



REPORT FOR ACTION

Toronto Parking Authority Electric Vehicle Program Update

Date: September 1, 2022

To: Board of Directors, Toronto Parking Authority

From: President, Toronto Parking Authority

Wards: All

SUMMARY

As part of its vision to become the world's best provider of sustainable parking, bike share and last mile mobility experiences, Toronto Parking Authority (TPA) is executing an ambitious rollout plan for Electric Vehicle (EV) charging across the City of Toronto. The plan includes the installation of over 500 EV charging stations at TPA off-street parking locations by the end of 2024 and a minimum of 50 additional on-street public EV charging stations before the end of 2023. The provision of EV charging services is a key component of TPA's transformation to a mobility services provider, supports the City of Toronto's Net Zero Strategy and will support TPA's growth and financial returns over the long-term.

Throughout 2022, TPA has worked to establish a deployment plan which will guide the build out of TPA's EV charging network over the next 3-5 years. As the first step in this plan, work is underway to install 117 EV chargers across eleven TPA off-street parking facilities by the end of 2022. A further 175 EV chargers are planned for installation across 18 off-street facilities in 2023, which will bring the total of off-street chargers in operation at TPA facilities by the end of 2023 to nearly 300.

Beginning in 2023, TPA will assume responsibility for all on-street EV charging, which includes the transfer of 47 chargers from Toronto Hydro-Electric Systems Limited (THESL) to TPA. As directed by City Council, TPA will also be responsible for delivering a further 50 on-street chargers by the end of 2023 bringing the total number of on-street chargers to nearly 100 by the end of next year.

While the EV charging program was conceptualized in 2021, 2022 saw the mobilization of this transformational initiative including investments in talent, structure, access to much needed external expertise, as well as, capital spending that is expected to total \$22.8 M over a two (2) year period (2022 and 2023). To help accelerate plans to build a

world class EV charging network, TPA has plans to solicit market interest from strategic business and delivery partners and will continue to work with City leadership to develop a sustainable funding model that ensures TPA has access to the funding it needs to make investments in EV charging services. This work will involve the negotiation of a new Net Income Sharing Agreement with the City as early as 2023.

This report provides TPA Board of Directors with an update on the status of TPA's EV Charging Program, including a summary of work in progress, a preview of installations planned for 2023, funding considerations and strategic partnership/sponsorship opportunities. A further EV program update will be provided at the November 23, 2022 TPA Board Meeting.

RECOMMENDATIONS

The President, Toronto Parking Authority recommends that:

The Toronto Parking Authority Board of Directors receive this report for information purposes only.

FINANCIAL IMPACT

There is no financial impact associated with the adoption of this report.

DECISION HISTORY

At its meeting of July 26, 2022, TPA Board of Directors (Item PA31.10) authorized staff to enter into and execute a Contribution Agreement with Natural Resources Canada (NRCan) for \$2.145 Million in funding for capital expenses related to EV charging infrastructure that will be delivered over a 36-month period. Further information about this report can be found at the link below:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.PA31.10>

At its meeting of July 26, 2022, TPA Board of Directors (Item PA31.7) authorized staff to award the Electric Vehicle Infrastructure Construction Contract for 2022-CON-VAR-D50.2 Car Parks 51, 87 and 110 to Kudlak-Baird Limited. Further information about this report can be found at the link below:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.PA31.7>

At its meeting of June 15-26, 2022, Council (Item IE30.11) adopted a staff report on the On-Street Electric Vehicle Charging Stations - Pilot Conclusion and Next Steps. At this meeting, City Council directed TPA to: 1. install a minimum of 50 on-street chargers by the end of 2023; 2. prioritize the implementation of on-street EV chargers at existing pay and display locations; and, 3. report the financial impacts of the on-street EV charging program in its proposed 2023 Operating and Capital Budgets and 2024 – 2032 Capital Plan. Additionally, City Council directed the City's Chief Financial Officer and Treasurer

to ensure that the City of Toronto / TPA Net Income Revenue Share Agreement provides TPA with sufficient retained earnings to fund the incremental costs associated with the operation, maintenance and continued expansion of the on-street EV charging program. Further information about this report can be found at the link below:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.IE30.11>

