



THE CORPORATION OF THE CITY OF COURTENAY

STAFF REPORT

To: Council
From: Chief Administrative Officer
Subject: Electric Vehicle Charging Station – Cost Recovery Model

File No.: 8620-00
Date: March 8, 2023

PURPOSE:

The purpose of this report is to seek Council's direction for the parameters of use, cost recover model for all City owned publicly available electric vehicle charge station(s).

CAO RECOMMENDATIONS:

That based on staff report *Electric Vehicle Charging Stations – Cost Recovery Model* that Council direct staff to establish a full cost recovery flat rate fee model for all City owned electric vehicle charging stations.

Geoff Garbutt, M.Pl., MCIP, RPP
Chief Administrative Officer

BACKGROUND:

In 2019, the City in partnership with the Community Energy Association (CEA) received grant funds for the installation of three community electric vehicle (EV) charging stations through the CleanBC Communities Grant. The CleanBC Communities Grant funded 73% of the total project costs, with the City supporting the remaining construction contribution amount of \$24,144.

As part of the Mid-Island Electric Vehicle Charging Network initiative, delivered in part with the Community Energy Association, the City of Courtenay was able to install three new publicly available level 2 EV charging stations across the community, with a total of five level 2 charging ports.

These level 2 EV charging stations were installed over the winter of 2022/2023 and are located in the downtown core at 6th Street and England Avenue (dual port) adjacent to the Urbaloo Washroom, at the Lewis Centre (dual port), and at City Hall (single-port).

The table below summarizes the key features of charger types currently available in the broader market.

Table 1: Electric Vehicle Charger Levels and Features¹

¹ <https://electricvehicles.bchydro.com/charge/choosing-a-home-EV-charger>

EV Charger Type	Power Connection	Driving Range Added	Time to Fully Charge
Level 1	120-volt	5 – 10 km / hour	12 – 20 hours
Level 2	240-volt	30 – 40 km / hour	6 – 14 hours
Level 3	480-volt or 1,000-volt	150 – 240 km / hour	1 – 4 hours

DISCUSSION:

Under the terms of the Community Energy Association agreement, the City does own and must operate these units for a period of five years. The City's responsibilities include the supply of electrical utility, and continuous public access throughout that timeframe.

Additionally, the City is responsible for the ongoing costs associated with the operation of these units, including operation & maintenance, power consumption, warranty, and network fees. The City is not, however, prohibited from recovering costs incurred by operational or maintenance activities by instituting a fee based model on either a subsidized or revenue-neutral basis.

As per the Community Charter, municipalities may only impose fees and charges for the provision of services, use of property, the exercise of regulatory authority, or for obtaining copies of local government records. As a result, the City's EV charging station fees cannot generate profits. The cost breakdown of known responsibilities is provided below.

Establishing an EV Charging Fee

The anticipated costs to manage and deliver services from the City's new EV charging stations include tangible assets, services, and power. Additional fees and taxes are then applied per use and transaction. The various types of expenditures are described in the following table with the annual cost of each. Staff anticipates that a net neutral annual operating cost of **\$32,851** would be required to enable the sustained provision of this new public service, resulting in an estimated operating cost of **\$3.00** per port per hour.

A summary of all estimated costs associated with providing this service is provided below. Two main factors will impact the financial implications more than all others; electrical power consumption and actual use. For example, costs are reduced if the total hours of charging time provided by a single port exceed the estimated 6 hours per day for 2,190 hours of use per year.

Table 2: Summary of Annual Expenditures

Expenditure Type	Cost per Port (hourly)	Cost per Port (annually)	All Three City EV Charging Stations
Tangible Assets	\$ 0.50	\$ 1,095	\$ 5,475
Services	\$ 0.12	\$ 263	\$ 1,315
Power	\$ 1.60	\$ 3,504	\$ 17,520
User Rate Fees & Taxes	\$ 0.40	\$ 876	\$ 4,380

Expenditure Type	Cost per Port (hourly)	Cost per Port (annually)	All Three City EV Charging Stations
Operations & Maintenance	\$ 0.38	\$ 832	\$ 4,161
Grand Total	\$ 3.00	\$ 6,570	\$ 32,851

The cost of the service model could be partially subsidized to further reduce the hourly fee rate by not collecting the Tangible Asset funds required to offset the future replacement of the asset at the end of its estimated useful life. This would further reduce the proposed operating cost to \$2.50 per port per hour, however, the net loss in revenue would need to be offset by future capital expenditure.

Other local governments and private operators in the community and surrounding areas have a wide range of rates for EV charging services as described in Table 3, below. Staff have not found a pricing model that assigns a dollar value to the amount of greenhouse gas offset as an outcome of EV charging services.

Table 3: Local EV Charging Fee Comparison

EV Charger Type	Owner	Fees
Level 2	Town of Comox	\$1/hour first 2 hours, \$2/hour thereafter
	Village of Cumberland	\$2.50/hour
	Comox Valley Regional District	Free; currently under review
	City of Campbell River	First 1/2 hour free, \$2/hour thereafter
Level 3	Chevron On the Run	Free; currently under review
	BC Hydro, Superstore	\$12.60/hour

FINANCIAL IMPLICATIONS:

The CleanBC Communities Grant funded 73% of the total project costs while the City supported the project with a contribution of \$24,144. These project costs are only in relation to the initial installation and grant work in the project. The future replacement of a single 2 port EV charger is estimated to cost approximately \$14,000 including parts and labour. In addition, there will be a modest ongoing annual operating and maintenance cost of approximately \$2,081, for all three charging stations, that is recommended to be offset by the proposed user fees to support the financial sustainability of the EV charging stations. Last, service fees amounting to 10%, and taxes of 5%, are required to be added to the revenues collected for this service through the setting of a user fee.

