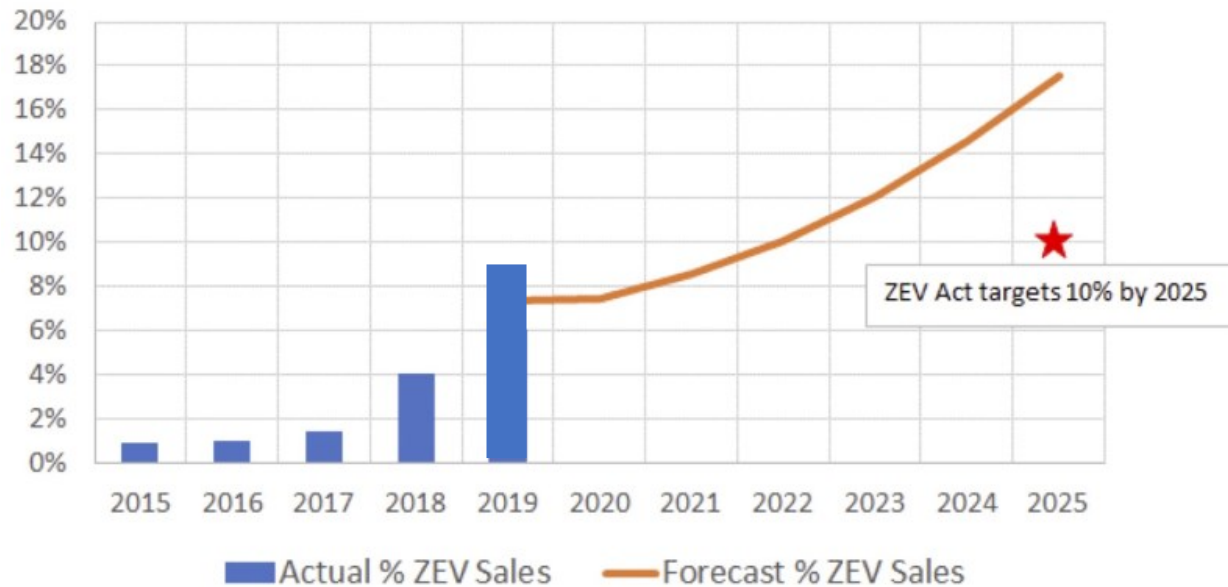


Update on Community Low- Carbon Mobility Strategy: EVs and E-bikes

The Growth of EVs

British Columbia Light-Duty Vehicle ZEV Sales Rates



<https://www.greencarcongress.com/2019/06/20190603-bc.html>

Vehicle Type	2015	2016	2017	2018	2019
Passenger	70,000	73,000	73,000	74,000	75,000
Commercial	25,000	27,000	27,000	27,000	28,000
Motor Home	1,600	1,600	1,600	1,500	1,500
Motorcycle / Moped	4,300	4,600	4,600	4,700	4,500
Hybrid	840	950	1,100	1,200	1,400
Electric	42	67	110	180	370
Total	100,000	105,000	105,000	110,000	110,000

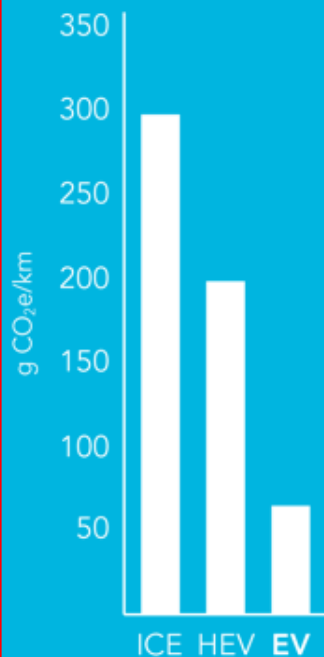
<https://public.tableau.com/profile/icbc#!/vizhome/QuickStatistics-Policiesinforce/VehicleInsurancePoliciesinForce>

What is driving the shift to EVs?

EVs are clean, efficient and cost effective.