At its meeting of May 27, 2022, TPA Board of Directors (Item PA30.8) authorized staff to enter into detailed site assessment and design contracts with CIMA Canada Inc. and WSP Canada Inc., each with an upside limit of \$1,500,000 (excluding HST) for consultant services to complete the site assessments, design, tendering and construction administration related to the installation of EV chargers at TPA surface car parks. Further information about this report can be found at the link below:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.PA30.8>

At its meeting of May 27, 2022, TPA Board of Directors (Item PA30.7) authorized staff to award an electric vehicle infrastructure construction contract for CP 29, 43 and 304 to Energy Networking Services Inc., having submitted the lowest compliant bid and meeting all specifications in conformance with the construction tender requirements, in the amount of \$1,049,921.79 plus \$315,078.21 as a contingency allowance, being the sum total amount of \$1,365,000 (excluding HST). Further information about this report can be found at the link below:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.PA30.7>

At its meeting of February 18, 2022, TPA Board of Directors (Item PA28.8) authorized staff to enter into detailed design contracts with CIMA Canada Inc. and WSP Canada Inc., each with an upside limit of \$1,000,000 (excluding HST) for consultant services to complete the design, tendering and construction administration of related to the installation of up to 500 EV chargers at nearly 30 TPA off-street locations. Further information about this report can be found at the link below:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.PA28.8>

At its meeting of November 8, 2021, TPA Board of Directors (Item PA27.10) authorized staff to enter into pilot agreements with Toronto Hydro-Electric System Limited to operate as a service provider to the Toronto Parking Authority for a three (3)-year period, two separate collections of specific electric vehicle charging infrastructure stations (32) within parking facilities (5) operated by Toronto Parking Authority. Further information about this report can be found at the link below:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.PA27.10>

COMMENTS

As part of its vision to become the world's best provider of sustainable parking, bike share and last mile mobility experiences, TPA is executing an ambitious rollout plan for EV charging across the City of Toronto. The plan includes the installation and operation of almost 300 EV charging stations at TPA off-street parking locations and the acquisition and installation of almost 100 on-street EV charging stations before the end of 2023.

The development of TPA's on-street charging program will be integrated with the EV charging infrastructure that is both planned and being implemented at TPA's off-street parking facilities. The total number of EV chargers under TPA's operation is expected to reach almost 400 by the end of 2023 and will undoubtedly position TPA as the single largest EV charging operator in the City of Toronto and among the largest in Canada.

To deliver on this ambitious plan, TPA has started to lay the foundation for the necessary team resources and access to external expertise, and has developed plans to forge strategic partnerships to maximize its potential to deliver a critical and emerging service that will be valued by millions.

Off-Street EV Charging Program

TPA has begun the development of EV charging infrastructure in its off-street parking facilities and is working towards operationalizing 117 chargers across eleven locations by the end of 2022. A list of the locations and quantity/type of chargers being installed is included in Table 2. Included amongst the 117 chargers are 32 chargers being installed by THESL as part of its EV charging pilot agreements with TPA.

Table 2: TPA Off-Street EV Installations - 2022

Car Park	Address	Facility Type	Quantity of L2 Chargers	Quantity of DC Fast Chargers
13	20 Delisle Ave*	Garage	4	0
29	75 Holly St	Garage	28	1
34	20 Dundas Sq.*	Garage	8	0
36	110 Queen St W.*	Garage	8	3
43	2 Church St	Garage	24	4
51	365 Lippincott St	Surface	10	0
87	14 Arundel Ave	Surface	8	0
110	1612 Danforth Ave	Surface	2	0
262	10 Soho St*	Garage	4	0
286	51 Dockside Dr.*	Garage	5	0
304	9 Wellesley St W.	Garage	8	0
Totals	11 Locations		109	8

* THESL-led installations as part of the 2022 EV charging pilot agreements

TPA will continue development of charging infrastructure in its off-street facilities in 2023 with over 175 chargers planned for installation across 18 car parks. 2023 installations will be primarily focused on garage locations with a few installations at surface car parks. Specific locations will be confirmed following the completion of site assessments in Q4 2022.

