



Staff Report

Operations Department

Report To: Committee of the Whole
Meeting Date: March 23, 2021
Report Number: CSOPS.21.020
Subject: Public Electric Vehicle Charge Stations
Prepared by: Jeffery Fletcher, Manager of Sustainability and Solid Waste

A. Recommendations

THAT Council receive Staff Report CSOPS.21.020, entitled “Public Electric Vehicle Charge Stations”;

AND THAT Council approve the installation of 12 electric vehicle charge stations in the 6 designated locations (generally described as: Hester Street parking lot, Town Hall, Thornbury Post Office parking lot, Beaver Valley Community Centre, LE Shore Library, and Craigleith Heritage Depot Museum).

AND THAT Council approve installation option ____ and approve the execution of the associated 10 year agreement(s) by Mayor and Clerk.

B. Overview

Climate action needs to take many forms and the scaling up of zero emissions vehicle infrastructure is one effort that could be supported by the Town. The Town has the opportunity to take advantage of current available Federal funding that supports installation of public charging stations for electric vehicles. This report outlines options for charger installations and identified locations.

C. Background

Town staff have been pursuing installation of electric vehicle (EV) charging stations in public locations. Although the understanding of the EV market is speculative it is predicted EVs will significantly increase in numbers and there will be an evolving demand for public charging stations.

In October of 2020 the Sustainability Advisory Committee endorsed the inclusion of public electric vehicle charging stations. The Committee recommended that Council give consideration to installing chargers in the draft 2021 Town Budget.

Lease Back Model

The Town joined an application process to Natural Resources Canada (NRCan) Zero Emissions Vehicle Infrastructure Program (ZEVIP) with Ontario Power Generation (OPG) in 2019. This was a pooled application including other Ontario municipalities. The application included a non-binding agreement for 12 charging stations in 6 public locations (Proposed locations can be viewed in Attachment 1). OPG would provide turn-key charging stations in the locations selected in the Town at no upfront cost to the Town. A fixed annual fee per station (\$1,800) would be charged to the Town for a term of 10 years, which also covers maintenance. The Town would own the charging stations at the end of the 10 years. After the 10 year term the Town would be responsible for the maintenance of the stations but would keep 100% of the potential revenue. The installed infrastructure would also be available to add more charges to those locations.

OPG's funding has been approved in a previous round of NRCan funding and OPG has submitted a proposed agreement to the Town. OPG is requesting a response from the Town in early April 2021 for summer installation. The Town must execute the agreement with OPG in early April of this year to participate in the OPG installation and lease back program.

Supply and Install Model

The Town now has a second option to join a pooled application to ZEVIP. The local electricity distributor, EPCOR, is making application and has included the Town in their proposed roll-out of charging stations in the local area (Zero-Emission Vehicle Infrastructure Program). EPCOR is offering a supply and install model. In their proposal they would do the complete installation at no cost to the Town. Charging revenue would go to EPCOR, but the Town could negotiate the lease of the parking spaces the chargers would occupy.

After a proposed 10 year term the Town would be responsible for the maintenance of the stations but would keep 100% of the potential revenue. At the end of the 10 year term the Town would own the charging stations and the installed infrastructure would be available to use or add additional chargers.

EPCOR's funding is currently being considered by NRCan and a decision is expected in March of 2021. EPCOR could proceed with local installations as early as quarter 3 of 2021.

In both models the procurement, project management installation and maintenance of the stations would be achieved by the third party. These models also both take advantage of the available NRCan funding (50% of capital installation costs). Although the charging stations will be connected to the associated Town facility electricity account, power used by the stations will be monitored and the facility's account would be reconciled by the utility company. As such, the expense of the electricity used by the stations will not be taken on by the individual facilities nor the Town. The charge stations will include software to link them to a network that will provide payment services, driver support and reporting. The pre-determined locations for these installations are depicted in Attachment 1 – Charger Station Locations.

Chargers under both options will be available for Town vehicle charging. Town EVs would pay the same charging fees as public vehicles.

D. Analysis

Both of the described models have advantages and both will provide the introduction of a public charging network in The Blue Mountains. The key distinguishing feature between the two options is financial risk. As mentioned the EV market is speculative and Staff cannot make revenue assurances. The lease back model has some risk that the stations could be under-utilized. Minimal use will result in low revenue and the annual lease payment of \$1,800 would not be off-set by revenues. In this case the Town would have the full cost of the lease back fee for the 10 year term. However, the potential for profit is also higher in the lease back model.

Conversely, the supply and install option places no financial risk on the Town and has the potential to recover a marginal amount for parking space lease. There is also the potential to negotiate profit sharing. If the charging stations have a particular level of success the Town could also collect revenue within the initial 10 year term. After the 10 year term all revenues would be Town owned, but maintenance would also be the Towns responsibility.

In both options ownership of the charging stations, after the 10 year term, would be given to the Town. The anticipated useful life of the stations is unproven. However, the industry is expecting 7 to 12 years. OPG are budgeting to replace 1 out of 3 chargers within the 10 year term. Therefore, depending on the condition of the unit the Town should expect to replace the charging units within 10 years after the Town assumes ownership of the units. A replacement level 2 commercial charging unit is currently between \$1,500 and \$5,000 depending on the quality and features.