Lower emissions



source: Accenture

5x more efficient



traditional engine
17%-21%
efficient



electric motor
90%-95%
efficient

Lower fuel costs



gasoline
\$9,600 CAD
7,900 liters

20,000 km/yr
for 5 years



electricity
\$2,600 CAD
19,400 kWh

Decreasing battery costs



70%

decrease in EV
battery prices
over past 7
years

Less maintenance



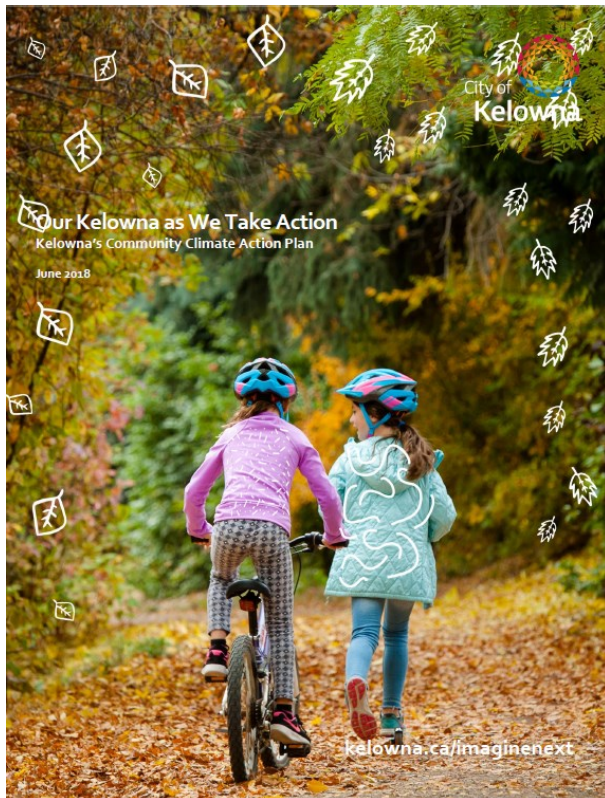
traditional vehicle
2,000+
moving parts



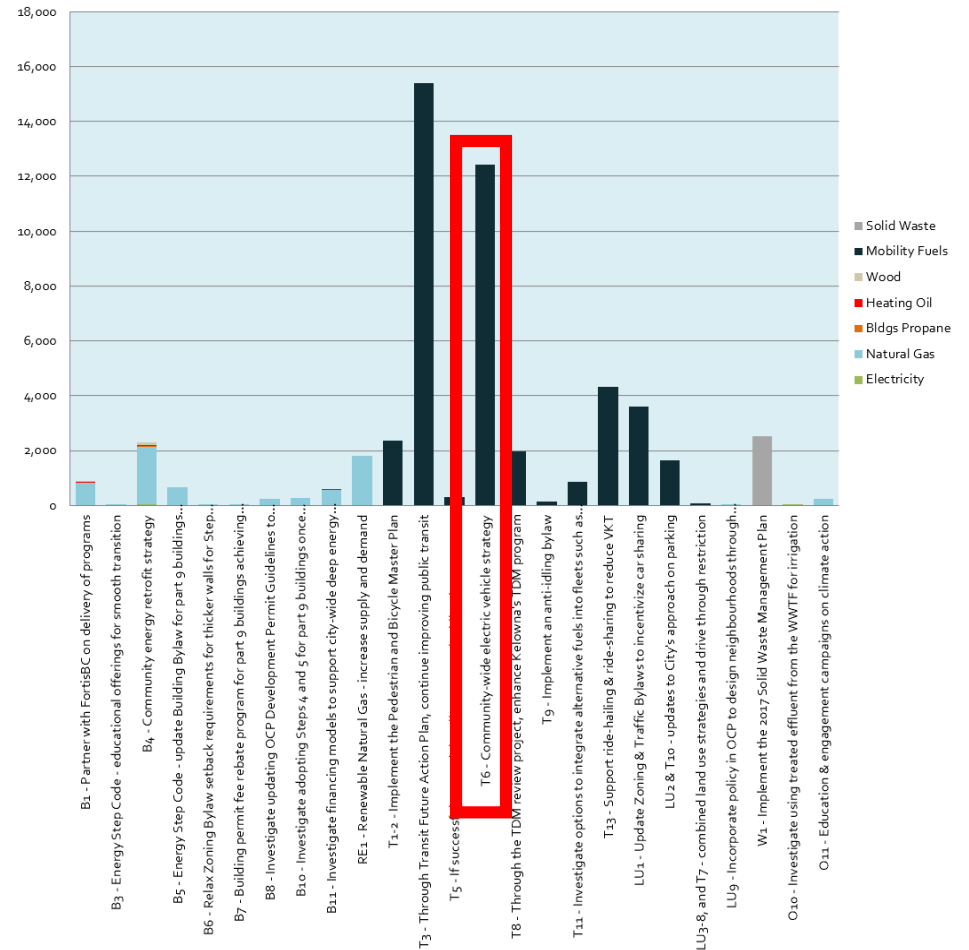
electric vehicle
18 to 20
moving parts

C2MP & Fraser Basin Council. (2018). Residential Electric Vehicle Charging: A Guide for Local Governments. Prepared for the City of Richmond. Retrieved from <https://pluginbc.ca/resource/residential-electric-vehicle-charging-a-guide-for-local-governments/>.

What is driving the shift? LOCAL CLIMATE ACTION



