



## REPORT FOR ACTION

### **Bike Share Toronto - Purchase of Equipment in 2020, Ontario Municipal Commuter Cycling Program**

**Date:** January 27, 2020

**To:** Board of Directors, Toronto Parking Authority

**From:** Acting President, Toronto Parking Authority

**Wards:** All

#### **SUMMARY**

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This report seeks approval from the Board of Directors, Toronto Parking Authority (TPA) for an \$11,250,000 purchase of new bicycle and system equipment, including the supply, delivery, and installation of approximately 1,850 bicycles, 160 stations, including 300 E-FIT pedal assist bikes, and 10 e-charging stations and ancillary elements, from PBSC Urban Solutions Inc. (PBSC), pursuant to the terms and conditions of an established Equipment Supply Agreement between TPA and PBSC.

With the purchase of this equipment in 2020, Toronto will have a network of 6,850 bikes, including 300 e-bikes and 625 stations extending beyond the existing service area to west of High Park, north of Lawrence Avenue, and east of Victoria Park. The system expansion will focus on expanding into areas outside of the downtown core, providing service into five more wards, increasing Bike Share presence in 18 of the City's 25 wards. Two pilot programs will also be launched in North York and Scarborough. This expansion opportunity completes the phased five-year expansion plan of the Bike Share system established in 2016 with the objective of reaching 6,000 bikes and 600 stations.

Bike Share Toronto has been allocated capital funding of \$9,000,000 available through the Provincial Government's Ontario Municipal Commuter Cycling Program (OMCC) which requires 20 percent matching funds by the municipality of \$2,250,000. The OMCC funds must be spent by the end of 2020 as per the agreement with the Provincial Government, as this is the last year this funding is available for Bike Share. The 2020 matching municipal contribution is available through eligible Section 37 Planning Act Reserve Funds and TPA revenues, which are contained in TPA's Approved 2020 Capital Budget.

## RECOMMENDATIONS

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The Acting President, Toronto Parking Authority recommends that:

1. The Board of Directors of Toronto Parking Authority authorize the President, Toronto Parking Authority, to purchase new equipment to support the 2020 planned phased expansion of the Bike Share Toronto system, including the supply, delivery, and installation of new bicycles, new stations, docks, and ancillary elements, from PBSC Urban Solutions Inc., pursuant to the terms and conditions of the Equipment Supply Agreement dated March 22, 2016 between Toronto Parking Authority and PBSC Urban Solutions Inc., in the amount of \$11,250,000, excluding Harmonized Sales Tax.
2. The Board of Directors of Toronto Parking Authority approve a 2020 Capital Budget adjustment, increasing the total Bike Share Toronto expansion to \$11.25 million, to be funded as follows: \$9 million from the Ontario Municipal Commuter Cycling Program, \$0.5 million from Planning Act Reserve Funds (Section 37), and \$1.75 million from Toronto Parking Authority retained earnings.
3. The Board of Directors of Toronto Parking Authority request the President, Toronto Parking Authority, to report through the City of Toronto's quarterly variance reporting process on any potential Bike Share Program operating net losses to year end and annualize any further changes through the 2021 Budget process.

## FINANCIAL IMPACT

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The cost of the new equipment, including shipping, installation, and contingency, totals \$11,250,000, excluding HST. The following table summarizes the main elements of the proposed purchase. A detailed equipment listing for new stations and parts is listed in Appendix A.

2020 ORDER - TOTAL COSTS	
Equipment (See Appendix A)	\$9,783,275
Installation	\$1,126,885
Shipping and Storage	\$235,000
Sub-total	\$11,145,160
Contingency	\$104,840
<b>Total</b>	<b>\$11,250,000</b>

The OMCC Program, a joint provincial-municipal program introduced in December 2017, was established to support the provincial goals of implementing new or expanded commuter cycling infrastructure to support commuter and frequent cycling. The 2020 OMCC funding allocation for Bike Share Toronto is \$9,000,000, which requires a municipal contribution of 20 percent as per the provincial funding program's requirements. Bike Share funding is part of the larger overall program for Toronto coordinated by the City of Toronto's Transportation Services.

The required municipal contribution of \$2.25 million, or 20 percent, will be provided as follows:

- \$0.5 million from Planning Act Reserve Funds (Section 37), from the following wards:

Ward Number	Ward Name	Planning Act Reserve Funds (Section 37) Collected
8	Eglinton-Lawrence	\$51,793
10	Spadina-Fort York	\$116,967
13	Toronto Centre	\$331,240
Total Planning Act Reserve Funds (Section 37) Collected:		\$500,000

- \$1.75 million from TPA Retained Earnings

Assuming the expansion is substantially completed by the end of June 2020, the incremental operating costs compared to the Approved 2020 Budget as a result of this expansion is expected to be \$1.7 million, partially offset by increased ridership and advertising revenue of \$1.1 million resulting in an estimated operating loss of \$0.6 million.