On-Street EV Charging Program

The City of Toronto's existing on-street EV charging network is currently administered by the Transportation Services Division in partnership with THESL and consists of 15 chargers, which were installed in 2020 as part of a pilot project. The pilot project was recently expanded with the addition of 32 on-street EV charging stations being installed prior to the end of 2022. A full list of on-street EV charging locations to be operational before the end of 2022 is included in Table 3.

Table 3: On-Street EV Charging Station Locations Operational by the End of 2022

Address	Quantity of L2 Charging Ports	Installation Year	Ward
91 Elizabeth Street	2	2020	10
10 Palmerston Avenue	2	2020	10
124 Mount Joy Avenue	2	2020	14
248 Shaw Street	2	2020	10
43 Alton Avenue	2	2020	14
29 Bowmore Road	1	2020	19
500 Commissioners Street	2	2020	14
216 Oakcrest Avenue	2	2020	19
535 Runnymede Road	2	2022	4
64 Annette Street	2	2022	4
115 High Park Avenue	2	2022	4
685 Dovercourt Road	2	2022	9
705 Shaw Street	2	2022	11
41 Inglewood Drive	2	2022	11
580 Christie Street	2	2022	12
186 Carlton Street	1	2022	13
188 Carlton Street	1	2022	13
453 Jones Avenue	2	2022	14
503 Jones Avenue	2	2022	14
132 Chatham Avenue	2	2022	14
258 Riverdale Avenue	2	2022	14
31 Roseheath Avenue	2	2022	19
543 Strathmore Boulevard	2	2022	19
1856 Queen Street East	2	2022	19
1766 Queen Street East	2	2022	19
25 Total Locations	47		8 Wards

Beginning in 2023, TPA, as directed by Council, will take full responsibility for the operation and maintenance of all existing and future on-street chargers and will install a further 50 EV charging stations by the end of 2023. This will bring the total number of on-street EV chargers to 97.

The locations of the 50 chargers to be installed in 2023 have yet to be determined. TPA is working with Transportation Services, Energy and Environment Division and THESL to develop siting criteria and a set of on-street installation guidelines to help standardize future installations and simplify the project delivery.

Starting in late 2022, TPA will begin to coordinate the installation of new on-street EV charging infrastructure with the delivery of future road rehabilitation projects by Transportation Services. This will drive cost efficiencies and minimize time and effort needed to plan, design and deliver infrastructure by TPA. TPA will be engaging with local stakeholders including BIAs and Councillors in Q4 2022 to receive feedback on potential 2023 installation locations and will prioritize pay and display locations as directed by Council.

Funding

TPA has identified funding for its EV Charging Program in both its approved 2022 Capital Budget and its proposed 2023 Capital Budget and 2024 – 2032 Capital Plan.

TPA has allocated \$5.7 Million in the 2022 Capital Budget and \$17.1 Million in the Proposed 2023 Capital Budget. This includes the financial impacts tied to the transfer of 47 on-street EV chargers from THESL, which have an estimated book value of \$790,500, net of any funding subsidies received by THESL.

To date, TPA has awarded roughly \$8.27 Million in contracts for its EV program, which are summarized in Table 4.

Table 4: Summary of Actual and Planned EV-Related Infrastructure Capital Expenditures for both 2022 and 2023 as of August 1, 2022

Category	2022	2023 (Estimated)	Total (2022 + 2023)
Off-Street EV Charging Design and Contract Administration	\$3,264,520	\$2,231,250	\$5,495,770
Off-Street EV Charging Supply and Installation	\$2,454,482	\$6,247,500	\$8,701,982
On-Street EV Charging Design and Contract Administration	\$0	\$3,910,000	\$3,910,000
On-Street EV Charging, Acquisition, Supply and Installation	\$0	\$4,700,500	\$4,700,500
Totals	\$5,719,002	\$17,089,250	\$22,808,252

To assist with the cost of the EV program, TPA has submitted funding applications through multiple government grant programs. Table 5 summarizes the status of all TPA EV funding applications related to TPA's EV Charging Program. TPA has received approval from both NRCan and The Atmospheric Fund (TAF) for \$2.25 Million to date. In August, 2022, TPA submitted an additional funding application to NRCAN for \$5 Million and will continue to monitor and apply to new government funding programs and opportunities.