GHG Savings by Action in 2023, tonnes of CO₂e/yr



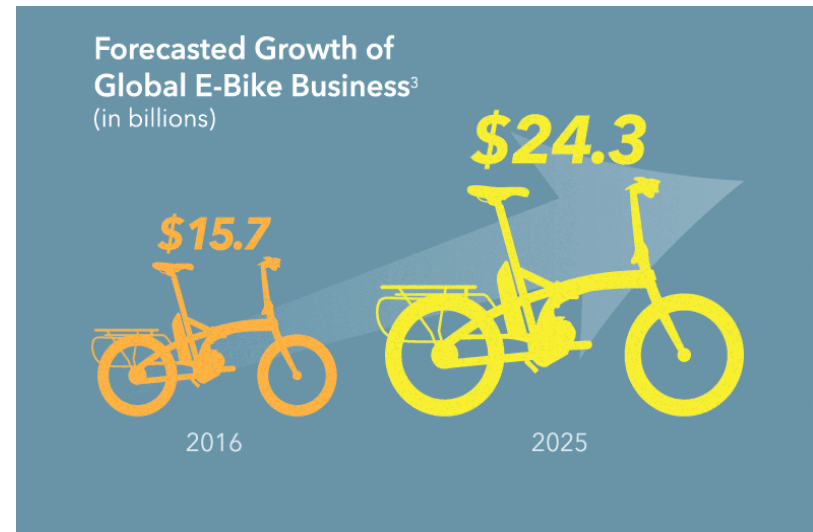
Barriers to EV Adoption

- ▶ Purchase cost
- ▶ Lack of charging (“Range Anxiety”)
- ▶ Limited availability of desired vehicle class
- ▶ Limited availability of desired make and model
- ▶ Lack of familiarity with electric vehicle.



What is driving the shift to e-bikes?

- ▶ GHG emissions reduction
- ▶ Support active transportation
- ▶ Reduce road congestion
- ▶ Promote health and well-being
- ▶ More affordable for people that want to switch to low-carbon transportation but cannot afford an EV



<https://www.e-bikeshop.co.uk/Commercial-Electric-Bikes>

Barriers to E-Bike Adoption

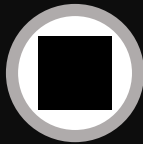
- Higher purchase cost than a regular bike
- Lack of secure parking
- Safety concerns
- Limited availability



