

To: Chief Administrative Officer **Date:** October 16, 2023
From: Erin Blaney, Manager of Environmental Services
Subject: **Electric Vehicle Charging Station Update and Proposed Fee Structure**

Recommendation(s)

1. That Council approve the implementation of tiered hourly-rate fees in January 2024 at \$1.00 per hour for the first two hours and \$3.00 per hour thereafter at city-owned Electric Vehicle charging stations as outlined in this report; and
2. That appropriate updates are made to the Traffic Regulation Bylaw 1698-1987 and the User Fees and Charges Bylaw 4029-2007 and brought back to Council for approval.

Purpose

The purpose of this report is to provide Council with an update on the use of City-owned electric vehicle charging stations and propose a fee structure that will cover the cost of the service.

Background

The City of Mission currently operates six electric vehicle (EV) dual charging stations at municipal facilities: one at each City Hall, the Leisure Center, and the RCMP Station and three at the Welton Common building.

Installation of the charging stations occurred over the course of three years from 2017 to 2019, with capital costs covered by funding the City received through participating in the provincial Climate Action Revenue Incentive Program (CARIP). There is an additional station planned for installation at the Public Works building once electrical upgrades required to support it have been completed.

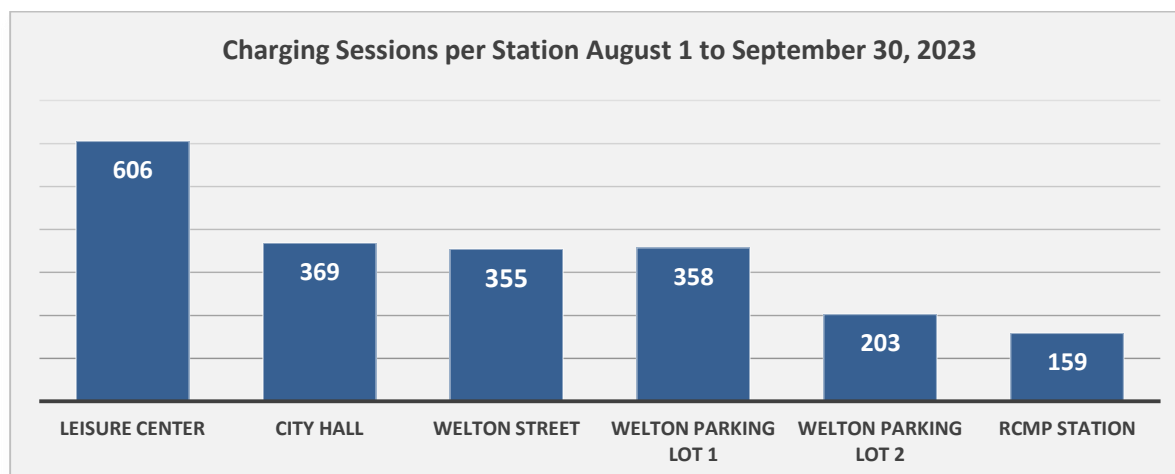
The EV charging stations have been available for use by municipal staff and members of the public free of charge to this point. Council has requested staff investigate and present a fee structure that will cover the costs of maintaining the service.

Discussion and Analysis

Current Use of EV Charging Stations

There has been an average of 990 charging sessions per month in 2023 at City-operated EV charging stations. Vehicles spend an average of three hours plugged in per session, of which two hours is active charging and one hour is spent sitting idle. The Leisure Center station sees the heaviest use, followed by the station at City Hall.

Figure 1: Recent Charging Station Use by Location



Given the trends in station usage, if a network expansion is considered in the future, the Leisure Center location is a good candidate for an additional station.

In addition to the six EV charging stations on municipal property in Mission, there are four other stations available to the public across three locations.

Table 1: Non-Municipal EV Stations Available in Mission

Location	Charger Type	Fee
Van City Bank in the Junction Shopping Center	One Level-2 Dual Station	Free 1-hour Limit
BC Hydro Station in Real Canadian Superstore Parking Lot	One Level-2 Dual Station One Level-3 Dual Fast Charge Station	Level-2: 21.42 cents/ minute Level 3: 27.53 cents/ minute
Mission Raceway Park	One Level-3 Dual Fast Charge Station	50 cents/ minute or \$30/ hour

Data Source: <https://www.plugshare.com/>

Cost of Municipal EV Charging Station Network

Initial capital costs were covered by funding received by the City's participation in the provincial Climate Action Revenue Incentive Program (CARIP). Purchase and installation cost of each unit was approximately \$20,000 plus the one-time cost of facility electrical upgrades to support the system. The cost of the electrical upgrades varied by facility and do not need to be considered when calculating asset replacement value. A conservative life expectancy of each unit is 12 years, based on conversations with a supplier representative.