At its meeting of June 15 and 16, 2022, City Council also directed the City's Chief Financial Officer and Treasurer to ensure that the City of Toronto / TPA Net Income Sharing Agreement provides TPA with sufficient retained earnings to fund the incremental costs associated with the operation, maintenance and continued expansion of the on-street EV charging program. TPA is anticipating that a new Net Income Sharing Agreement with the City will be completed as early as 2023.

Table 5: Summary of TPA EV Funding Applications

Application	Application Date	Amount Requested	Amount Approved	Status
2021 <u>NRCan</u> Zero Emission Vehicle Infrastructure Program (ZEVIP)	June 2021	\$2,145,000	\$2,145,000	TPA received conditional approval for \$2.15 Million in funding from <u>NRCan</u> on May 16, 2022. Execution of the Contribution Agreement is in progress.
TAF EV Station Fund	April 2022	\$103,000	\$103,000	TPA received a letter of acceptance on May 13, 2022 for the full \$103,000 it applied for. Execution of the Contribution Agreement is in progress.
2022 <u>NRCan</u> ZEVIP	August 2022	\$5,000,000	TBD	TPA submitted an application requesting \$5.0 Million in funding from <u>NRCan</u> on August 11, 2022. Decisions by <u>NRCan</u> about successful proposals are expected in Q4 2022 or early 2023.

Resourcing

In 2021, TPA began to build the foundational team structure and individual roles to support the planning, build-out and operation of the EV charging network. Today, there are three (3) primary teams across the TPA organization that support the EV charging program and their primary responsibilities include:

Business Development: strategy and program management, technology, policy (including coordination of by-law amendments), pricing, and marketing

Project Infrastructure and Asset Management: technical site assessments (civil and electrical), detailed design, construction and asset management
Operations: signage, enforcement, equipment maintenance and uptime (service reliability)

TPA has recruited a number of new roles that are intended to build the capabilities needed to develop the EV Charging Program, including new Program Managers for each of the Off-Street and On-Street EV Charging Programs as well as additional engineering positions to lead capital delivery. Over the coming months and into 2023, TPA will continue to define roles and attract the talent needed to advance this strategic program.

In addition, TPA is supported by various divisions at the City of Toronto including Energy and Environment and Transportation Services. TPA has also forged strong working relationships with THESL at the working and executive level to monitor progress and manage critical risks.

Over the past year TPA has engaged external expertise across planning, engineering and construction disciplines to advance the program. Partners engaged to date include IBI Group Inc. (IBI), Dunskey Energy Consulting (Dunskey), WSP Canada Inc., CIMA Canada Inc., Energy Networking Services Inc., and Kudlak-Baird Limited.

Strategic Partnerships/Sponsorships

In addition to the attraction of talent and engagement of contracted resources, TPA is preparing to solicit market interest for strategic partners to help identify and engage one or more corporate partners to invest in the buildout and/or operation of the EV charging network. Preparations will be underway starting in Q4 2022 for TPA to release an Expression of Interest in Q1 2023 to explore opportunities for strategic partnerships. This exploration may also identify infrastructure delivery partners to help TPA accelerate its EV charging deployment through access to funding, expertise, and/or data.

Next Steps

TPA retained IBI and Dunskey to develop an EV Charging Deployment Plan and pricing strategy on January 5, 2022. TPA has been working with external vendors, as well as key stakeholders, to finalize the deployment plan and pricing strategy which will guide the development and pricing of EV charging in TPA car parks through 2025. This report will be finalized in October 2022 and TPA will provide an EV program update at the November 23, 2022, TPA Board meeting, which will include highlights from the deployment plan.

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SIGNATURE

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