However, the EV landscape is expected to evolve rapidly in the next 10 years. It is possible these types of public charging locations will become obsolete and the Town will have no incentive to install replacement units. If the Town moves forward with the installation of charge stations, a reassessment of their usefulness will be needed prior to the end of the 10 years to anticipate a replacement program.

The benefit of either option is keeping the work of fund application, procurement, contract administration, construction and maintenance external to the Town. Both options put less stress on Town resources compared to the Town initiating its own unique installation program. The internalize work for the Town would include agreement negotiations, potential promotions, maintenance and enforcement of charge station parking stalls.

The table below outlines the features of the two models:

Option	Annual Cost on 6 dual chargers	Up-front Cost	Revenues and profit sharing	Town Ownership after 10 years
OPA Lease Back	\$21,600	None	Higher risk, higher potential	yes

Option	Annual Cost on 6 dual chargers	Up-front Cost	Revenues and profit sharing	Town Ownership after 10 years
EPCOR Supply and Install	\$0	None	No risk, lower potential	yes

Town Staff recommend that Council approve the installation of 12 charging stations in the designated 6 locations. Council, in their approval of this recommendation can choose between and direct Staff to pursue:

Option 1 – Lease Back model with Ontario Power Generation and the creation of an annual budget of \$21,600 for the next 10 years; or

Option 2 – Supply and Install model with EPCOR requiring no additional budget.

The proposed locations were selected based on available infrastructure (proximity to an existing electrical panel) and public access. In both options additional stations in other locations could be considered. However, the costs identified in the lease back options are site specific. Proposed locations needed to be selected for OPG to release an installation tender and develop the actual lease back annual fee.

EPCOR is willing to consider additional charging station locations. Some other locations could include the new Arthur Street West parking lot or Ravenna. It is difficult, given the lack of market knowledge, to predict how location might impact station use. However, the general observation is that if you install a station it will be found and used.

E. Strategic Priorities

3. Community

We will protect and enhance the community feel and the character of the Town, while ensuring the responsible use of resources and restoration of nature.

F. Environmental Impacts

Electric vehicles improve the urban air quality and with a clean energy grid reduce global emissions compared to gas and diesel powered vehicles. If all the planned charging stations were used 20% of the available charge time (4 hours and 45 minutes per day), 192 tonnes of GhGs would be reduced annually compared to the same amount of gas power kilometers driven.

G. Financial Impact

The financial impacts differ depending on the option selected. The supply and install option with EPCOR would incur no capital and no annual fees. There is also potential to negotiate cost sharing during the initial 10 year term if revenues hit a high threshold. There is also some potential for modest revenue for lease of the association parking space stalls. The Town would be responsible for maintenance of the stall and enforcement of parking, if that is a consideration, but largely these are costs that are already part of Town operational budgets.

The Lease Back option with OPA is a more complex scheme. The potential for revenue is higher but there is a fixed annual cost for 10 years of \$1,800 per “plug”. There are six locations proposing 2 plugs each for a total annual fee of \$21,600. This is based on site specific tender pricing and could increase per plug if less than 12 units are installed in the project.

Lease Back Revenue

Staff have completed some research associated with the current EV charging market. To understand potential for revenue several items need to be considered: fee for charging; cost of electricity; amount of electricity consumed; and anticipated charging time. As mentioned, the market for charging is speculative and emerging and therefore assuring any revenue is not possible. The table below reviews a range (based on research) of potential financial outcomes of the lease back option for 2% use and 30% use scenarios.

Lease Back Financial Scenarios

	Hydro Used Cost (\$1.15 per hour blended rate)	Revenue (\$2 per hour)	Annual fee	Net position per year per “plug”
<u>Use 2%</u> (30 minutes every day)	\$202	\$350	\$1,800	\$1,652
<u>Use 30%</u> (7 hours every day)	\$3,027	\$5,256	\$1,800	(\$429)

The table above uses a high and low percent use. The actual use could be expected in that range but depending on the location of the charger the amount of use will be different. The hydro cost is a blended rate to account for unknown time of use and other hydro bill charges. The charge fee of \$2 per hour of charge time is consistent with the local rates and perhaps on the high end currently charged at other area public charge points.

An addition to the 2021 Town Budget for EV Stations was considered but not adopted, pending further information and costs. Currently, no budget has been established for this project in the 2021 Town Budget.

H. In Consultation With

Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets

Aaron McMullin, Manager Facilities / BVCC / Tomahawk Golf Course

Sabrina Saunders, Library CEO

Ryan Gibbons, Director of Community Services

Jim McCannell, Manager of Roads and Drainage

I. Public Engagement

The topic of this Staff Report has not been subject to a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. Comments regarding this report should be submitted to Jeffery Fletcher Manager of Sustainability and Solid Waste, managersolidwaste@thebluemountains.ca.