Ongoing operational costs include the cost of BC Hydro, ChargePoint services for data network access and extended maintenance warranties, staff time, and asset management planning for future replacement of charging units.

Revenue is also currently being generated by the EV stations through carbon credits. The 2022 payment was processed in September 2023 for \$27,720. It is recommended this annual revenue be used for asset replacement and service network expansion.

Table 2: Annual Cost & Revenue Breakdown

BC Hydro	\$20,000
ChargePoint Service Fees	\$5,000
Staff Wages:	
5% Environmental Services Manager wage	\$9,297
5% Environmental Coordinator wage	\$6,415
Asset Management	\$7,200
Carbon Credit Revenue	(\$27,000)
TOTAL ANNUAL NET COST	\$20,912

Based on the current usage rates of the charging stations and the costs outlined in the table above, the average net cost to the City per charging session is \$1.75.

Fee Structures in Other Municipalities

Publicly accessible EV charging stations are a common service provided by municipalities in the Lower Mainland and Fraser Valley. The provincial Crown Corporation, BC Hydro, also provides public access to EV charging stations throughout the province. Fee structures are not standardized, and include a mix of flat parking rates, hourly rates, and by-the-minute rates.

Table 3: Fee Structures in Neighboring Municipalities & BC Hydro Station

Municipality / Organisation	Fee for Level 2 Stations
BC Hydro (various locations across BC)	\$7.34 per hour*
City of Vancouver	\$2.00 per hour plus applicable parking fee
City of Chilliwack	\$2.00 per hour plus tax
City of Maple Ridge	\$1 per hour for parking at 4 of 6 stations; other two stations are free of charge
Township of Langley	\$1.00/ hour for first two 2 hours; \$3.00/hour thereafter

*BC Hydro charges 21.42 cents per minute for use of stations comparable to City of Mission infrastructure.

Proposed Fee Structure for the City of Mission:

Given the average charging session is three hours, with the last hour spent idle due to charging being complete, it is recommended Mission use a tiered fee structure with an increase in price after the first two hours.

Staff recommends implementing fees starting January 2024 to allow for thorough communication to the public and that fees be \$1.00 per hour for the first two hours and \$3.00 per hour thereafter.

The tiered fee structure will encourage vehicle turnover once charged to prevent idle use of the space and cover costs to the City with the fees from the first two hours.

Fees will be administered as a point-of-sale at the charging station through the cloud-based system provided through the service contract with ChargePoint. As part of this contract, 10% of the collected fees are retained by ChargePoint with the remainder remitted to the City at mutually agreed upon frequency.

Financial Implications

The implementation of fees at municipal EV charging stations will result in a self-sustained service that is able to fund its own asset management and potential expansion.

Communication

Internal Communication

The Manager of Environmental Services will work with the Communications and Public Engagement Department to develop appropriate messaging for staff and the public. Preliminary discussions have been initiated.

The Manager will also coordinate with Finance to set up the appropriate accounts and remittance method with ChargePoint.

The EV charging stations are well-used by municipal staff. Communication to all city employees about changes to the fee structure will be delivered via email, notice board postings, and Pipeline.

External Communication

Members of the public will be informed of the implementation of fees through temporary signage posted at each charging station, which will be in place for at least 4 weeks prior to fees being in place. Signage will be left in place for the first four weeks of fee usage to provide explanation to those who may not have received the information before implementation.

Messaging will also be posted to the City website and social media platforms.

The Manager of Environmental Services will communicate with ChargePoint to provide the required information for fee implementation through their service platform.

Summary and Conclusion

The City of Mission has six EV Charging stations on municipal properties that have been available to the public and City staff for free use since their installations between 2017 and 2019. The stations are well-used, with an average of 990 charging sessions per month.

With all associated costs and carbon credit revenue considered, each charging session has a net cost to the City of approximately \$1.75.

Staff recommend a tiered fee structure that will encourage vehicle turnover once charging is complete. Given the average charging session is three hours, with the final hour spent idle (fully charged), the recommended fees are \$1.00 per hour for the first two hours and \$3.00 per hour thereafter. This fee structure ensures the costs to the City and the 10% fee from ChargePoint will be covered by the fees associated with the first two hours of active vehicle charging.

Report Prepared by: Erin Blaney, Manager of Environmental Services
Reviewed by: Tracy Kyle, Director of Public Works & Engineering
Approved for Inclusion: Mike Younie, Chief Administrative Officer