



CITY OF SURREY
ELECTRIC VEHICLE STRATEGY

FOCUS GROUPS SUMMARY REPORT



March 2020



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BACKGROUND



The Province of British Columbia passed the Zero-Emission Vehicles Act (ZEV Act) on May 30, 2019. This legislation requires that the percentage of sales and leases of light duty electric vehicles (EVs) reach 10 percent by 2025, 30 percent by 2030 and 100 percent by 2040.

The City of Surrey is developing an Electric Vehicle Strategy describing the City's role in enabling and accelerating this transition by leveraging opportunities and addressing the most significant barriers to EV adoption.

The strategy will identify actions over five years, with a longer term view of enabling a future where 100% of vehicles in Surrey are zero-emission.

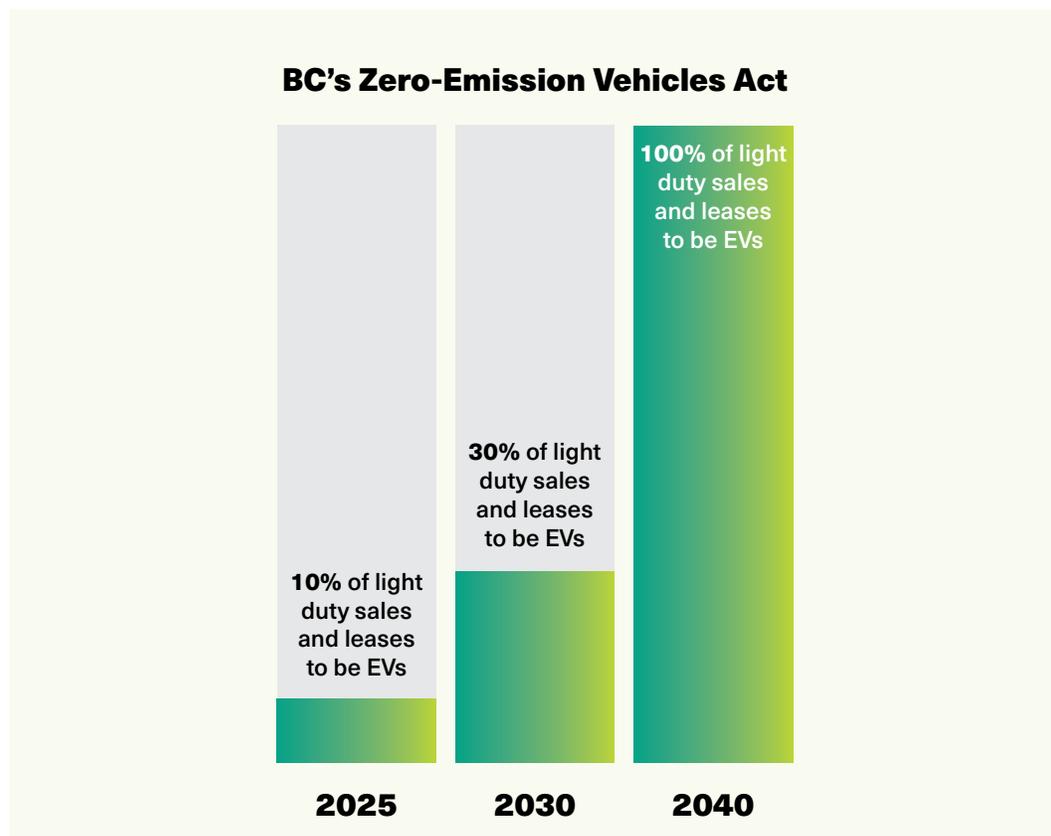


Figure 1: ZEV legislation requires that the percentage of sales and leases of light duty electric vehicles (EVs) reach 10 percent by 2025, 30 percent by 2030 and 100 percent by 2040.

OVERVIEW OF FOCUS GROUPS AND KEY THEMES



In November 2019, the City invited representatives from industry, academia, utility companies, advocacy groups, businesses and community-based organizations to participate in a series of focus groups to help shape the Electric Vehicle Strategy.

