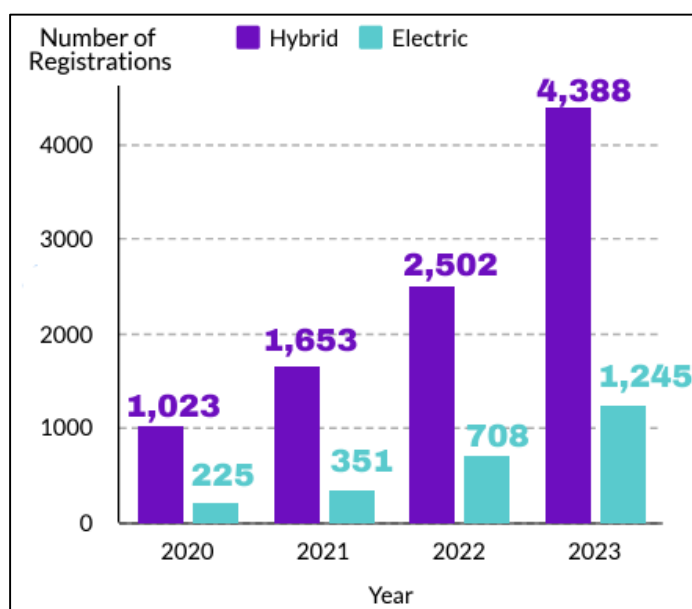


DECISION/DIRECTION NOTE

Title: Public Electric Vehicle Charging Network Update and Funding
Date Prepared: August 30, 2024
Report To: Committee of the Whole
Councillor and Role: Deputy Mayor Sheilagh O'Leary, Sustainability
Ward: N/A

Decision/Direction Required: To update Council on the status of the City-owned Public Electric Vehicle (EV) Charging Stations Program.

Discussion – Background and Current Status:



The Government of Canada has set ambitious federal targets for these vehicles reaching 10% of light-duty vehicle sales by 2025, 30% by 2030 and 100% by 2040. They are also investing over \$600 million to help make EVs more affordable and charging infrastructure more accessible.

Newfoundland and Labrador's active passenger vehicles show fast growth in registrations of Battery Electric Vehicles (BEV) and Hybrid vehicles since 2018. From 2018 to 2022 BEV registrations increased by 533% while hybrid vehicle registrations increased by 225%. In 2023, registrations for both types of Electric Vehicle (EV) nearly doubled, and this upward trend is expected to continue.

Although shifting to active and public transportation is a preferred approach to reduce our community's energy use and greenhouse gas emissions, the electrification of personal vehicles presents a significant opportunity to reduce emissions and noise.

The St. John's Energy and Greenhouse Gas Inventory (2018) identified that 41% of the energy used in our community comes from gasoline and diesel, therefore, 59% of the greenhouse gas emissions from our community come from transportation. Installing EV charging stations will make owning an EV a more viable option for residents of St. John's.

The City of St. John's completed the installation of two Level 2 (EV) Charging Stations for public use at each of these locations:

ST. JOHN'S

- City Hall Parking Garage, Level 1, 10 New Gower Street
- Farmers Market, 245 Freshwater Road
- Paul Reynolds Community Centre, 35 Carrick Drive
- Southlands Community Centre, 40 Teakwood Drive
- Downtown, 172 Duckworth Street
- Churchill Square, 10 Rowan Street

Pricing and Bylaws:

A nominal hourly fee of \$1.50 is charged for EV Charger use to support the operation and maintenance of this new infrastructure and program. The Charger fee is applied in addition to parking fees (where applicable). This is automatically applied through the City's existing paid parking system, PayByPhone. These EV Charger fees help the City support the program and they will be reviewed annually to ensure maintenance and charging costs are covered.

City Paid Parking Regulations and the Ticketing By-law were modified prior to the program launch to ensure that EV Charging Stations are available for EVs to park for up to a maximum of 3 hours. Any vehicle parked in an EV Charging Space that is not physically connected to the charger or has not paid to use the space will be in violation of the City's Ticketing Amendment By-Law. Violations of City bylaws have been enforced accordingly.