J. Attached

1. Attachment 1 – Charge Station Locations

Respectfully submitted,

Jeffery Fletcher
Manager of Sustainability and Solid Waste

Shawn Carey
Director of Operations

For more information, please contact:
Jeffery Fletcher
managersolidwaste@thebluemountains.ca
519-599-3131 extension 238

**Charge
Station
Proposed
Location**



VICTORIA STS

ELMA STS

1815300

ALFRED ST.W

Beaver Valley Community Centre



GREY ROAD 10

0337200



**Charge
Station
Proposed
Location**

LAKESHORE RD E

LAKESHORE RD E

Craigleith Heritage Depot



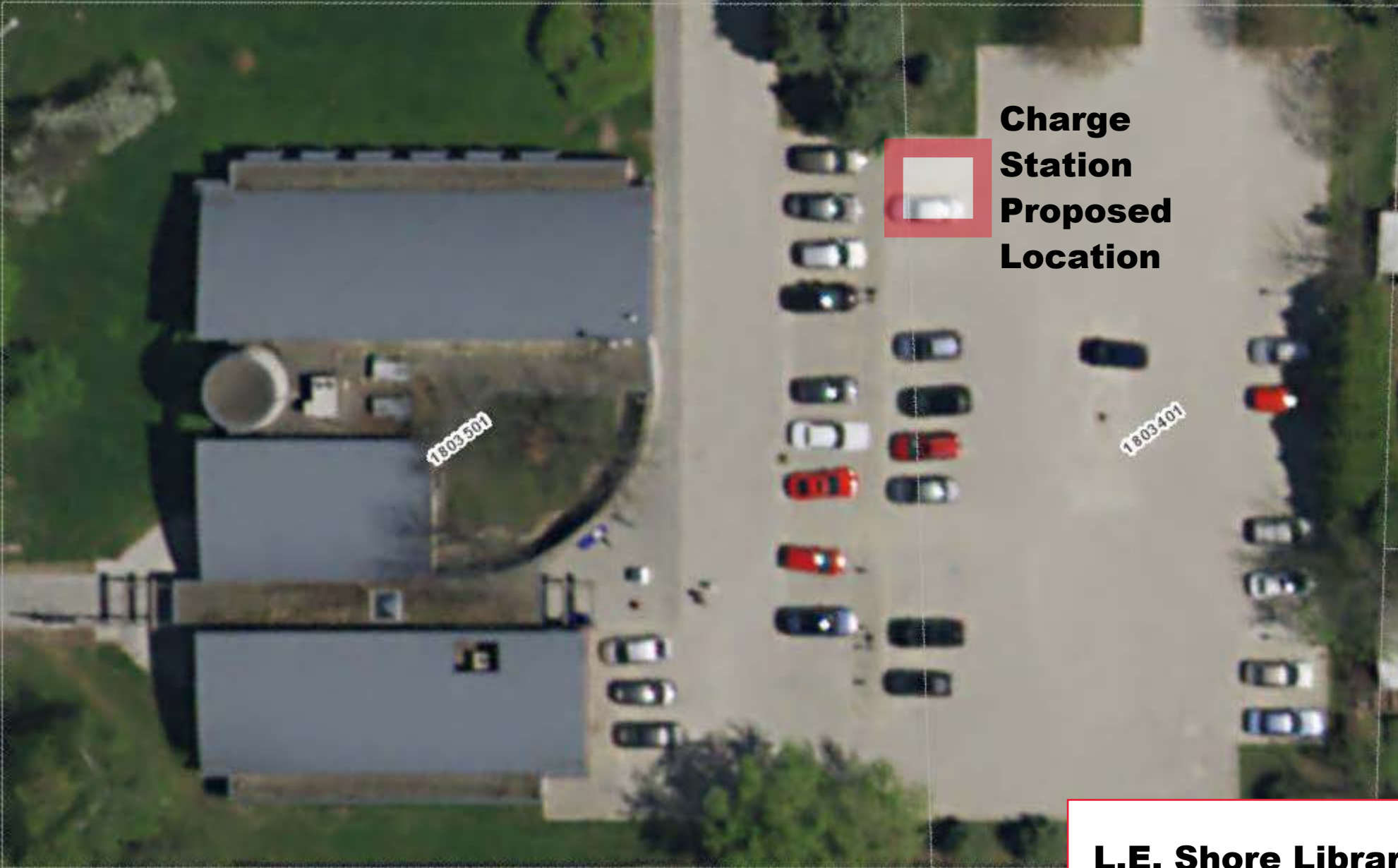
**Charge
Station
Proposed
Location**

Hester Street Parking Lot

APIER ST W

NAPIER STE

BRUCE ST S



**Charge
Station
Proposed
Location**

L.E. Shore Library

1803 301

1803 401

1606208

MILL ST

1605900

1605900

KINGSTE

**Charge
Station
Proposed
Location**

Town Hall



BRUCE STN

1717300

1717200

1716900

1716800

17277

ARTHUR ST,W

**Charge
Station
Proposed
Location**



Thornbury Post Office Parking Lot