

COUNCIL REPORT

TO: CITY MANAGER **DATE:** 2019 November 13

FROM: DIRECTOR ENGINEERING **FILE:** 37500-16

SUBJECT: PUBLIC ELECTRIC VEHICLE CHARGING STATIONS

PURPOSE: To establish regulations and fees for the use of City-owned public electric vehicle charging stations.

RECOMMENDATIONS:

1. **THAT** Council approve the regulations and fees for the use of City-owned public electric vehicle charging stations as outlined in this report;
2. **THAT** Council authorize the City Solicitor to bring forward the Parking Meter and Electric Vehicle Charging Meter Bylaw, substantially in the form attached to this report, and repeal *Parking Meter Bylaw 1998*; and
3. **THAT** Council authorize the City Solicitor to bring forward amendments to the *Parks Parking Regulation Bylaw 1991* and *Bylaw Notice Enforcement Bylaw 2009*, in accordance with Section 5.0 of this report.

REPORT**1.0 INTRODUCTION**

On 2018 November 19, Council approved a pilot project for City public EV charging to support the uptake and use of electric vehicles (EV) because it is aligned with the City's three sustainability plans (environmental, social and economic). The project provides needed access to residents that do not have the option to charge at home and responds to the rapidly increasing popularity and use of electric vehicles (EV) in Metro Vancouver. With Council's recent declaration of a climate emergency, the importance of this project is further amplified. As part of the initial phase of the pilot project, several public EV charging stations are targeted for installation before the end of this year. This report recommends a set of regulations to manage the use and enforcement of these new City-owned public EV charging stations.

2.0 POLICY SECTION

The provision of EV charging stations is aligned with the City of Burnaby's Corporate Strategic Plan by supporting the following goals and sub-goals of the Plan.

Goal

- A Connected Community
 - Geographic connection –
Ensure that people can move easily through all areas of Burnaby using any form of transportation
- A Healthy Community
 - Healthy environment –
Enhance our environmental health, resilience and sustainability
- An Dynamic Community
 - City facilities and infrastructure –
Build and maintain infrastructure that meets the needs of our growing community
- A Thriving Organization
 - Technology and innovation –
Support technology development and innovation to empower staff and to advance community objectives

3.0 BACKGROUND

A key consideration for owning an EV is how to charge it. There are three basic approaches: Levels 1, 2, and 3 (DC fast charger - DCFC). Level 1 uses a standard 120 volt outlet common in many households. Unfortunately this is not very convenient because of the length of time required (up to a day) to fully charge an EV. Level 2 uses a 208 or 240 volt outlet used for such things as electric stoves and clothes dryer, and can fully charge an EV in less than 8 hours. Level 3 or DCFC uses direct current at 50kW or 25kW to quickly charge an EV in less than an hour. To assist EV owners who may need a top up charge to help them reach their destination, the City is purchasing and installing Level 2 public EV charging stations at six locations (18 charging ports) before the end of the year. These will be located at McGill Library, Edmonds Community Center, Burnaby City Hall, Riverway Golf Course, Central Park (tennis court parking lot), and Bill Copeland Sports Centre. Other locations in City-owned properties and on public streets are being reviewed for future expansions.

The charging stations will be operated and maintained by a third party contractor, under terms and conditions established by the City. Engineering Transportation Services will administer the program with assistance from Public Safety & Community Services to monitor and enforce the use of the public EV charging parking spaces.

4.0 EV CHARGING RATES AND REGULATIONS

Within 15 km of Burnaby, there are about 400 electric vehicle charging stations with the majority (93%) of them being Level 2 chargers. About half of these have a user fee associated with them, with the remaining provided at no cost.¹ A review of these charging stations show increasing usage as EV's become more common, with many of them experiencing congestion. This is anticipated to worsen over time as adoption of EVs increase. Some identified problems include EVs parked at a charging station for multiple hours even when not charging or after the battery has been fully recharged. This reduces the availability of the charging stations to those who may need to rely on them. To avoid this problem and increase turnover, it is recommended that a time based user fee be applied to City-owned public EV charging stations. The user fee will help encourage EV drivers with access to home charging to use those preferentially, and to use the public charging station only for as long as required to receive a sufficient charge to reach their destination or next charging station. This approach maximizes the availability of the charging station to the public, and maximizes the utility of the asset. The fees recovered will also help to offset the cost of installing and operating the charging stations.

The proposed fee for Level 2 charging is outlined in the table below. A base rate of \$2.00/hr is proposed for most of the day and evening when demand is anticipated to be higher. A reduced rate of \$1.00/hr is proposed in the late evening and overnight when demand is anticipated to be lower. A four hour maximum length of stay is proposed to encourage turnover, and to provide more than sufficient time for most users to top up the charge on their vehicle.

Time (Daily)	4 Hours Maximum	
6:00am-10:00pm	\$2.00/hr	plus applicable parking meter rate
10:00pm-6:00am	\$1.00/hr	plus applicable parking meter rate

The rate of \$2.00/hr for Level 2 charging is also used in some other municipalities and has been found to be effective in minimizing abuse of charging stations. It will also ensure that other modes such as walking, biking and transit remain more attractive financially than driving an EV.

1 https://chargehub.com/en/countries/canada/british-columbia/burnaby.html?city_id=1323

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Future adjustments of the proposed rates and regulations may be required in response to supply and demand for charging stations. To provide this flexibility, it is proposed that the Director Engineering be authorized to establish the rates and regulations for the ongoing operation of EV charging stations and related parking spaces. Although the rate will be set initially at \$1.00 or \$2.00 per hour as outlined above, the proposed Parking Meter Bylaw will simply establish the maximum EV charging rate that can be charged. This maximum rate is proposed to be \$5.00/hr, and will only be used if future demand conditions warrant it.

