

**REPORT TO TRANSPORTATION COMMITTEE
MEETING OF WEDNESDAY, JUNE 16, 2021**

SUBJECT CRD Electric Vehicle Infrastructure Roadmap

ISSUE SUMMARY

To provide the results of the Capital Regional District (CRD) Electric Vehicle Infrastructure Roadmap project (Roadmap).

BACKGROUND

Working with Dunsky Energy Consulting, staff recently completed the CRD Electric Vehicle (EV) Infrastructure Roadmap (Appendix A). The purpose of this initiative was to understand future charging station needs and identify the opportunities for regional collaboration. The Roadmap considered municipal EV adoption targets and utilized modelling to identify a regional target of 25% of light duty vehicles to be EVs by 2030. The project team held two workshops and one-on-one interviews with local and provincial governments, BC Hydro, EV Tech companies, potential site hosts, EV infrastructure builders, and large fleet owner representatives.

The Roadmap estimates that, on the region’s current adoption trajectory, EVs are expected to reach 11% of total vehicles by 2030, well below capital region and municipal targets. To meet regional targets, charging infrastructure needs to be in place to promote and attract EV vehicle uptake.

The Roadmap focuses on EV charging infrastructure for battery-electric and plug-in hybrid electric light-duty passenger vehicles, including those for businesses and commercial fleets within the capital region. Light-duty passenger vehicles make up more than 90% of vehicles in the capital region and transitioning these vehicles to electric is a key strategy in local and senior government climate plans and related policies. Funded in part from a BC Hydro Sustainable Communities grant, the Roadmap will be used as an input for the CRD Climate Action Strategy update. Results will also be shared with local governments and other regional stakeholders.

The Roadmap identifies that approximately \$31 million of investment is needed for public EV infrastructure to enable the region to achieve 25% of EV ownership relative to the total vehicle fleet by 2030. The 25% target reflects the EV adoption goals set by the region’s local governments to date, and a moderate level of EV ownership in the region. While it is expected that most future EV drivers will plug in predominantly at home, many other drivers will only have access to public charging. Many fleet vehicles, such as taxis and car-share services, are also expected to rely on the public network. The following table outlines the number of EV public charging ports and their cost to support the region to an EV target of 25% of the light duty fleet by 2030.

Table 1: Forecast number of charging ports and investment needed by port type

Level 2	Direct Current Fast Charging
770 new ports by 2030	132 new ports by 2030
\$7.7M total investment	\$23.1M total investment

Most of the investment needs to go to DCFC or “Fast Chargers,” which are energy and capital intensive. Few non-Tesla fast chargers exist in the region today. Fast chargers are typically “on-the-go” or top-up chargers, but can be the primary mode of charging for those without access to home charging (i.e., residents of multi-unit residential buildings (MURBs)). DCFCs are currently being installed in corridors by BC Hydro but not at commercial community hubs, like grocery stores, or designated “mobility hubs” identified in the CRD Regional Transportation Plan.

A number of public level 2 chargers currently exist in the region (i.e., malls, recreation centres and municipal halls). These are less expensive and the Roadmap envisions these to be installed in greater numbers in long-term (i.e., multi-hour) parking areas that are close to homes, community hubs and recreation sites. The Roadmap also envisions level 2 installations at workplaces to support charging for employees who do not have access to home charging.

Overall, the total number of public charging ports will need to more than quadruple by 2030, according to the Roadmap modelling. While the Roadmap does not recommend that the CRD specifically own and operate an EV network in the region, it can contribute to the EV infrastructure initiative. See Appendix B for regional stakeholder roles.

The Roadmap recommendations include investing in additional coordination support focusing on charger site selection, education and capacity building, data tracking, and the creation of policy and guideline documents (see pages 24-31 of Appendix A). While the Roadmap does not focus on private charging, the recommendations do include supporting and tracking comprehensive EV charging retrofits in MURBS.

ALTERNATIVES

Alternative 1

The Transportation Committee recommends to the Capital Regional District Board:

That this report be received for information.

Alternative 2

That this report be referred back to staff for additional information.

IMPLICATIONS

Environmental and Climate Implications

On-road transportation accounted for 46% of emissions in the capital region in 2018, with light-duty vehicles accounting for more than 90% of that. Transitioning the region’s fleet of light-duty vehicles to EVs displaces fossil fuel use and is a key climate priority for the federal and provincial governments and the capital region’s municipalities. Achieving regional and municipal targets related to mode-shifting to transit and active transportation are also climate priorities.

Intergovernmental Implications

As per Appendix B, senior levels of government play major funding and policy roles. The provincial government has created the Zero Emission Vehicle Regulation, which supports the EV supply for

the region, as well as the Go Electric BC program that funds publicly accessible EV infrastructure. The federal government has established a national zero emission vehicle target and the Zero Emission Vehicle Infrastructure Program, which also supports publicly accessible EV infrastructure. The Roadmap recommendations are in line with previous regional and municipal governments' responses and create a coordinated infrastructure program instead of the implementation piecemeal projects, which has been the approach to date. The recommendation to create guidelines and policies supports existing authorities of local governments, many of which have created EV-ready development provisions for public charging and residential construction.

Alignment with Board & Corporate Priorities

The CRD embedded the climate emergency declaration and leadership intentions to accelerate the reduction of GHG (greenhouse gas) emissions while working with local governments in the 2019-2022 CRD Board priorities.

Alignment with Existing Plans & Strategies

The Roadmap was created to align with the 2018 Regional Growth Strategy, which would set the region up well to achieve the goal of a 61% emission reduction by 2038. The Roadmap also aligns with the 2014 *Regional Transportation Plan* mobility hub concept and the multi-modal transportation planning context. The Roadmap will also align with the renewed CRD Climate Action Strategy (in development).

CONCLUSION

Transportation is a key component of regional greenhouse gas emissions. The CRD Electric Vehicle (EV) Infrastructure Roadmap identifies that approximately \$31 million of investment will be needed for public EV infrastructure to set the region up to achieve 25% of EV ownership relative to the total vehicle fleet by 2030 and support the Regional Growth Strategy target of 61% total greenhouse gas emission reduction by 2038. The Roadmap indicates that the CRD can support regional collaboration and infrastructure investment through coordination, education, tracking, and policy support.

RECOMMENDATION

The Transportation Committee recommends to the Capital Regional District Board:

That this report be received for information.

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ATTACHMENTS

- Appendix A: CRD Electric Vehicle Infrastructure Roadmap – Dunsky Energy Consulting
- Appendix B: Regional Electric Vehicle Infrastructure Roles