Recommended Approach for the Community Low- Carbon Mobility Strategy



POLICY &
REGULATION



INFRASTRUCTURE



EDUCATION &
AWARENESS



PARTNERSHIPS



INCENTIVES



ADVOCACY

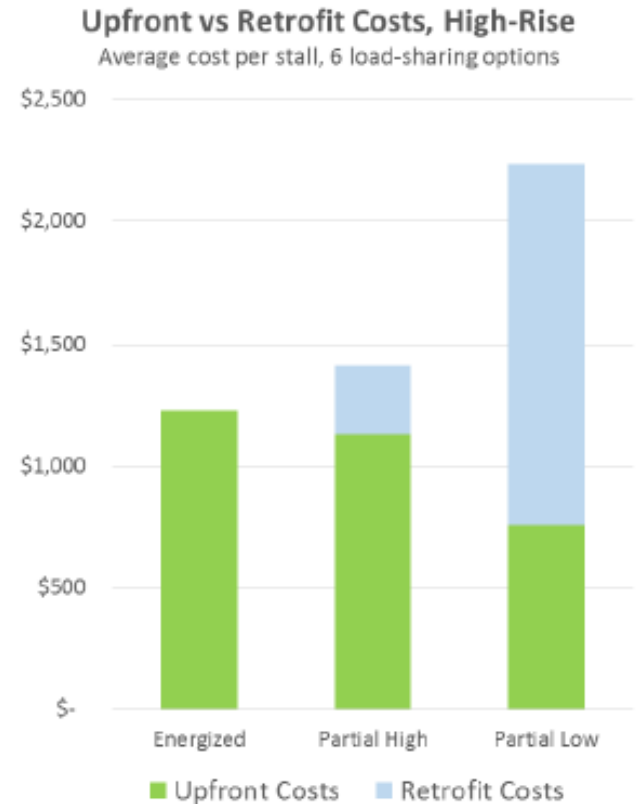
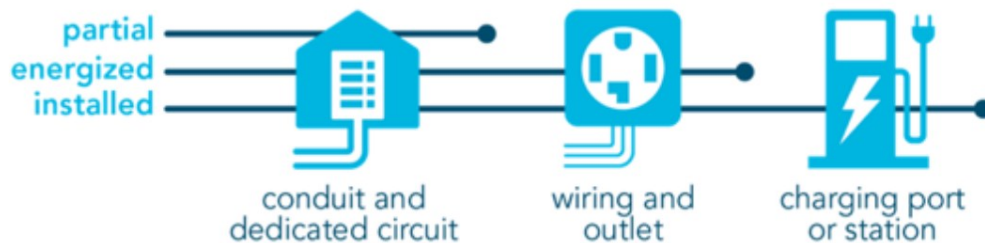
Scope of the Strategy

In-Scope for Community Low-Carbon Mobility Strategy	Out-of-Scope of Community Low-Carbon Mobility Strategy		
	COK Fleet Low-Carbon Mobility Strategy	Provincial or Federal Government	Technology/Sector not Within Scope
<ul style="list-style-type: none"> • Plug-in EVs: BEVs, EREVs, and PHEVs • E-bikes • Charging Infrastructure <ul style="list-style-type: none"> • At home • At work • Public • EV charger incentive top-ups • Parking pricing • Education and awareness 	<ul style="list-style-type: none"> • Charging Infrastructure for City Fleet • EV and e-bike purchasing for City Fleet 	<ul style="list-style-type: none"> • New EV purchase incentives • EV charger incentives • Fuel pricing • Fuel standards • Utility pricing and regulation • EV supply 	<ul style="list-style-type: none"> • Electrification of public transit or heavy-duty vehicles • Hydrogen fuel cell • Biofuels • Conventional Hybrid electric vehicles (HEVs) (i.e., not plug-in)



Recommended Actions: EV Readiness Policy

- Require a certain percentage of parking stalls in new residential and commercial developments to include an energized electrical outlet capable of minimum Level 2 charging



<https://pluginbc.ca/resource/residential-electric-vehicle-charging-a-guide-for-local-governments/>



Recommended Actions: Other EV Policy



Continue to offer and investigate options for the Eco-Pass parking permit program

Gives plug-in EV owners up to two hours per day of no-charge, on-street parking in Kelowna. The permit is currently valid for a period of one-year and cannot be renewed.



Investigate a fee structure for City-owned public chargers

Implement user fees for EV charging to support cost recovery of EV charging infrastructure and increase turnover.