Enforcement of the EV charging spaces will be the responsibility of by City Bylaw Enforcement Officers using the same procedures established for other existing parking infractions. Use of the designated parking spaces for public EV charging will be restricted to EVs only, and only while actively charging. Fines for infractions are proposed to be the same as for parking meter infractions at \$50, or \$40 if paid early (within 15 days).

5.0 PROPOSED BYLAW AND BYLAW AMENDMENTS

Burnaby Parking Meter Bylaw 1998 currently contains the City's regulations and fees for parking meters that have been installed in different parts of the City. The regulations and fees for EV charging stations are similar in nature; therefore, staff recommends that a new bylaw be established that includes regulations and fees for both parking meters and public EV charging stations. The proposed Parking Meter and Electric Vehicle Charging Meter Bylaw would implement rates and regulations for EV charging stations and maintain the current rates and regulations for parking meters. The proposed Bylaw is *attached* to this report and, once adopted by Council, would repeal and replace *Burnaby Parking Meter Bylaw 1998*.

Similar to the current *Burnaby Parking Meter Bylaw 1998*, the proposed Bylaw would authorize the Director Engineering to designate metered spaces within the metered zones identified in the Bylaw, install parking meters and EV charging stations in their respective zones, and establish rules and regulations for the use of the metered spaces (such as applicable hours and rates, maximum parking/charging periods, and size and type of vehicles permitted to be parked in a metered space). Further, the Bylaw allows the City to remove and impound vehicles and other obstructions located in metered spaces in contravention of the Bylaw or a rule or regulation established by the Director Engineering.

With the proposed repeal and replacement of *Parking Meter Bylaw 1998*, the relevant penalty provisions in *Bylaw Notice Enforcement Bylaw 2009* need to be replaced in order to implement penalties for both parking meter and EV charging station violations.

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It is recommended that provisions in Schedule A of *Bylaw Notice Enforcement Bylaw 2009* relating to *Burnaby Parking Meter Bylaw 1998* be repealed and replaced with the following:

Bylaw Section	Description	A1 Penalty	A2 Discounted Penalty (within 15 days)	A3 Compliance Agreement Available (50% Reduction)
	Burnaby Parking Meter and Electric Vehicle Charging Meter Bylaw 2019	\$	\$	
4	Parked at parking metered space without payment	50	40	NO
5(a)	Parked at EV metered space without payment	50	40	NO
5(b)	Parked at EV metered space without connecting to EV charging meter	50	40	NO
6(1)	More than 1 vehicle parked in metered space	50	40	NO
6(2)	More than 3 motorcycles in a parking metered space	50	40	NO
6(3)	Non-electric vehicle parked in EV metered space	50	40	NO
7	Parked while parking meter expired	50	40	NO
8(a)	Parked while EV charging meter expired	50	40	NO
8(b)	Parked in EV metered space while not actively charging	50	40	NO
9(a)	Parked where prohibited	50	40	NO
9(b)	Exceed maximum time limit	50	40	NO
9(c)	Parked at malfunctioning meter	50	40	NO
10	Parked while meter temporarily discontinued	50	40	NO
11	Parked in contravention of bylaw	50	40	NO

Some of the proposed EV charging stations will be located on City park land. Currently, *Burnaby Parks Parking Regulation Bylaw 1991* restricts parking in City parks to park users. The users of public EV charging stations may not necessarily be park users. In order to provide an exemption for public EVs charging at EV charging stations located

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on City park land, section 3(1) of *Burnaby Parks Parking Regulation Bylaw 1991* is proposed to be amended to read as follows:

“3. (1) No person other than a park user shall park a motor vehicle in a park, except an electric vehicle parked and charging in an electric vehicle metered space in accordance with the Burnaby Parking Meter and Electric Vehicle Charging Meter Bylaw.”

The proposed Parking Meter and Electric Vehicle Charging Meter Bylaw and above bylaw amendments would become effective immediately upon adoption by Council so that public EV charging stations can be installed and operational before the end of this year.

The Directors of Parks, Recreation and Cultural Services and Public Safety and Community Services are supportive of the noted changes

6.0 FINANCIAL IMPLICATIONS

The installation of pilot EV charging stations at the six locations identified in this report will be completed at a cost of about \$35,000 - \$40,000 per dual head Level 2 charging station and will be funded from the 2019 Capital Program. This pilot program will help to ascertain the operating costs and potential offsetting revenues. As the City's network of public EV charging stations expands, there may be resource implications related to enforcement, complaint management, data analytics and administration. These implications and any associated staff needs will be included in future budget submissions as required for Council's consideration.

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7.0 CONCLUSION

City-owned EV charging stations are scheduled to be installed at six civic locations throughout the City before the end of the year as part of a pilot project approved by Council late last year. The public EV charging stations are consistent with the City's goal to enhance environmental health, resilience and sustainability by encouraging EV adoption. Based on a review of existing public EV charging stations in the region, this report recommends a number of regulations for the operation of the EV charging stations including a user fee to manage demand and encourage turnover. It is recommended that the City Solicitor bring forward the proposed Parking Meter and Electric Vehicle Charging Meter Bylaw, substantially in the form attached to this report, and prepare the necessary bylaw amendments to *Bylaw Notice Enforcement Bylaw 2009* and *Parks Parking Regulation Bylaw 1991*, as outlined in Section 5.0 of this report. Once the EV charging stations are put into operation, a communications plan will be implemented to inform the public about this new service.



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Director Engineering

DL/ac

Attachment

Copied to: Director Corporate Services
Director Public Safety and Community Services
Director Parks, Recreation, and Cultural Services
Director of Finance
Director of Planning and Building
City Solicitor