



REPORT TO COUNCIL

To: **Mayor and Councillors**

Subject: Electric Vehicle Charging Stations

File #: 5210.00
Doc #:

From: Rick Bomhof, P. Eng.
Director of Engineering, Parks & Environment

Date: June 14, 2021

RECOMMENDATION:

THAT the report from the Director of Engineering, Parks & Environment dated May 31, 2021 regarding Electric Vehicle Charging Stations be received for information.

PURPOSE:

The purpose of the report is to provide staff's preliminary findings on Electric Vehicle (EV) charging stations and high-level cost estimates.

POLICY:

N/A

COMMENTS/ANALYSIS:

At the March 22, 2021 meeting Council passed a motion requesting staff to investigate the installation of user pay Electric Vehicle (EV) charging stations at City Hall and other civic facilities that is accessible 24 hours a day to the public. At this time staff has focussed on three possible public EV charging station locations being Timms Recreation Centre, Douglas Park Recreation Centre and the Operations Centre on 198 Street.

The following is an overview of EV charging equipment, cost and grant information:

- There are three types of charging stations available: Level 1, 2, & 3 with respective charging times of approximate 28 hours, 8 hours and 1 hour. Level 1 chargers (up to 2.4kW output) are geared towards households and not

practical for public charging systems. Level 2 (up to 19kW output) are the most typical public charging stations and Level 3, fast chargers, (up to 350kW).

- The existing public-use Level 2 chargers at Timms Community Centre and the Engineering Operations Centre (installed in 2013) are still functioning but should be replaced for the following reasons:
 - Both charging station and vehicle technology has changed.
 - Newer vehicles charging capabilities have changed, the old stations cannot always support two newer vehicles charging at the same time.
 - The proprietary billing system is no longer compatible with these stations.
- The two charging units in the staff underground parking lot are individual units, (i.e., not dual port) and can remain as is since the charging capability is adequate and billing not required.
- The rough budget estimates to supply and install charging stations are:

| Installation Description | Cost per dual-port station | Comments |
|--|-----------------------------------|--|
| New Installation of Level 2 station | \$13,000 | For locations at Timm's, DRC and Parks Operations Parking lots |
| New Installation of Level 3 station | \$100,000 - \$150,000 | Cost varies subject to desired wattage output |
| Replacement of existing Level 2 stations | \$8,500 | For locations at Timm's underground and Eng Op's. |

- Grant funding is available for up to 50% of the cost to a maximum of \$4,000 for a dual port level 2 station and \$50,000 for level 3 stations.
- The total budget to add three Level 2 dual port stations at locations noted above and replace the two existing public stations is \$56,000. The possible grant funds available is \$20,000 for a net cost of \$36,000.
- Billing system platforms cost between \$15-\$35 per station per month. This works as a payment app like many business apps.
- The EV charging station market is evolving over time as technologies advance and more manufacturers are switching or focussing on EV's.
- Billing systems are available to recover some or all the installation costs. Charging rates in Metro are around \$1.50/hr for Level 2 and between \$0.21-

\$0.65/minute plus a \$1 connection fee for Level 3. The rate of return on investment is dependent on the rate charged and how many other charging stations are in the area and if cheaper alternatives are available. It is suggested that in high utilization locations that Level 2 stations can be cost neutral in 3 – 5 years but Level 3 would need to be subsidized.

If Council wishes to proceed with the proposed EV charging stations, it is suggested that a budget be included in the 2022 Capital and Operating Plan for Council consideration.

BUDGET IMPLICATIONS:

None currently.

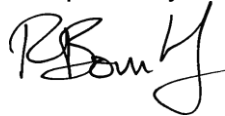
The 2022 Capital Budget will include a request for \$56,000 to cover the cost to install three new Level 2 stations at Timm’s, DRC and Parks Operations and upgrading two Level 2 stations at Timm’s underground parkade and at Engineering Operations. All stations will be equipped with user-pay billing systems which will be budgeted at \$2,100/yr.

ALTERNATIVES:

Option 1 – Do nothing, i.e., leave existing stations as-is and do not add more stations. No Budget request.

Option 2 – Include a 2022 capital budget request to upgrade existing Level 2 stations at Timm’s underground parkade and Engineering Operations at a capital budget of \$17,000 and operating budget of \$850/yr.

Respectfully Submitted,



Rick Bomhof, P.Eng.
Director of Engineering, Parks & Environment

CHIEF ADMINISTRATIVE OFFICER’S COMMENTS:

I support the recommendation.



Francis Cheung, P. Eng.
Chief Administrative Officer