



Committee of the Whole Report

For the Meeting of April 18, 2024

To: Committee of the Whole

Date: April 5, 2024

From: William Doyle, Acting Director, Engineering & Public Works

Subject: Electric Vehicle Strategy Bylaw Updates

RECOMMENDATION

1. That Council instruct the Director of Engineering and Public Works (the “**Director**”) to make an application to Measurement Canada for a dispensation for Level 3 Electric Vehicle Supply equipment in order to enable the City to set fees for access to its public DC Fast Chargers on a per kilowatt hour (kWh) basis, and authorize the Director to accept the terms and conditions of doing so in the form attached as Appendix B, and to execute the associated indemnification agreement with Measurement Canada, in the form attached as Appendix C.
2. Subject to the City being granted a dispensation from Measurement Canada pursuant to the above resolution, that Council instruct the City Solicitor to draft an amendment to the City Parkades Electric Vehicle Charging Fees Bylaw to update DC fast charging fees as required to support implementation of the EV and E-Mobility Strategy.
3. That Council instruct the City Solicitor to bring forward the necessary bylaw updates to allow for the following:
 - (a) Delegate to the Director the authority to issue licences to owners and occupants of residential property in order to allow such persons to run electric vehicle (“EV”) charging cords across the City right of way adjacent to their property for the purpose of charging EVs;
 - (b) Expansion of the delegation to the Director allowing them to set fees for the use of public EV charging stations to also allow them to set fees for the use of car share EV charging stations where such charging stations are owned by the City;
 - (c) Increase the fee for Street Occupancy Permits within Electric Vehicle Charging Zones to offset revenue lost from City-owned EV charging stations when the public are unable to utilize the charging stations; and
 - (d) To allow the City to enforce the City Parkades Electric Vehicle Charging Fees Bylaw where the City has a licence or lease to operate EV charging stations on private property.

EXECUTIVE SUMMARY

By implementing proactive changes to City bylaws, the City can continue to support increasing EV adoption in Victoria by addressing new challenges and barriers that are arising as EVs become more commonplace. This report recommends three measures, which align with the City's EV and E-Mobility Strategy objectives to expand access to EV charging, monitor affordability, build an EV ecosystem and evolve with adoption. The measures are as follows:

1. Update fees for DC Fast Chargers to be based on the amount of power delivered.

DC Fast Charging (DCFC) is a convenient option to quickly charge an EV. Updating fees to a time-based system supports affordability evolves the network to better meet the needs of the user and expands access.

2. Introduce a Sidewalk Cord Cover Permitting Program to enable on-street charging.

Allowing residents to apply for a permit to charge EVs while they are parked on the street will help enable EV options for more citizens. This measure will provide affordable options for EV charging to residents, expand access to EV charging and diversify Victoria's EV charging ecosystem.

3. Update existing bylaws to a) expand existing delegations allowing the Director to prescribe fees for the use of City owned charging stations for car shares, b) set an enhanced fee for Street Occupancy Permits within EV charging zones, and c) allow the City to enforce its EV charging rules within leased properties where the City has a licence or lease to operate EV charging stations on private property.

This suite of measures proposes changes to existing bylaws to achieve a number of objectives including expanding access to EV charging through car share, evolving street permitting rules as EV charging expands to the right of way and supports the expansion of access and construction of Victoria's EV ecosystem through creating opportunities for the City to enforce EV monitoring and enforcement on leased properties.

PURPOSE

The purpose of this report is to seek approval to draft three measures directed to enhance and expand EV use within the City of Victoria.

BACKGROUND

The City of Victoria installed its first public electric vehicle (EV) chargers over a decade ago, shortly after EVs were introduced to the market. Since then, EV sales have increased rapidly. Today over 21% of new cars purchased in the region are EVs. Provincial and Federal Zero Emission Vehicle (ZEV) mandates will regulate increases in sales until 2035, when 100% of all light duty vehicles sold in Canada are to be ZEVs.

