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Staff Report

Operations – Sustainability & Solid Waste

Report To: **Committee of the Whole Meeting**
Meeting Date: May 24, 2022
Report Number: CSOPS.22.049
Title: Options for Public Electric Vehicle Charging Stations
Prepared by: Jeffery Fletcher, Manager of Sustainability & Solid Waste

A. Recommendations

THAT Council receive Staff Report CSOPS.22.049, entitled "Options for Public Electric Vehicle Charging Stations";

AND THAT Council direct staff to proceed with Option(s) _____, including the purchase and installation of _____ dual plug charging stations for a maximum investment of $_____, including the EPCOR Utilities Inc. investment support and Federal funding;

AND THAT Council authorize the use of Federal Gas Tax to fund the associated capital costs depending on the option chosen by Council;

AND THAT Council authorize Staff to negotiate an agreement with EPCOR Utilities Inc. to partner on electric vehicle charging station installations and authorize execution of associated agreement(s) with EPCOR Utilities Inc. and the Federal funding program by the Mayor and Clerk.

B. Overview

The Town has the opportunity to take advantage of available Federal funding (Zero Emission Vehicles Infrastructure Program) that supports 50% cost of installation of public charging stations for electric vehicles. This report outlines the basis of this funding and a proposed offer from EPCOR Utilities Inc. (EPCOR) to provide community investment support.

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. The Federal government has pledged to mandate all vehicles sold in Canada by 2035 must be electric.

In April of 2021, Council passed a resolution directing staff to negotiate an agreement with EPCOR for the installation of charging stations at selected Town locations.

In March of this year, the Federal government announced 50% funding for charging station installation. In addition, they announced local distributors of the funding and EPCOR has been approved to act as a fund distributor.

Based on the current funding options available to the Town, this report offers 3 options for Council's consideration.

D. Analysis

The table below outlines three proposed options to deploy public charging infrastructure on Town lands. The options provide an increasing level of capital investment and a financial sensitivity based on customer use and identified operational costs. Proposed locations of the charging stations are shown in Attachment 1.

Customer use is an unknown, however the analysis has used a range between 7 hours per day (30%) and one-half hour per day (2%). Adjusting fees for charging will also influence use. The financial model below has used a rate of $2 per hour. A rate of $2 per hour is currently a common standard however some locations are free and other are as high as $5 per hour.

Option	Description	Town Capital (Town Federal Gas Tax)	Annual Net Revenue 30% Daily Use	Annual Net Revenue 2% Daily Use
1	Beaver Valley Community Centre with EPCOR investment (Revenue Sharing)	$0	$2,700	$12
2	Arthur St and Town Hall	$31,000	$15,500	$360
3	6 Locations	$115,000	$50,000	$1,300

Option 1 - EPCOR and Beaver Valley Community Centre Arena Site

EPCOR is prepared to invest in local charging and is committed to funding the installation of one dual plug charging station at the Beaver Valley Community Centre. The Town would provide the land easement for the charging station and procure the equipment and installation. The costs of installation and equipment would be fully supported by the Federal funding and EPCOR's community investment.

Operational costs such as transaction fees and hydro utility costs would be the responsibility of the Town. Net charging revenues would be shared with EPCOR as an investor. As the table above outlines depending on the amount of charging this unit could produce positive revenue at a $2 per hour charging rate.

Option 2 - Arthur Street Parking Lot and Town Hall

As a second option, the Town has made a preliminary application to EPCOR for Federal funding to support multiple charging sites. In this option, the Town would install 2 dual plug stations at both Arthur St and Town Hall. Town Hall has conduit already installed and the Arthur Street parking lot will have conduit installed as part of the parking lot construction. The pre-installed conduit should lower the overall installation costs.

Similar to Option 1, operational fees and costs would be off-set by charging revenue. However, this option would require a capital investment by the Town of approximately $31,000 to support the non-funded portion of the equipment and installation. The Town has already committed $11,000 in the Arthur St. parking lot construction project for conduit installation. The Federal funding would cover $42,000 (50% of the project) and the Town would need to identify new funds in the order of $31,000.

Option 3 – Six Locations

In this option charger deployment would be broadened to 6 locations (Arthur St. parking lot, Town Hall, Thornbury Post Office parking lot, Hester St. parking lot, LE Shore Library and Craigleith Depot Museum). This option would include a total of 12 dual plug chargers, two at each location.

This option has the potential (at 30% use) to generate $50,000 in revenue annually. This option also requires a capital investment from the Town of $115,000. In total, this option's proposed costs are in the order of $252,000. The Town has committed $11,000 of this cost in the Arthur St. parking lot construction project, the federal funding would cover $126,000 (50%) and the Town would need to identify new funds in the order of $115,000.