ADMINISTRATIVE IMPLICATIONS:

Staff recommend amending the City's Traffic Regulation Bylaw No. 1926, 1996, and *Fees and Charges Bylaw No. 1673, 1992*, to define EV charging rates, EV parking zones, how and when users can connect an

EV to an EV charging station, how long an EV can be parked at an EV charging station, and how the City will address unlawful parking in an EV charging station parking space, as well as illicit tampering with EV chargers.

Parking Requirements and Operational Hours

EV charging stations are not parking stalls. Designated for charging vehicles, EV charging stations will require signage as 'EV Use Only'. To help promote prompt turnover and enable access to multiple vehicles, the City's Traffic Regulation Bylaw No. 1926, 1996, is recommended to be amended by inserting a new section that defines EV parking zones, how and when to connect an EV to an EV charging station, and how long an EV can be parked at an EV charging station. Provisions are also recommended for managing vehicles unlawfully parking in an EV charging station, and illicit tampering with EV chargers.

While the EV charging stations located in City-owned parking lots at the Lewis Centre and City Hall do not currently have time limitations in place, however, overnight parking is not permitted. Staff recommends with a cost recovery model in place that these locations remain open overnight to maximize their value for the community. Further, operating hours are recommended to be 24-hours a day, 7-days a week.

Increasing the availability of an EV charging station to 24-hours, 7-days per week is expected to encourage the transition to EVs. However, staff do not recommend a 24-hours, 7-days per week operating model without the establishment of a fee for use service model, as the additional administrative implications would need to be absorbed into the City's operating budget.

ASSET MANAGEMENT IMPLICATIONS:

The estimated useful life for an EV charging station is estimated at five years. The cost to replace these assets at the end of their useful life is built into the proposed full cost recovery fee structure only. The cost to replace these assets due to vandalism or tampering is not part of the proposed fee structure. Recovering the costs with a user fee is suggested as it may enable further investment in public charging infrastructure. The demand for these new assets will be managed with a dashboard that provides real-time trends for costs and utilization.

STRATEGIC PRIORITIES REFERENCE:

- ▲ Explore opportunities for Electric Vehicle Charging Stations
- ▲■ Support actions to address Climate Change mitigation & adaptation
- Make progress on the objectives of the BC Climate Action Charter
- ▲ Support social, economic & environmental sustainability solutions

● **AREA OF CONTROL:** The policy, works and programming matters that fall within Council's jurisdictional authority to act

▲ **AREA OF INFLUENCE:** Matters that fall within shared or agreed jurisdiction between Council and another government or party

■ **AREA OF CONCERN:** Matters of interest that are outside Council's jurisdictional authority to act

OFFICIAL COMMUNITY PLAN REFERENCE:

Streets and Transportation

Objective 5: Zero emissions, electrified transportation is supported and increasingly the norm.

Objective 7: Parking standards reflect electric vehicle and cycling needs.

Objective 10: Opportunities for innovation in transportation are explored.

Objective 11: The City shows corporate leadership in the City’s fleet and on City properties.

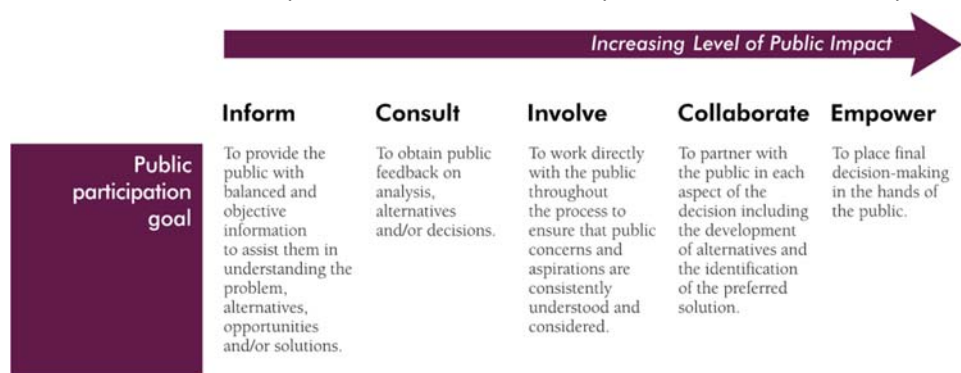
REGIONAL GROWTH STRATEGY REFERENCE:

Objective 8-B: Reduce GHG emissions created by the on-road transportation sector

Supporting Policy 8B-7: In order to promote the use of electric vehicles, local governments should develop incentives and infrastructures for low-emissions vehicles such as recharging infrastructure and priority parking.

CITIZEN/PUBLIC ENGAGEMENT:

Staff would inform the public based on the IAP2 Spectrum of Public Participation:



© International Association for Public Participation www.iap2.org

OPTIONS:

OPTION 1: THAT Council direct staff to establish a full cost recovery flat rate fee model for all City owned electric vehicle charging stations.
(Recommended)

OPTION 2: THAT Council direct staff to establish a partial subsidy flat rate fee model for all City owned electric vehicle charging stations and;

THAT staff be directed to include the future capital replacement funding requirements in the City’s future financial plan.

OPTION 3: THAT Council direct staff to establish a fully subsidized service model for all City owned electric vehicle charging stations and;

THAT staff be directed to include all associated operating costs related to the provision of service for electric charging stations within the City’s financial plan.

Prepared by:



Eric Jernslet
Manager of Civic Properties

Reviewed by:



Michael Wright
Manager of Transportation & Fleet

Concurrence by:



Kyle Shaw, ASCT, CPWI, CWP, CWWP
Director of Public Works Services

Concurrence by:



Geoff Garbutt, M.Pl., MCIP, RPP
City Manager (CAO)