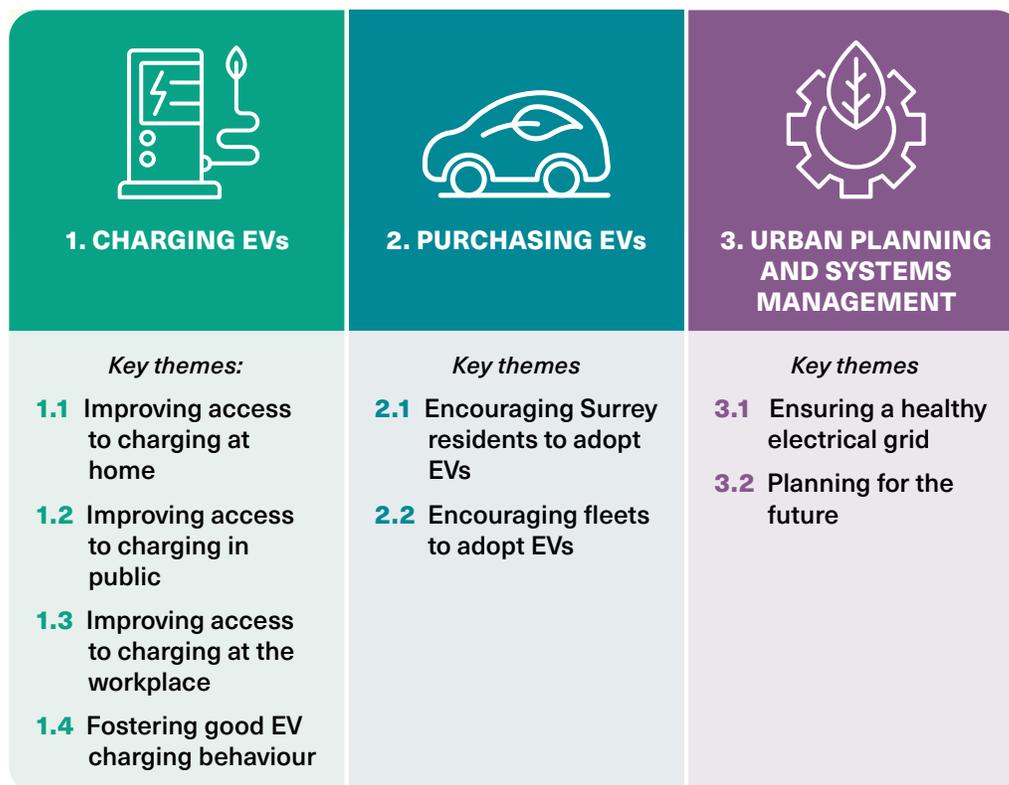
Each discussion group was designed to focus on one of the following three topics:

- » **Determining the Best Approach to Private and Public Infrastructure**
- » **Accelerating Individual EV Adoption**
- » **Accelerating Fleet Adoption**

One of the objectives of the focus groups was to have participants identify potential barriers related to each topic and ideas and/or possible solutions for overcoming those barriers.

This report summarizes what we heard from the focus group discussions. Areas of interest and key themes have been summarized below and described in detail on pages 6 to 13.

Figure 2: Areas of interest and key themes from focus group discussions



1. CHARGING EVS



1.1

IMPROVING ACCESS TO HOME CHARGING

Focus group participants identified lack of access to home charging as a significant barrier to EV adoption. It was noted that not all detached homes have access to a garage for overnight EV charging. For people living in multi-unit residential buildings (MURBs), receiving strata approval for retrofitting parking stalls with EV charging infrastructure can be difficult, often due to the substantial cost of planning and installing this infrastructure.



IDEAS FOR OVERCOMING BARRIERS TO HOME CHARGING:

- » Install banks of **curbside chargers** or **streetlamp charging stations** in neighbourhoods with a large quantity of older MURBs or detached homes without garages.
- » Ensure EV drivers can access **dedicated space for vehicle charging** that is close to their homes.
- » Help EV drivers **navigate challenges with engineering and explore Encroachment Agreements** that better enable the use of personal electrical charging equipment on City-owned land and roads adjoining residential properties.
- » Provide **grants** or other **financial incentives** to stratas to fund technical assessments, consulting, annual general meetings and other planning initiatives required prior to the installation of EV charging at MURBs.