Recommended Actions: Infrastructure + Partnerships



Expand the off-street public
level 2 charging network



Explore on-street
charging

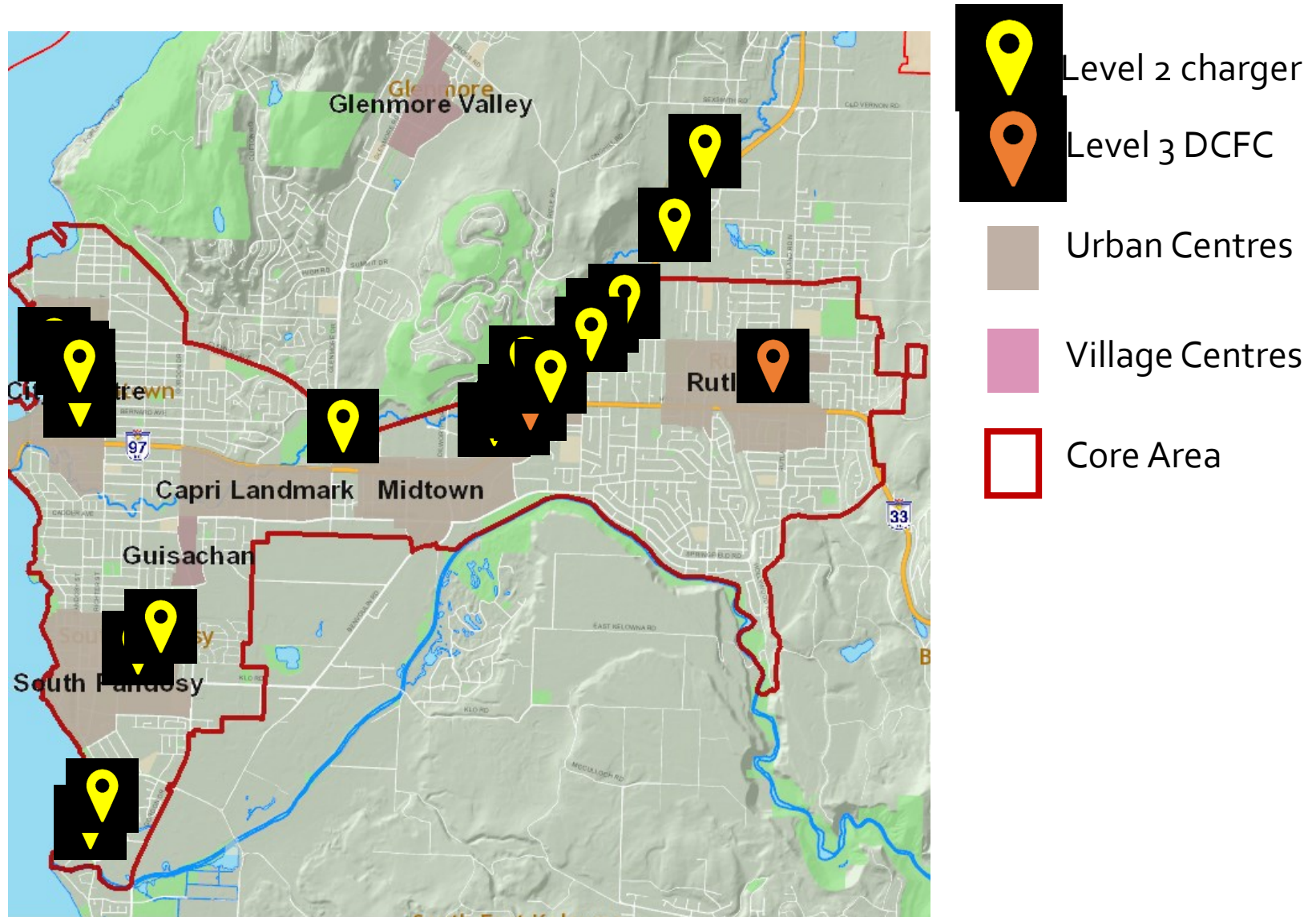


Partner with FortisBC on an
EV streetlamp charging pilot



Partner with FortisBC to expand
the Level 3 DCFC charging network

Gaps in the Current Public Charging Network



City of Kelowna

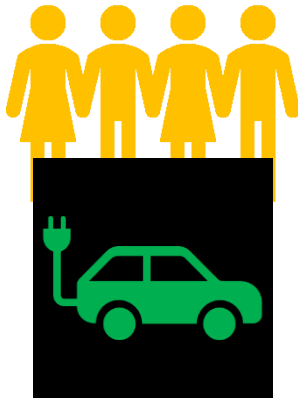


Recommended Actions: Partnerships



**Work with Modo
carshare to advance
electrification of
shared mobility**

Look for opportunities to leverage expansion of the public EV charging network with providing access to charging for Modo's fleet.



**Establish a Regional
Local Government EV
Peer Network**

Establish a network of local government representatives that considers regional approaches to expand EVs and associated charging infrastructure.



Recommended Actions: Incentives

Municipal top-up to provincial residential charging incentives

Municipalities can “top up” Provincial and Fortis charger rebate offers for single family-home and/or multi-unit residential building chargers.