2018 Climate Leadership Plan (CLP): In 2018, the City adopted its comprehensive strategy to reduce Greenhouse Gas (GHG) emissions and adapt to the changing climate. The CLP aims to reduce community GHG emissions by 80 percent below 2007 levels and transition to 100% renewable energy by 2050.

The CLP sets targets and goals to reduce transportation GHG emissions, including a target that "By 2030, renewable energy powers 30 percent of passenger vehicles registered in Victoria and 100 percent are renewably powered by 2050." This 2030 goal—as it relates to registered vehicles rather than sales—aligns with the proposed federal ZEV mandate.

2019 Council Declaration of a Climate Emergency: Zero emissions mobility incentives through GoVictoria and the installation of EV infrastructure was identified as one of the CLP's Six High Impact Initiatives to accelerate climate action.

2020 Bylaw Creation and Amendments to support EV adoption: In 2020 the City created the City Parkades Electric Vehicle Charging Fees Bylaw (20-032) and amended the Streets & Traffic Bylaw (09-079) to establish Electric Vehicle Charging Zones and establish fees and regulations for use of City owned EV chargers.

2021 EV and E-mobility Strategy: In 2021, Council adopted the City's EV and E-mobility Strategy. This strategy describes investments required in public and private EV infrastructure as well as e-mobility to support achievement of the CLP transportation GHG reduction targets including the target to have 30% of registered passenger vehicles in the city being renewably powered by 2030.

In 2022 approximately 3% of passenger vehicles registered in Victoria were EVs and in Q3, 2023 over 26% of all new vehicles registered in BC were EVs.

ISSUES & ANALYSIS

The EV and E-mobility Strategy identifies three overarching areas to be addressed to reach the City's 2030 renewably powered vehicles target.

- Invest in EV charging,
- Fill gaps in incentives, and
- Build an EV ecosystem.

The strategy's model indicates that even with those areas addressed, the target may not be achieved. With the measures in the strategy implemented, registered vehicle rates are estimated to be in the range of 17% to 31% in 2030 (see Figure 1). Additional measures can be usefully deployed by the City to support achieving the 2030 transportation GHG reduction target of 30%.

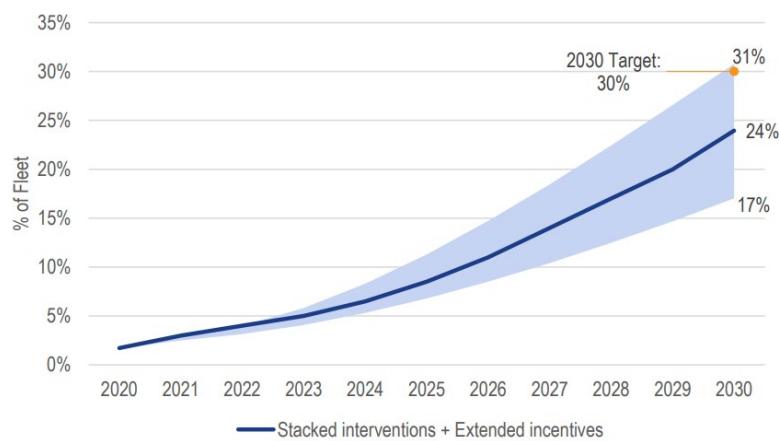


Figure 1 Electric vehicles as a percentage of total fleet following infrastructure investments and extended incentives (From EV and E-mobility Strategy)

Additional measures the City can deploy to enhance and expand EV use within the City of Victoria include:

Updating fees for DC Fast Chargers

Measurement Canada, the federal government agency responsible for regulating EV fees, is allowing DC Fast Charger operators an opportunity to set power (kWh) based fees through an application for a dispensation, which is available until June 31 this year. The application requires the City to agree to the terms and conditions of the dispensation and indemnify Measurement Canada against any action taken as result of this dispensation due to customer claims (details in Appendix B and C).

DC Fast Charging (DCFC)—is a convenient option to quickly charge an EV that is offered by the City. Under current federal regulations, the City can only levy a fee for timed access to a charger (i.e., a time-based fee; see Appendix A for current fee schedules), rather than a fee for the amount of power delivered from the charger to the vehicle.

