

Town of Riverview

COUNCIL REPORT FORM



Presented to: MAYOR & COUNCIL

Department: PARKS, RECREATION & COMMUNITY RELATIONS & MUNICIPAL FACILITIES

Date: April 24, 2023

Subject: ELECTRIC VEHICLE CHARGING STATIONS

Background

At the Regular Council Meeting of February 13, 2023, Council approved a *motion to direct staff to obtain further information on the installation of an electric charging station in the Town*. While the Town remains on an interest list for the NB Power Rebate Program, the intent of this report is to provide Council with an overview of public charging infrastructure, regional context, financial implications, funding sources and recommendations.

Public Charging Infrastructure:

The absence of public charging infrastructure is a major obstacle to the widespread adoption of electric vehicles (EVs) due to the range anxiety it causes. Range anxiety is the fear that the vehicle's battery will die before finding a charging point. While most charging occurs at home overnight (80%), public infrastructure can alleviate this concern, offer an option for those without access to at-home charging, and demonstrate to residents that efforts are being made to facilitate the transition to electric vehicles.

While it is anticipated that the utility and private investors will support public charging deployment as the adoption of EVs increase across the country, many municipalities have adopted the responsibility to lead in the short term. This can be seen in leading jurisdictions like Toronto, Ottawa, Halifax, Victoria and Montreal, who have already deployed public charging within their communities.

Variety & Locations: Direct Current Fast Charging (DCFC) provide the fastest charge to EV owners. Depending on the electrical capacity of the charger, an EV owner can expect an 80% charge in 20-60 minutes. Due to this high rate of charge, DCFCs are typically installed along highway corridors and alongside amenities within dense multi-use residential areas. This offers EV owners a similar experience to traditional re-fueling, should they be covering long distances or not have access to at home charging.

Level 2 (L2) charging stations provide a slower charge to EV owners at a rate of about 40 kilometres per hour or a full charge in about 8 hours. Due to this slower charge, they are typically installed at homes, workplaces, on street in dense residential areas and public parking lots where EV owners are parked for several hours, overnight or simply require a top up.

As of March 2023, Canada has surpassed 20,000 publicly available station, with most of these being L2 Stations. Charging stations can be located through E-Charge Network's [Find a Station](#) tool.

Locations are typically selected based on the following criteria:

- Visibility to the residents, with proper lighting to ensure safe and convenient access
- Areas needing minimal initial upgrades and electric work
- Existing lots where residents park for long duration (ie. garages, workplaces)
- Close proximity to high-density developments, including multi-unit structures
- Municipal parking lots where fleets are becoming increasingly becoming electrified

Regional Context The Greater Moncton Region is generally known as being a car culture community, where the primary choice for traveling within the community is often the single passenger vehicle. The installation of EV Charging Stations can help reduce environmental impacts, while supporting commitments to clean air and the planned movement to EVs in the future. To support this movement, some municipalities have taken even greater lengths related to EV stations, including calling upon their Provinces to amend building codes to require stations in new developments as well as adopt zero emission vehicle mandates.

In researching the practices of other communities, the department noted most early adopters were Canada's largest cities. Regional adopters operate stations on a pay-per-use model with the number of municipally installed units ranging from 10-20 (each supported through rebate programs). There is no established standard per capita. Most communities have reported consistent feedback:

From Residents:

- L2 vs. DCFC – residents typically want faster chargers, where they don't intend to be at a location for long enough for an L2 Station to be effective. Private adopters, like gas stations, are often installing DCFC Stations, which outpace Municipally-installed infrastructure.
- Payment - app-based payments create challenges for those with reduced data plans, as well as different stations require different installed apps. Generally, users support a service fee for charging when it is warranted.
- Reliability – frustrations exist with units that are consistently out-of-service due to a lack of supporting services in that particular region.

From Municipalities:

- Capital – beyond the units themselves, upfront requirements for underground power infrastructure are often greater than expected. To provide more opportunities for residents, L2 Stations are typically selected as a compromise.
- Operations – depending on the locations, various unexpected operational circumstances have arisen, including a lack of trained personnel, parking bylaw amendments, public education and snow clearing operations.
- Strategy – most communities that have installed initial units, have since moved to create a targeted strategy for the roll out of future phases of EV Charging Stations.

Costs & Funding Programs

Capital Expenses range greatly depending on the proximity to available infrastructure and number of stations at a particular location, however, general estimates the Town can expect are referenced below:

- L2 Charging Station - \$15,000 to \$50,000
- DCFC Charging Station - \$60,000 to \$150,000

Operating Annual operational costs to keep the units in usable condition, and provide for the payment system and connectivity is estimated at \$5,000/unit per year. These operational costs are not presently included in the operational budget. Should municipal installation occur in the future, the department recommends that charging sites be designed to minimize demand charges and that fees be collected from users to offset annual operating and maintenance costs.

