



REPORT FOR ACTION

Approval of Electric Vehicle Charging Infrastructure Agreements with Toronto Hydro-Electric System Limited

Date: March 15, 2021

To: Board of Directors, Toronto Parking Authority

From: President, Toronto Parking Authority

Wards: All

SUMMARY

The purpose of this report is to receive Board approval to enter into an agreement with Toronto Hydro-Electric System Limited (THESL) to pilot the deployment of thirty-two (32) electric vehicle (EV) chargers at TPA operated parking facilities. This will be executed in two phases:

- The first phase will upgrade TPA's nine (9) existing electric charging stations and convert them to Level Two (L2) smart chargers.
- The second phase will add an incremental twenty (20) L2 charging stations and three (3) L3 fast charging stations for a total of twenty-three (23) incremental EV chargers.

As North America's largest municipally-owned parking operator, TPA has a unique opportunity to jump start the penetration of EV chargers across its asset base in order to accelerate the electrification of both personal and commercial vehicles in support of the City of Toronto's EV strategy and TransformTO vision.

The TPA currently lags its North American peers in EV deployment, but will use this modest pilot as a learning tool to provide the insights and learnings to develop a more robust EV strategy for 2022 and beyond. Concurrently, management will be engaging a number of government and commercial partners (i.e.: Transportation Services, Fleet Services, TAF, NRCAN, Pembina, TNC's, Automotive etc.) in support of the development of this strategy.

RECOMMENDATIONS

The President, Toronto Parking Authority recommends that:

1. The Board of Directors of Toronto Parking Authority (TPA) grant authority for the President, Toronto Parking Authority to, negotiate, enter into and execute on behalf of Toronto Parking Authority, two (2) three (3)-year agreements with Toronto Hydro-Electric System Limited to provide the necessary goods and services necessary for Toronto Hydro-Electric System Limited to operate specific electric vehicle charging infrastructure stations within parking facilities operated by Toronto Parking Authority, in accordance with the terms and conditions contained in Appendix B to this report, and any such other or amended terms and conditions as may be acceptable to the President, Toronto Parking Authority, and in a form satisfactory to the City Solicitor.

FINANCIAL IMPACT

There are operational and capital costs associated with these projects.

THESL will, during the term of the agreement, own the electric vehicle charging equipment and will be responsible for all costs associated with the purchase, installation and maintenance of the new equipment and removal of existing equipment. Upon termination of the agreement or at end of term, TPA has the option to purchase the L2 and L3 EV charging stations on a straight-line annual depreciation basis. THESL will negotiate and enter into an agreement with an appropriate and qualified third party pursuant to which such third party or parties will procure, remove, install, operate, and maintain the charging stations.

Equipment investment by THESL will be approximately \$5,000 installed per L2 charger and \$50,000 installed per L3 charger. Toronto Hydro submitted a proposal through National Resource Canada's Zero Emission Vehicle Infrastructure Program and was approved for \$250,000. This will be used to fund majority of the hardware. THESL will invest up to an additional \$300,000 for remaining chargers, monthly network fees, conduit wire, transformers, modifications of electrical panels, etc.

TPA will be responsible to pay any additional costs associated with the consumption of electricity on a monthly basis (estimated between \$56,000 and \$93,000 annually for twenty-three (23) machines if all were at medium to high usage). TPA will also be responsible for any costs associated with adding and/or changing customer facing signage, advertising or line painting to support this pilot project, which is estimated at \$10,000.

TPA will not generate revenue from these projects. All revenue collected from the project(s) will be directed to THESL to cover their project costs. TPA will be responsible for paying hydro costs. The initial contemplated rate will be \$2.00 per hour (rates will continue to apply for as long as the vehicle is plugged in). Rates for vehicles plugged in, but not charging, will be higher to discourage use while not charging. Based

on utilization estimates and costs, including project development, the return on investment for Toronto Hydro is over five (5) years on basis of simple payback.