Recommended Actions: Advocacy



Advocate for “Right to Charge” legislation at the Provincial level

Amend the *BC Strata Property Act* with language that requires strata councils and corporations to accommodate reasonable requests from residents for EV charging infrastructure.



Recommended Actions: **E-Bike Policy**



Assess the feasibility
of e-bike charging
requirements for new
residential
developments



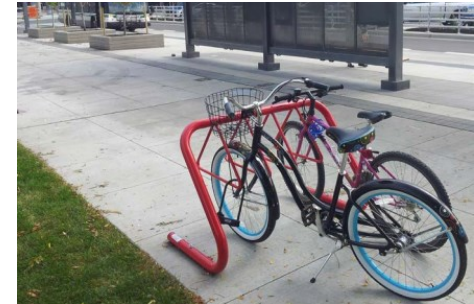
Update local
regulations to be more
permissive of e-bikes



Recommended Actions: Infrastructure



Expedite the build-out of cycling infrastructure



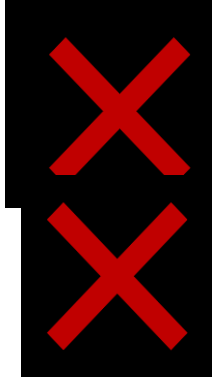
Explore secure public storage options for e-bikes



Pilot e-bike public chargers at strategic locations



Recommended Actions: Incentives



Consider e-bike incentives for certain demographics (e.g., low-income and seniors)



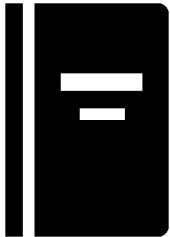
Implement an e-bike Purchase Loan Program for City of Kelowna employees



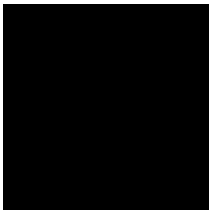
Recommended Actions: Education & Awareness



Educate owners and managers of existing apartments and workplaces on the benefits of retrofitting existing buildings to have EV-ready parking.

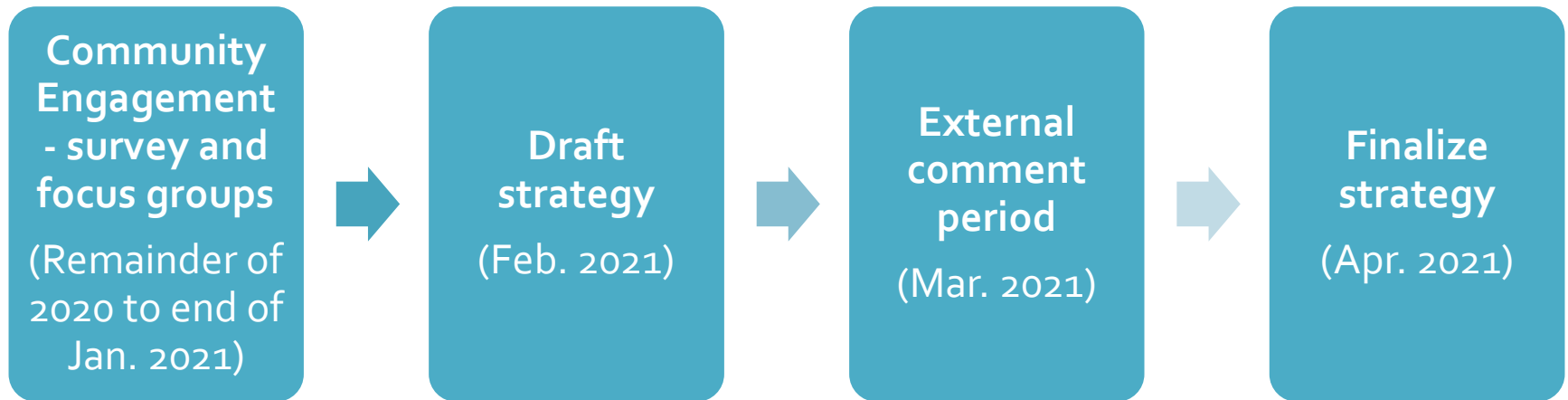


Create an EV Readiness best practices guide for new residential buildings



Use City channels to create awareness of EV and e-bike benefits and programs

Next Steps





Questions?