1. CHARGING EVS



1.2 IMPROVING ACCESS TO PUBLIC CHARGING

Focus group participants identified insufficient access to public charging as a significant barrier to EV adoption. It was noted that public charging is an important stopgap toward universal charging solutions for MURBs and that EV drivers who enter the market by purchasing and trying out used EVs may prefer to use public EV charging infrastructure during this trial phase prior to investing in home chargers.



IDEAS FOR OVERCOMING BARRIERS TO PUBLIC CHARGING:

- » Install **more dependable EV charging stations** curbside, at public facilities and in other popular locations, such as shopping hubs, to meet public demand.
- » Advocate to the Province for the installation of **more fast chargers** across BC.
- » Identify **strategic locations** for EV charging to be available specifically for taxi, ride-hailing and car share companies.
- » Install **dual-port curbside EV chargers**, with one port dedicated to an individually owned vehicle and the other to a car share vehicle, to encourage shared modes of transportation and decrease the number of vehicles on the road.



1.3

IMPROVING ACCESS TO WORKPLACE CHARGING

Focus group participants offered ideas on how to support businesses, property owners and unions that are considering installing EV charging stations for their employees.



IDEAS FOR OVERCOMING BARRIERS TO WORKPLACE CHARGING:

- » Promote incentives for employers such as the **return on investment** from billing per kilowatt hour for EV charging.
- » Produce a **step-by-step guide** to provide information about site assessment and other key considerations for businesses interested in installing EV infrastructure.
- » Work with BIAs to provide **grants, rebates and other incentives** to businesses that wish to install EV charging infrastructure on property that they own or lease.



1.4

FOSTERING GOOD EV CHARGING BEHAVIOUR

Focus group participants highlighted that new EV drivers are not as aware of EV charging practices and etiquette as established EV drivers. It was noted that this knowledge gap may result in an increase in poor charging practices, as well as negative potential outcomes such as long and unnecessary wait times, driver frustration and a negative public image of EVs that may hinder EV adoption.



IDEAS FOR FOSTERING GOOD EV CHARGING BEHAVIOUR:

- » Refer new EV drivers to **EV ambassadors, coffee meetups** and **online groups** that can provide helpful information about charging best practices.
- » Implement **rates, technology** and **enforcement** to manage the time spent at charging stations by EV drivers.
- » Explore **technology** and **fee structures** that will deter employees from taking too much time at workplace EV chargers and prevent members of the public from charging their EVs at stations allocated to employees.
- » Encourage drivers of shared EVs, such as car share and workplace fleet vehicles, to **charge vehicles when they are returned to the curb or lot** to prevent delays and inconveniences for the next driver.

2. PURCHASING EVS



2.1

ENCOURAGING SURREY RESIDENTS TO ADOPT EVs

Focus group participants reported that while EVs are widely available for purchase, consumers and dealerships often lack knowledge about EV maintenance and charging. For new EV drivers, having the wrong information about EVs may lead to frustrations that negatively impact customer satisfaction and hinder EV adoption rates.



IDEAS FOR OVERCOMING BARRIERS TO EV ADOPTION FOR RESIDENTS:

- » Offer **test drives** to “EV curious” residents to encourage first-time purchases of EVs and accelerate adoption rates.
- » Develop a **communications and education strategy** to raise public awareness of EVs and ensure new and potential buyers receive the information they need to foster a smooth transition to EV adoption.
- » Support new and potential EV drivers by offering an **EV guidebook** and **EV driving school** and providing them with **referrals to organizations** that provide EV expertise, education and support.



A number of participants noted that it is currently more expensive to purchase an EV than a gas-powered vehicle. While some participants highlighted that EVs offer a significant return on investment over time in the form of savings on fuel, others stated that the upfront cost of EVs may create barriers to EV ownership for people with lower incomes. Additionally, it was stated that rebates available for first-time EV purchases are not available for subsequent EV purchases, resulting in a significant increase in upfront costs when EV drivers purchase their next vehicle.

To facilitate an equitable transition for residents of all income levels, it was suggested that the City explore incentives for car dealers to reduce the cost of EVs, scale public EV charging rates to suit a variety of budgets and ensure car shares are included in EV planning initiatives as a viable and financially accessible alternative to vehicle ownership.