Fees initially being considered in other communities are set at \$1.50 per hour of charging for L2 Stations and \$15 per hour for DCFC Stations, pro-rated by minute. It should be noted, that given EVs currently make up around 5% of vehicle sales, revenue from the use of the charging stations for the first several years is not projected to be sufficient to cover annual costs.

Funding Almost all funding programs originate with the Natural Resources Canada's (NRCan) Zero Emission Vehicle Infrastructure Program (ZEVIP), where funds are administered through service organizations such as NB Power, Flo EV Charging, Green Economy, etc. Grants can be received for eligible capital expenses, including infrastructure, installation and salaries of staff coordinating the project.

- NB Power - 50% per L2 Charger to a maximum of \$5,000 and 50% per DCFC charger to a maximum of \$50,000. Closed June 28, 2022.
- Flo EV Charging - 50% per L2 or DCFC charger, up to a maximum of \$5 million. Closed August 11, 2022.
- Green Economy – 75% per L2 Charger to a maximum of \$5,000 and 75% per DCFC charger to a maximum of \$50,000. \$100,000 is the maximum per applicant.

As these programs rely upon funding through Natural Resources Canada's, they are currently awaiting funding renewal announcements to continue grants for eligible communities beyond their last submission round. It appears that funding decisions through these service organizations often take place across a 6-8 month timeline.

Recommendations

Based on the progress of communities surveyed and the Town's internal sustainability planning, the department recommends that a comprehensive *Electric Vehicle Strategy* be drafted in 2024 to address the following areas before adding municipally-installed charging stations:

- a) Public Charging Infrastructure: resident engagement and identification of the number of chargers needed within the Town of Riverview, specific recommendations on geographical locations, and overall cost estimates.
- b) Electric Vehicle Policies: specific recommendations on municipal and provincial policies that can help increase access to home charging which will alleviate a significant barrier to EV adoption.
- c) Advocacy and Support: critical actions that are outside of the Municipality's direct control but for which it can advocate for, as well as educational partnerships.
- d) Light Duty Fleet Electrification: provide the Municipality with a roadmap for electrifying its light duty fleet to achieve its 100% EV target in the most cost effective and the least disruptive way.

The intent of procuring a detailed strategy first is to ensure the most effective and targeted spending approach, while increasing the Town's operational resources required to be successful in this developing area. The strategy would build upon the scheduled sustainability plan review occurring in 2023, that will provide an audit of the 2016 Integrated Sustainability Plan and a Roadmap to reduce energy and emissions across municipal operations.

Should Town Council recognize the need for an interim measure until a strategy can be developed, the Department recommends the creation of a private-public partnership with a local business. This would involve the Town releasing an *expression of interest* among local businesses and establishing appropriate selection criteria. This recommendation has several important considerations:

- Shared Cost – a funding formula would be developed to reduce impacts on the selected local business (ie. 50% funding through Natural Resources Canada, 40% funding through Town of Riverview and 10% through Local Business)
- Shared Risk – the Town would not be responsible driving it's use or for operations/maintenance of the station, however, could receive valuable usage data to direct a future strategy.
- Shared Benefit – creates an opportunity for a business that may not be able to afford one otherwise, while providing residents with access to an EV Charging Station.

This recommendation has two key resource considerations that the department feels are manageable in 2023:

- a) Capital Costs: contribution to an L2 Charging Station through a similar funding model to what is indicated above
- b) Staffing Capacity: administration of an expression of interest campaign and selection process

CONSIDERATIONS

Legal: N/A

Financial: N/A

Policy: Addition of charging stations supports previous motions of Council, including: Declaration of Climate Emergency (2020) and reductions targets adopted in the Integrated Community Sustainability Plan (2016)

Stakeholders: Council, Local Businesses, Town of Riverview Staff, Residents,

Strategic Plan: Alignment with *Building a Sustainable Community* - Riverview plans, builds, and maintains public infrastructure to sustain it for today and future generations. And it establishes policies, practices and programs that focus on the sustainability of the community and environment we operate in.

Interdepartmental Consultation: N/A

Communication Plan: N/A

Recommendation of Staff:

Staff recommend that funds for a comprehensive *Electric Vehicle Strategy* be considered in the 2024 Municipal Budget process, prior to the installation of EV charging stations by the Town of Riverview.