A number of circumstances can create situations where time-based fees are not a suitable fee structure. For example, not all EVs charge at the same rate; typically, older, lower cost EVs charge more slowly than newer EVs. Temperature and state of charge can also impact an EV's charge rate. The modular design character of DCFCs can result in reduced rate of charge when a fault is detected. Modularity is a benefit in that the charger can continue to function, albeit with reduced power output, but at the expense of delivering a constant level of power. These conditions can create a circumstance where users can pay the same fee and receive variable quantities of power.

Sidewalk Cord Cover Permitting

Currently, running private electrical cords across the public right of way on a temporary basis requires an electrical permit (e.g., when using city streets for film locations). Electrical permits, with their associated burden for inspection and administration, are not a practical option to support residents who wish to charge their EVs at the curb. The City has received multiple requests from residents wishing to run cords across sidewalks to charge EVs. It has also received reports from sidewalk users of residents running cords across sidewalks to charge their EVs.

Cord cover permits would allow residents to charge their EVs at the curbside using household electrical power. This option has particular value to households that do not have access to off street parking; typical examples would be a household living in row-housing or occupants of a suite in a single family home. The residents in this type of housing can be of low-income and live in areas of the city with less access to public EV charging. Permitting the safe use of cords crossing the sidewalk to charge EVs parked on the curb has the potential to be a low-cost opportunity to allow these households to charge an EV at home and enjoy the affordability and environmental benefits associated with the use of an EV.

Both the City of Seattle and the City of Vancouver have provided support for their residents to run charging cables across city streets through the use of approved cord covers. The City of Seattle's approach is to use cord cover guidelines (see Appendix C). The City of Vancouver has instituted a license process; for a nominal annual fee (currently \$5), their residents can obtain a license to run EV charging cords across sidewalks using approved cord covers (see Appendix D).

In both jurisdictions, the license and guidelines require electrical codes to be followed, allow only Level 1 charging, and focus on ensuring that cord covers used meet acceptable accessibility standards, (i.e., they do not create an obstacle or impediment to users of the sidewalk). A review of

Vancouver's cord cover guidelines with the City of Victoria's Accessibility Advisory Committee identified measures to further reduce the risk of creating a sidewalk hazard:

- Requiring cords only be in place while the vehicle is charging; in most cases this would be overnight.
- Limiting the number of licenses per block to avoid the need to cross multiple cord covers in a short distance.
- Disallowing licenses on sidewalks on steep slopes.
- Restricting licenses to less frequented sidewalks (e.g., those in low density residential areas).
- Utilize only yellow rubber cord covers to maximize visibility and reduce the risk of movement when crossing.

The EV and E-mobility strategy focuses deployment of EV charging infrastructure in the short-term and medium term to downtown parkades to support workplace charging, and neighbourhood centres and close to multi-unit residential buildings. Limited access to Level 2 curbside charging is planned in the city's low density housing neighbourhoods in the short term. In the longer-term, existing regulatory barriers may change and curbside Level 2 EV charging from streetlights, power poles and similar may become more affordable.

Updates to Existing Bylaws

Expanding EV charging options within the public right of way is anticipated to provide more opportunities for this infrastructure to benefit the surrounding community and be a source of revenue for the City.

Within the Streets & Traffic Bylaw (No. 09-079), section 45(bb), authority is given to the Director of Engineering and Public Works to set fees for EV charging stations "available for public use". To support the arrival of car share electric vehicles, there is a need to set fees for car share electric vehicles charging within the public right of way. Expanding the definition of charging stations to include car share vehicles will facilitate the City's support of car share electrification and be the first step in creating a business model that allows cost recovery from provision of City owned EV charging services in the public right-of-way for car sharing purposes.