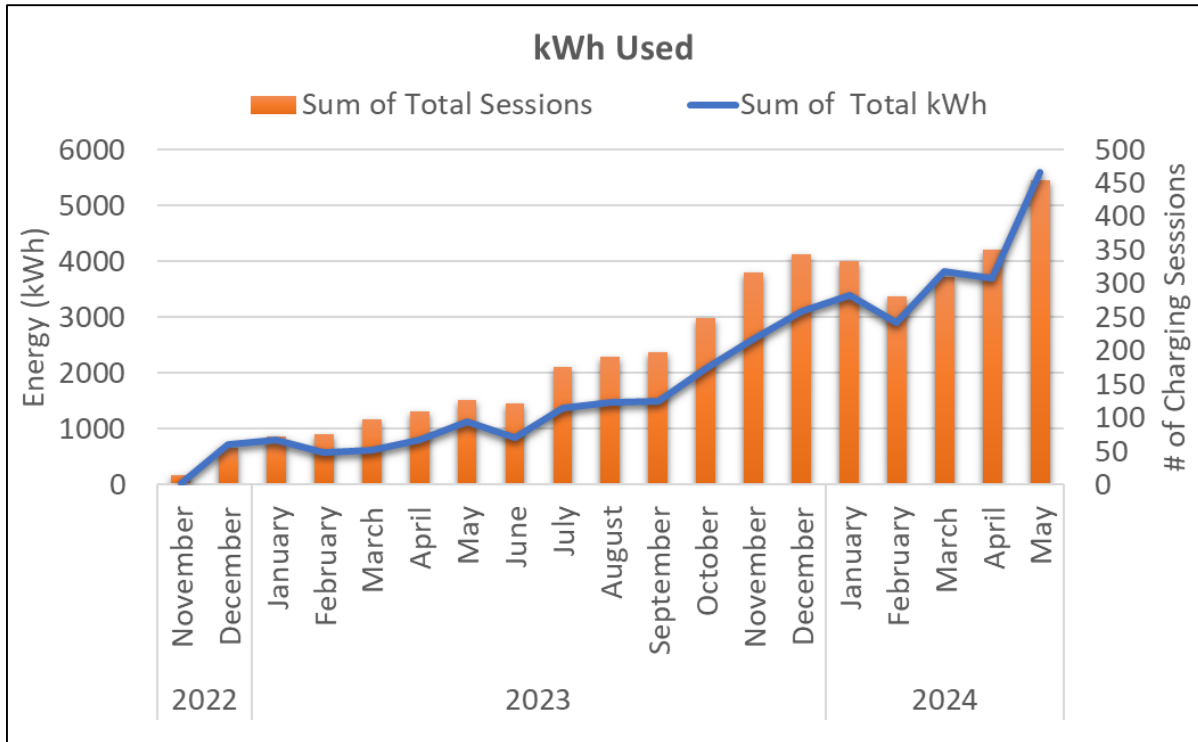
Maintenance and Operations:

To support operations, staff purchased a test adapter and developed internal procedures for testing whether a charger is malfunctioning or there is a user error. This will help staff diagnose issues promptly, distinguishing between problems that may be resolved easily and those that may require manufacturer warranty claims and result in downtime. After exchanging a few dead-on-arrival chargers under warranty, the network has experienced no downtime.

Update on Use:

The chargers were implemented at four sites on November 1, 2022, the remainder were implemented by September 2023.

Since the program began it has seen consistent growth in number of charging sessions, and energy supplied to vehicles per month.



Since the program began it has supplied 38,988 kWh to EV users, which is approximately 194,940 KMs driven by an EV (with an efficiency of 5 km per kWh).

Location	Station Count	Total Charging Sessions	Total kWh
245 Freshwater Road	2	811	6,100
Paul Reynolds Community Centre	2	1,172	12,303
Southlands Community Centre	2	131	1,155
Duckworth Street On-Street Charging	2	834	8,278
City Hall 1st Floor	2	483	4,412
Churchill Square	2	725	6,101
City Depot D Block	2	60	639
Grand Total	14	4,216	38,988

Summary Program Financials:

-\$5,068	Electricity cost
\$ 0	EV Chargers Remote Monitoring System (\$0 for first 2 yrs)
\$ 7,422	EV Charger Fees collected (net of service fees & tax)
\$ 1,289	Estimated value of tickets issued (after processing fees)
\$ 3,643	Program Net Revenue to a Reserve

Notes: Each new charger location was provided a grace period during implementation, prior to issuing tickets. Educational notices were delivered to any vehicle parked in the space in violation of the City’s regulations.

Scenarios of revenue from usage that were presented to council in 2021:

- **Low Use:** 6hrs/day of charging across all locations would generate approximately \$667 per year (assuming electricity costs of \$0.147/kWh).
- **Heavy Use:** 72hrs/day of charging across all locations would generate approximately \$8,010 per year (assuming electricity rate of \$0.147/kWh).