DECISION HISTORY

City Council, at its meeting of January 29, 2020, in considering the matter, "Electric Vehicle Strategy" (IE11.17), approved the Electric Vehicle Strategy from the Director, Environment and Energy.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.IE11.17>
<https://www.toronto.ca/legdocs/mmis/2020/ie/bgrd/backgroundfile-141449.pdf>

COMMENTS

TPA's strategy is to support our customers and, at the same time, assist the City of Toronto in meeting its goals for EV charging infrastructure. This will be undertaken in two phases:

Phase 1:

- 1) Gathering data through TPA and on-street projects to understand charging usage
- 2) Developing evaluation criteria and reviewing locations to install EV chargers, including, but not limited to,
 - Availability of charging stations in the area
 - Occupancy of lots
 - Consumer behaviour
 - Feedback from Business Improvement Areas, customers, joint ventures, Councillors, staff

Phase 2:

- 1) Completing condition assessments of sites being considered for EV charging stations
- 2) Developing long-term strategy based on the above
- 3) Executing strategy

Currently, TPA's EV infrastructure includes three (3) carparks with a total of nine (9) parking spaces equipped with L2 electric charging stations (See Appendix A: *Existing electric vehicle charging station locations*). Existing electric charging stations are free to use, with TPA bearing the cost of electricity, and do not provide any data to assist in understanding the usage of the machines.

The first project will take the existing nine (9) electric charging stations and replace the L2 free charging stations with L2 "smart" stations which work with an app to allow direct customer billing and to gather customer data such as frequency of usage, time of day usage and day of the week usage. The second project will add twenty (20) L2 charging stations and three (3) L3 charging stations at TPA lots to increase the number of EV charging stations from nine (9) to thirty-two (32).

TPA will establish and enforce policies concerning the use of parking locations with EV charging stations and non-EV patrons. The parties shall establish mutually acceptable fees for TPA patrons to utilize EV charging stations. The initial contemplated rate will be \$2.00 per hour (rates will continue to apply as long as car is plugged in). Rates for vehicles plugged in, but not charging, will be higher to discourage use while not charging.

The fees are based on the anticipated investment payback to THESL in Table 2 below.

Table 2: Proposed Investment Payback for THESL

Number of Stations	32
Estimated Use - Hours per Day	6
Estimated Use Days per year	250
Estimated annual charging hours	48,000
Estimated annual revenue (Assuming fee of \$2 per charging hour)	\$96,000
Estimated annual return to THESL (assuming operating margin of \$1.25 per charging hour)	\$60,000
Estimated return to THESL over 3 years	\$180,000
Initial Costs by THESL	\$300,000

The proposed agreement will also address the issue of THESL obtaining rights to occupy and enter upon TPA-operated lands for purposes of the Pilot Project which, since the agreements are for no more than three (3) years, is under TPA's authority under Municipal Code Chapter 179. Under the agreement, the TPA will undertake the work necessary to obtain approval for the granting of leases, licences, or encroachments as may be required.

The two projects would allow customers to use a mobile application for the "smart" L2 charger allowing customers to be billed for usage, improved data management, and remote monitoring of the charging stations. The mobile application will also improve the customer experience in that it can alert customers as to when their charging session is complete and when and where chargers are available.

A summary of relevant terms are contained within Appendix B to this report. The projected timeline for the complete installation of all chargers required for the two projects is no later than Q1 2022.

CONTACT

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SIGNATURE

W. Scott Collier, President
Toronto Parking Authority

ATTACHMENTS

Appendix A - Existing electric vehicle charging station locations
Appendix B - Summary of Agreement Terms
Appendix C – Proposed Lease/Licence Locations
Appendix D - Criteria for Proposed EV Charging Locations and Current Properties
Being Reviewed

APPENDIX A

EXISTING ELECTRIC VEHICLE CHARGING STATION LOCATIONS

CP	Address	Location name	Existing # of EV stations
CP36	100 Queen St W	City Hall	2
CP34	20 Dundas Square	Dundas Square	2
CP286	51 Dockside	George Brown	5

APPENDIX B – SUMMARY OF AGREEMENT TERMS

The general terms and conditions of the agreement are provided in the table below as may be acceptable to the City Solicitor:

