



INFORMATION REPORT

TO:	Chair and Members Planning Committee
COMMITTEE DATE:	December 11, 2018
SUBJECT/REPORT NO:	EV Chargers in Hamilton Municipal Parking System Lots (PED18250) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
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SUBMITTED BY:	Brian Hollingworth Director, Transportation Planning & Parking Planning and Economic Development Department
SIGNATURE:	

Council Direction:

At its meeting of December 5, 2017, the Planning Committee directed:

- (a) That the appropriate Planning Staff report back to the Planning Committee on increasing the number of EV Charging Stations in our downtown and include how the City will recover costs, how users will pay for current and future facilities, and the current plus future demand levels;
- (b) That staff contact the Province of Ontario in an effort to capitalize on the current EVCO Grant Program to assist Hamilton in providing more of this infrastructure;
- (c) That staff from the Parking Division monitor the use at the existing two EV Charger Stations at the York Parkade to ensure greater turn-over; and,
- (d) That the City Hall location be included in any future expansions of EV Charging Stations.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

Information:

Motion items:

(a) *Electric Vehicle Overview*

Current Electric Vehicle (EV) charging technology is classified into the following three levels dependent on their respective maximum electrical output and charging times:

Charger Type	Power Requirement	Approximate Charge Time* (full charge)
Level 1	120 volt	7 - 30+ hours
Level 2	240 volt	2 - 14 hours
Level 3	400+ volt	30 min – 1 hour

*Dependent on Vehicle Battery size/chemistry/temperature

Level two charging stations offer the largest range of vehicle compatibility compared to level three stations.

Depending on the product selected, the estimated hardware and installation costs for one level two EV charging space would range between \$6,000 to \$12,000.

The installation costs are highly variable, depending on the availability of hydro infrastructure and related requirements.

For illustrative purposes, it is estimated that the total capital investment for ten charging spaces distributed between City Hall, the Hamilton Convention Centre, and the York Parkade parking garage would be approximately \$90,000, based on midpoint range of estimated hardware and installation costs.

Cost Recovery

Most municipalities in Ontario that have installed electric charging stations in public facilities have adopted a “no fee” structure (other than paying the applicable parking fees) for a defined timeframe, often as part of a pilot project. The rationale behind providing free charging is to help facilitate the uptake in EVs and the environmental benefits that are realized. A similar approach is used for the two charging stations in the York Parkade where users are not charged any separate fee other than the regular parking rate.

Pay-per-use stations require the EV owner to remit payment based on the fees imposed by the charging station owner. Typically, these fees are set up to recover all or a portion of the costs. An emerging approach is to establish a fee structure that incentivises short

**SUBJECT: EV Chargers in Hamilton Municipal Parking System Lots (PED18250)
(City Wide) - Page 3 of 4**

term use of the spaces for charging and discourages use for longer term parking. Such fee structures can be built into the charging unit.

Another alternative for reducing initial costs is to take advantage of offers from specific EV manufacturers to install charging stations free of charge. However, the EV stations installed are based on propriety technologies specific to a make of vehicle, and, are therefore, less attractive from a public policy perspective.

Advertising revenues from displays at the charging stations are being considered by some jurisdictions to off-set costs, but it is unclear if spaces in public lots would generate sufficient foot traffic exposure.

(b) Grants

The Ontario Electric and Hydrogen Vehicle Incentive Program, and the Electric Vehicle Charging Incentive Programs were funded through cap-and-trade proceeds. These EV incentive programs were cancelled on July 3, 2018.

Prior to July 3, 2018, staff contacted the Ontario Ministry of Transportation (MTO) to enquire about the availability for funding, and program details. Upon receipt of information from MTO, staff were advised that the application window had closed due to funds being exhausted.

The City will continue to explore any future grants, and partnering opportunities.

(c) York Parkade Parking Garage

The Hamilton Municipal Parking System (HMPS) currently operates two EV charging stations, located within the York Parkade parking garage. No fee is imposed to utilize the charging station but regular parking fees apply.

Staff have received feedback that one or more EVs routinely park at the York Parkade and does not move once charging is complete, thereby, reducing turnover and the opportunity for other vehicles to charge. An audit was completed in October 2018 and found that there is an acceptable level of turnover. Staff will continue to monitor this, as well as future locations, as part of any EV charging implementation plan.

(d) City Hall Car Park

HMPS staff are assessing several locations within downtown City owned car parks and garages, including the City Hall car park. Other potential locations could include surface lots within the Business Improvement Area (BIA) where there is a high turnover of parking

**SUBJECT: EV Chargers in Hamilton Municipal Parking System Lots (PED18250)
(City Wide) - Page 4 of 4**

and presence of drivers from out of the City that may require EV charging during their visit.

At present, funding to purchase additional charging stations is not included in the ten-year capital plan.

Additional information:

- As of 2018, there are approximately 60,000 Electric Vehicles (EVs) in Canada;
- Between 2017 and 2018 the Ontario EV market saw a 273% increase in sales (1,842 vehicles in 2017 vs 6,866 in 2018); and,
- When compared to gasoline vehicles, the share of EVs sold in Ontario in 2018 has tripled over previous years.

One of the major barriers to the adoption of EVs is “range anxiety” due to the availability of charging infrastructure. Compared to 18 area municipalities with a population over 100,000, Hamilton ranks last with respect to the number of EV chargers per capita.

This lack of inventory creates a barrier to the uptake of EVs within the community and may also have an impact on destination choices for potential tourist visitors.

This highlights the opportunity to increase the provision of convenient, accessible and reliable charging options for EV drivers to ensure that Hamilton is well placed to handle the increase in EVs and to become a destination for EV drivers.

Next Steps:

Staff will continue to monitor potential funding programs for EV charging stations and, as part of on-going infrastructure planning, prepare a detailed feasibility assessment to determine capital investment and infrastructure planning requirements.

As this Report addresses the issue of increasing the number of EV charging stations in the downtown, on the Planning Committee Outstanding Business List, it is appropriate to be identified as complete and can be removed from the list.

CK:AH:cr