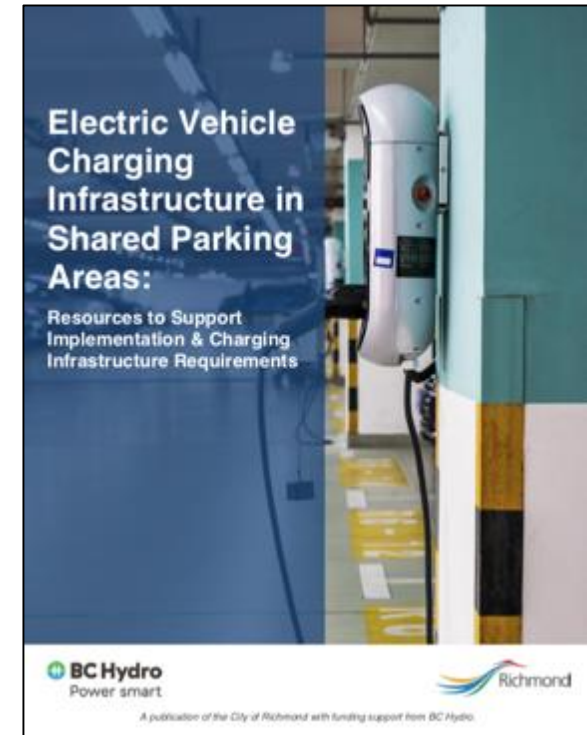
Under consideration

Under consideration

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Resources to Support Implementation

- Costing study (CoR)
- Residential EV Charging: A Guide for Local Governments (CoR & BCH)
- Report - Electric Vehicle Charging Infrastructure in Shared Parking Areas (CoR & BCH)
- Zero emission vehicle charging in MURB & Garage-orphans (NRCan – forthcoming)



Available at: <https://www.richmond.ca/sustainability/energysrvs/electricvehiclecharge.htm>

Thank You!

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For resources on EV readiness requirements, see:

<https://www.richmond.ca/sustainability/energysrvs/electricvehiclecharge.htm>