<i>Proposed Terms and Conditions</i>	
Commencement Date:	May 1, 2021 or on a date to be determined
Summary:	Agreements with Toronto Hydro-Electric System Limited (THESL) to develop two three-year EV charging infrastructure projects within certain parking garages operated by TPA which include design, procurement, installation, operation and maintenance of L2 and L3 charging stations.
Toronto Hydro-Electric System Limited Obligations:	<ul style="list-style-type: none"> • Removal of existing EV charging stations and return to TPA or disposal of equipment per TPA's direction. • Cooperatively with TPA obtain necessary permits and third party approvals for the implementation of the pilot. • Negotiate and enter into an agreement with a third party to procure and install charging stations at the selected sites. • Control of the installation of the pilot charging stations and the coordination of any construction, work, sequences or procedures necessary, with TPA approval • Negotiate and enter into an agreement with a third party to maintain the network of charging stations in good repair. • Provide TPA with access to the operating software/ mobile application for the timely reporting of usage statistics, revenue and hydro consumption
TPA Obligations:	<ul style="list-style-type: none"> • Provide and determine which spaces are to be used for the pilot for the use of the charging stations • Support relevant applications as applicable for obtaining any necessary permits and third-party approvals for the implementation of the pilot • Establish operational policies concerning use of EV charging spaces by EV and non-EV patrons (Site Rules) • Provide enforcement for the EV spaces wrt Site Rules • Provide THESL quarterly reporting within 30 days of quarter-end describing infractions of Site Rules during the previous quarter • Create and install appropriate signage and arrange for line painting to indicate EV charging spaces • Develop Marketing Strategy and assess opportunities for further third-party advertising on pilot charging stations with THESL • Provide THESL and its contractors access to EV spaces as required for maintenance and repair activities

<i>Proposed Terms and Conditions</i>	
Exclusivity:	The agreement between THESL and TPA is non-exclusive for the 3 pilot sites. TPA agrees that if they are to contract with others for the procurement of EV charging stations at any pilot project site during the term of the pilot project, rates will be the same as those at chargers procured by Toronto Hydro.
Fee Structure:	<p>THESL is responsible for all charger operating costs (data management, customer service platform) and maintenance costs (damage to equipment, failures, troubleshooting). THESL is also covering project costs including engineering, legal and business development.</p> <p>Fees projected to be \$2 per charging hour - all fees to be collected and received by THESL. TPA is responsible for paying hydro as the fees collected by THESL will be used for project costs.</p>
Termination:	Either party has the ability to terminate with 90 days written notice. Upon termination, at end of term, or earlier, there is no obligation for TPA to pay for equipment, however if they choose to purchase the equipment from THESL the remaining balance for the equipment will be determined on a declining balance approach.

APPENDIX C – PROPOSED LEASE/LICENCE LOCATIONS

The following locations are to be subject to a lease/licence/encroachment in favour of THESL for purposes of the THESL obligations under the replacement project agreement:

Car Park Number	Address	Location Name
36	100 Queen St W	City Hall
34	20 Dundas Square	Dundas Square
286	51 Dockside Dr	George Brown

APPENDIX D – CRITERIA FOR PROPOSED ELECTRIC VEHICLE CHARGING LOCATIONS AND CURRENT PROPERTIES BEING REVIEWED

Facilities for new EV charging stations will be reviewed against the following criteria:

- Availability of charging stations in the area
- Occupancy of lots
- Consumer behaviour
- Feedback from Business Improvement Areas, customers, joint ventures, Councillors, staff
- Building infrastructure

Properties currently being reviewed:

Car Park #	Address	Garage/Surface	MURB/Retail	# of Spaces	Major Intersection
36	100 Queen St W	Garage	Retail/Workplace	2027	Queen and Bay
34	20 Dundas Square	Garage	Retail	253	Yonge and Dundas
49	30 Roehampton Ave	Garage	MURB	153	Yonge and Eglinton
307	9 Wellesley St W	Garage	MURB	134	Yonge and Wellesley
26	37 Queen St E	Garage	Retail/Hospital	623	Queen and Victoria
58	9 Bedford Road	Garage and Surface	Retail/Hotel	399	Avenue and Bloor W
13	20 Delisle	Garage	MURB	238	Yonge and St. Clair W