To date the program's revenue to reserves is exceeding the "Low Use" estimate that was presented to Council by 3x (\$2,300 per year), and trending upward quickly.

Next Steps and Funding:

Natural Resources Canada's (NRCAN) Zero Emission Vehicle Infrastructure Program (ZEVIP) is offering grants for publicly available EV chargers (50% of Total Project cost up to \$5,000 per Level 2 connector). Staff have compiled a list of publicly available locations with public parking for Council to consider as a proposal to NRCAN's ZEVIP program (Deadline: September 19, 2024).

The sites recommended would install Level 2 EV Chargers (19.2 kW/hr) in:

- the remaining City owned Community Centres.
- all four Municipal Parks and Quidi Vidi Lake.
- expand on the successful pilot in downtown on-street parking.

This is an improvement on the initial 18 EV chargers installed, which supplied up to 7.2 kW per hour. The new Level 2 Chargers will make available a significant amount of range to a vehicle while visiting the City's facilities (approximately 90-100 km in 1 hour, and 280-300 km in the 3 hours maximum).

The installation Schedule proposed is:

Location	No. of Chargers	2025	2026	2027
Bowring Park	4	X		
Kenmount Terrace CC	2	X		
Shea Heights CC	2	X		
Newtown RD Tennis Club	4	X		
Cavendish Square	4		X	
Bannerman Park	2		X	
Quidi Vidi Lake	2		X	
Victoria Park	2			X
Rotary Park	2			X
St. John's Convention Centre	2			X
	26			

The City's contribution to upgrading the sites to accommodate EV chargers could be up to \$340,000. The request is for \$300,000 over three years, allocated as follows:

Location	No. of Chargers	Total Cost	ZEVIP Grant	City Contribution
Bowring Park	4	\$ 60,000	\$ 20,000	\$ 40,000
Kenmount Terrace CC	2	\$ 40,000	\$ 10,000	\$ 30,000
Shea Heights CC	2	\$ 40,000	\$ 10,000	\$ 30,000
Newtown RD Tennis Club	4	\$ 60,000	\$ 20,000	\$ 40,000
Cavendish Square	4	\$ 70,000	\$ 20,000	\$ 50,000
Bannerman Park	2	\$ 40,000	\$ 10,000	\$ 30,000
Quidi Vidi Lake	2	\$ 40,000	\$ 10,000	\$ 30,000
Victoria Park	2	\$ 40,000	\$ 10,000	\$ 30,000
Rotary Park	2	\$ 40,000	\$ 10,000	\$ 30,000
St. John's Convention Centre	2	\$ 40,000	\$ 10,000	\$ 30,000
	26	\$ 470,000	\$ 130,000	\$ 340,000

Year	City Contribution
2024	\$40,000 (form existing capital budget)
2025	\$100,000
2026	\$110,000
2027	\$90,000

A review on rate for EV Charger Use will be completed following the installation of these chargers to ensure the fees continue to support the operation and maintenance of the infrastructure.

Key Considerations/Implications:

1. Budget/Financial Implications: City council will be presented with a capital ask as part of the City's budgeting process to expand the network.
2. Partners or Other Stakeholders: N/A
3. Alignment with Strategic Directions:
 - A Sustainable City: Work collaboratively to create a climate-adapted and low-carbon city.
 - A Sustainable City: Be financially responsible and accountable.
4. Alignment with Adopted Plans: Resilient St. John's Community Climate Plan
5. Accessibility and Inclusion: The City's Public Charging Network is supported by parking application and infrastructure (PayByPhone) and 311 staff to improve accessibility and inclusion.

6. Legal or Policy Implications: City Paid Parking Regulations and the Ticketing By-law were modified prior to the program.
7. Privacy Implications: N/A
8. Engagement and Communications Considerations: N/A
9. Human Resource Implications: N/A
10. Procurement Implications: N/A
11. Information Technology Implications: N/A
12. Other Implications: N/A

Recommendation:

That Council directs staff to pursue the Natural Resource Canada Zero Emission Vehicle Infrastructure Proposal to support expansion of the City Owned Public Electric Vehicle Charging Network

Prepared by:

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Approved by:

Report Approval Details

Document Title:	Public Electric Vehicle Charging Network Update and Funding.docx
Attachments:	
Final Approval Date:	Sep 6, 2024

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

David Crowe - Aug 30, 2024 - 1:52 PM

Lynnann Winsor - Sep 6, 2024 - 2:58 PM