Under the Streets & Traffic Bylaw, Occupancy Permits can be granted to close access to streets, including an EV Charging Zone (within which EV charging is located), for a small fee. The current fee does not adequately compensate the City for the loss of revenue to the City of that occupancy permit when the City cannot obtain revenue from the EV chargers. An increase in the street occupancy fee within Electric Vehicle Charging Zones will encourage alternative sites to be preferentially considered, encourage permits to be drawn for the minimum amount of time required, and compensate the City for the actual cost of that occupancy permit to the City given the revenue loss.

The City Parkades Electric Vehicle Charging Fees Bylaw needs to be expanded to enable it to be enforced in private parking lots. This will allow the City to provide public EV charging stations on private property through a licence or lease agreement. Enabling this type of partnership will open up more EV charging location options for the City to grow its EV charging network.

OPTIONS & IMPACTS

Option 1: Move forward all three measures described in this report (Recommended).

Should this option be selected, staff will advance the necessary work to allow the City to update or set new fees, as well as introduce a new program to support curbside EV charging, and update relevant bylaws. The measures all align with existing City strategic priorities and can be accommodated within existing City resources.

Option 2: Do not move forward with the described measures.

If this option is selected, no changes to bylaws will be implemented. This would have the following impacts:

- DCFC charging fees will continue to be charged by the hour, which will result different users paying different amounts for the electricity consumed due to the range of charging rates of different vehicles.
- Residents would be unable to charge their EVs at the curbside, across a sidewalk, using household electrical power, reducing charging options for those residents.
- The City would have no way of charging for fees for car share vehicles looking to secure on street EV charging.
- The City would not have a means to recover revenue losses from EV charging stations closed through street occupancy permits.
- The City would be unable to enforce EV fees and penalties in leased parking lots.

The combined impact would be reduced ability of the City to provide a wide range of charging options for Victorians.

Accessibility Impact Statement

The cord cover licensing initiative can impact accessibility. Climate Action Program staff have met twice with Accessibility Advisory Committee to review the proposed initiative and gather feedback. Adding cord covers across City sidewalks will be impactful on sidewalk users that use wheelchairs or have visual impairment. Two cord cover versions were tested by the committee, both supported by the guidelines in place in Vancouver and Seattle. In addition, the committee provided input to staff on further measures that would reduce the impact of cord covers on sidewalk.

2023 – 2026 Strategic Plan

These proposed initiatives align with the Climate Action and Environmental Stewardship objectives of the strategic plan, specifically:

- Innovate to lead bold climate adaptation and mitigation strategies, and actions.
- Accelerate the reduction of emissions from transportation and waste.

Impacts to Financial Plan

There are no budget requests attached to this report. Subject to future approval, resources would be required from Legal, Finance and IT to set up and operate the licensing program. The level of effort required to set up is considered low and within current staff capacities. The City's online web expertise and resources would be used to minimize the operational overhead through implementation of a largely automated licensing process.

Official Community Plan Consistency Statement

This initiative is consistent with the following OCP goals under Transportation and Climate Chapters:

7 (D) Transportation systems have reduced fossil fuel dependence, produce lower greenhouse gas emissions and air contaminants, and are resilient to climate change impacts.

Victoria relies on 100% renewable energy sources.

12 (C) All Victorians have equitable access to efficient, affordable and renewable energy options.

12 (E) Transportation options reduce fossil fuel dependence, help conserve energy and produce low greenhouse gas emissions and other air contaminants.

CONCLUSIONS

The City's CLP target to have renewable energy power 30 percent of passenger vehicles registered in Victoria by 2030 is ambitious; modelling shows this target is attainable, but additional actions can increase the likelihood of meeting it. The recommendations presented in this report offer opportunities for more equitable pricing of fast charging, access to on street charging to an underserved group of residents, support expansion of EV car share and protect the City's EV charging revenues.

Respectfully submitted,

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Climate & Environmental Sustainability Specialist

William Doyle
Acting Director, Engineering & Public Works

Report accepted and recommended by the City Manager.

List of Attachments

Appendix A Current EV Charging Fee Schedule

Appendix B Declaration of Acceptance of the Terms and Conditions

Appendix C Indemnification

Appendix D Cord Covering Approaches Other Cities