2. PURCHASING EVS



2.2

ENCOURAGING FLEETS TO ADOPT EVs

Focus group participants identified a number of challenges to EV adoption for fleets. It was noted that EVs and the ZEV mandate may not be on the radar of fleet managers, appropriate models of medium and heavy duty vehicles are difficult to source, and additional support is required to determine the on-site charging level required to power vehicles across multiple shifts.



IDEAS FOR ENCOURAGING FLEETS TO ADOPT EVs:

- » Offer educational initiatives such as “**ride and drives**” to help fleet managers gain exposure and familiarity with EVs and prepare for the transition to electric.
- » Demonstrate **common demand for specific vehicle types** across a number of fleets in order to pressure automakers into bringing suitable EVs into the province.
- » Advocate to the province to **re-establish funding opportunities** for programs that assess the viability of EV adoption for fleets and create **new funding opportunities** to support the technical planning costs required.
- » For fleets that adopt EVs early, **offer incentives** such as access to municipal HOV lanes, preferred off-street and on-street parking rates and DC charger highways on roads.



Participants working for taxi companies reported concerns about the cost and frequency of replacing EVs, noting the City bylaw stating that taxi vehicles more than seven years old are ineligible for licensing. It was suggested that the City **consider extending this licensing eligibility period for taxi EVs** to account for the higher capital costs of EVs in relation to gas-powered vehicles.



3.1

ENSURING A HEALTHY ELECTRICAL GRID

Focus group participants noted that it is expensive for individuals and workplaces to upgrade electrical service panels to provide sufficient power for EV charging. In addition, some participants wondered whether there will be enough power to service future EV chargers in Surrey, as the population will likely grow significantly by 2030. It was noted that avoiding blackouts and greyouts is essential to customer satisfaction and continued EV adoption.



IDEAS FOR SUPPORTING ELECTRICAL UPGRADES AND ENSURING A HEALTHY GRID:

- » Explore **load management solutions** that distribute power equally across all electric vehicles charging on a single grid connection and **demand-response programs** that reduce electricity usage during periods of high electricity demand when planning for EV charging infrastructure.
- » Offer **cost-shares** for stratas to upgrade electrical service and explore the possibility of implementing **time of use rates** and **off-peak charging incentives**.
- » For workplace charging, use technology to **tailor power limits to different vehicle models** and **install lower-level chargers** to suit the workday-length dwell time of employees.
- » Encourage BC Hydro to **share public information about actions they are taking to ensure a healthy grid**.

3. URBAN PLANNING AND SYSTEMS MANAGEMENT



3.2 PLANNING FOR THE FUTURE

Focus group participants observed that Surrey's population is projected to grow significantly over the next two decades. Noting the Province's goal of reaching 100% electric vehicle sales and leases by 2040, some participants stressed the importance of meeting future demand for EV charging by establishing a robust network of public charging stations throughout the City. Other participants commented that demand for public charging may be tempered by an increase in ride-hailing services, car sharing models, walkability upgrades, transit hubs and other initiatives intended to offer alternatives to individual vehicle ownership, reduce the total number of cars on the road and promote urban sustainability.



IDEAS TO ADDRESS FUTURE POPULATION GROWTH AND SHIFTING COMMUTER TRENDS:

- » Incorporate a **reserve-in-advance booking system** into public charging infrastructure to meet increasing demand for charging as the City's population grows and EV adoption increases.
- » **Work collaboratively with Translink** to ensure EV charging stations are available to EV drivers who make transit connections at Park and Rides as part of their commutes.
- » Consider the **desired future behaviours of residents in relation to broader environmental sustainability goals** and plan EV charging infrastructure accordingly (e.g. promote car share options, build drop-off lanes and take measures to minimize the number of vehicles parked at the curb).

NEXT STEPS



The City of Surrey will draft the EV Strategy based on the input and ideas presented by focus group participants, the results of an online survey and other research and analysis.

The City will present draft actions to stakeholders for another round of engagement in early 2020 to further shape and refine the EV Strategy before it is finalized and presented to Surrey City Council.



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