Town Staff recommend moving all of these options forward. Staff are requesting direction from Council regarding which option(s) they see fit to move forward. The funding distributor EPCOR needs to have a funding agreement formed with the Town in June of this year to ensure projects have Federal funding secured. Chargers must be installed by March of 2023 to take advantage of the Federal funding.

In all options ownership of the stations will remain with the Town. The stations have a 10 year life expectancy. 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.

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. Providing public charging stations builds the network of access to easy and reliable charging points.

Plug-in electric could be considered a luxury feature in a vehicle. However, this feature and the benefits are becoming more common and will be mandated as a standard for cars sold in Canada.

It is recognized that electrification of vehicles requires new resources both in grid capacity and mining of battery related materials. However, electrification of transportation is positioned to allow deep reductions in tailpipe emissions. The oil and transportation sectors are the biggest generators of GhGs in Canada and passenger vehicles account for at least half of the emissions in the transportation sector.[1]

Electric vehicles, like internal combustion vehicles, require energy to operate. However, electricity can be renewable and low carbon. The battery components will also be recyclable, contributing to a circular economy. Conversely with gas powered – once the fuel is burned the carbon is released to the atmosphere and the oil resource is gone.

Placing charging stations at BVCC and Town Hall will also create charging capacity for Town owned electric vehicles. The Town's Climate Emergency Declaration and a subsequent Council motion has endorsed the development of a policy to transition the Town's fleet to electric. This is an opportunity to begin that transition.

G. Financial Impacts

The financial impacts differ depending on the option(s) selected. The table below is a detailed overview of each option and the source of Town capital funding.

[1] https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html#transport

	Option 1 2 Plugs	Option 2 8 Plugs	Option 3 24 Plugs
Description	BVCC Arena Parking Lot	Arthur St and Town Hall Parking Lots	6 Parking Lots
Total Project Cost	$20,000	$84,000	$252,000
Previously Committed Town	$0	$11,000	$11,000
Town Federal Gas Tax	$0	$31,000	$115,000
Federal Funding	$10,000	$42,000	$126,000
EPCOR Funding	$10,000	$0	$0
30% Use Total Annual Revenue	$2,700 (Profit sharing with EPCOR to be determined)	$15,500	$50,000
Simple Pay Back on Town Capital	NA	2 years	2.3 years

Staff are recommending that any capital costs related to the approved option, as chosen by Council, be funded using Federal Gas Tax. The Town does have other Gas Tax applicable projects approved that are relying on long-term debt as a funding source, any Gas Tax used for this project could have been used to lower the long-term debt requirements for those projects, namely the replacement of Bridge 2 and 3.

Payback of the Town capital for options 2 or 3 will vary depending on use. If use is extremely low, in the range of 2% or one-half hour a day, payback would be much longer that the 10-year life expectancy of the changing unit.

All the options include anticipated revenues as well as anticipated operational costs. Costs associated with parking enforcement and snow removal are not itemized and are considered already part of parking lot costs. The table below outlines anticipated operational costs and revenue. As an example, the table below outlines the operational costs and revenues associated with one dual plug charging unit if used 30% every day at a charging fee of $2 per hour.

Annual Operational Expense (30% at $2 per hour)	**Per Dual Charger**
Global Management System of charging software	$150
Insurance	$5
Signage and Line Painting	$25
Point of Purchase Transaction Fee (percentage of charging fee)	$1,600
Hydro Utility Cost	$6,000
Charging Revenue ($2 per hour)	-$10,500
Net Revenue	-$2, 720

Through the 2023 budget process Council can make a final decision as to how any revenues are to be handled, whether revenues are transferred to a reserve fund for future capital projects or a potential reduction in tax levy requirements.

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

Mike Humphries, Senior Infrastructure Capital Project Coordinator

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

Attachment 1 – Charge Station Locations

Respectfully submitted,

Jeffery Fletcher,
Manager of Sustainability & Solid Waste

Shawn Carey
Director Operations

For more information, please contact:
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Report Approval Details

Document Title:	CSOPS.22.049 Options for Public Electric Vehicle Charging Stations.docx
Attachments:	- Attachment 1 Charge Station Locations.pdf
Final Approval Date:	May 12, 2022

This report and all of its attachments were approved and signed as outlined below:

No Signature - Task assigned to Jeff Fletcher was completed by delegate Shawn Carey

Jeff Fletcher - May 12, 2022 - 10:33 AM

Shawn Carey - May 12, 2022 - 10:36 AM