## DECISION HISTORY

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The Board of Directors, Toronto Parking Authority, at its meeting of February 25, 2016, in considering the matter, "Bike Share Toronto Equipment Supply Agreement - PBSC", authorized staff to enter into an Agreement with the successful proponent, PBSC Urban Solutions Inc., to supply new equipment to support phased expansion plans for the Bike Share system, envisaged to comprise 6,000 bikes over a five-year period, as and when required, and replace certain existing equipment in order to integrate the then-existing bike share system with the expanded system (reference: Board Minute #16-031). The term of the supply agreement is five (5) years with up to three (3) additional two (2)-year optional renewal periods at TPA's sole discretion. A copy of this Board Report is provided as background information, along with the RFP and scoring results in Appendices C, D and E.

The TPA Board, at its meeting of April 24, 2017, in considering the matter "Bike Share Toronto Equipment Purchase - PBSC", authorized the purchase of new equipment, comprising approximately 750 bicycles and 70 stations for the 2017 phased expansion, from PBSC under the Equipment Supply Agreement in the amount of \$3,750,000 (reference: Board Minute #17-067).

The TPA Board, at its meeting of March 5, 2018, in considering the matter, "Bike Share Toronto - Purchase of Equipment 2018, Public Transit Infrastructure Fund (PTIF) Program and Metrolinx", authorized the purchase of new equipment comprising approximately 1,000 bicycles and 90 stations for the 2018 phased expansion from PBSC under the Equipment Supply Agreement in the amount of \$5,256,325. (Item PA8.2). <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.PA8.2>

The TPA Board, at its meeting of February 24, 2019, in consideration of the matter, "Bike Share Toronto - Purchase of Equipment in 2019, Ontario Municipal Commuter Cycling Program", authorized the purchase of new equipment comprising approximately 1,250 bicycles and 105 stations for the 2019 phased expansion from PBSC under the Equipment Supply Agreement in the amount of \$7,500,000 (Item PA3.02). <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.PA3.2>

Toronto City Council, at its meetings of Tuesday, December 17, 2019 and Wednesday, December 18, 2019, in consideration of the matter, "2020 Rate Supported Budgets - Toronto Parking Authority" (EX11.4), adopted the 2020 Capital Budget and Plans which included an \$11,250,000 capital expansion of the Bike Share Toronto program. <http://app.toronto.ca/tmmis/viewPublishedReport.do?function=getCouncilAgendaReport&meetingId=15359>

## **COMMENTS**

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Bike Share Toronto seeks to place the order for the new bike share equipment under the 2020 Program in a timely manner to ensure delivery and installation for the prime spring/summer seasons as outlined in Appendix B, to maximize user revenues and availability of the enhanced service in these highest demand times.

The Bike Share Toronto system (formerly BIXI Toronto) was launched May 1, 2011 and encompassed approximately 1,000 bikes, 80 payment stations and 1,500 docks. In July 2016 Bike Share Toronto expanded by 1,000 bikes and 120 stations. In August 2017 another 750 bikes and 70 stations were added to the system. In 2018 another 1,000 bikes and 90 stations were added to the system and in July 2019 the phased expansion continued with the addition of 1,750 bikes and 105 stations. The system is currently comprised of 5,000 bikes, 465 stations and 8,380 docks.

A Feasibility Study (Study), a copy of which can be found in Appendix G, was undertaken in 2015 to establish the parameters of a viable long-term plan for the Bike Share Toronto system. The mandate for this Study was to establish parameters and guide the expansion of the system over the subsequent five years. At the time of its completion in 2016 the Study concluded that a system in the range of 6,000 bicycles

and 600 stations would be optimal to handle the demand within the city of Toronto. After the completion of the 2020 Bike Share Toronto system expansion, Toronto will have 6,850 bikes and 625 stations and the five-year phased expansion outlined in the Study will be completed.

## **E-Bike Pilot**

With the additional 2020 OMCC fund allocation, Bike Share Toronto has an opportunity to complete the phased expansion plan as contemplated in the Study and establish pilot programs in North York and Scarborough, in addition to undertaking an e-bike pilot.

The 2020 expansion will include the purchase of 300 electric bikes (e-bike), and 10 e-bike charging stations. The electric, pedal assist bikes, called E-FITs are engineered and designed by PBSC. E-FITs have a central motor with a battery fully integrated in the aluminum frame. These pedal assist e-bikes will permit users to travel up to 25 kilometers per hour with electric assistance, and can travel up to 70 kilometers without requiring a charge. The E-FITs and e-bike charging stations are fully compatible with the rest of the Bike Share system, allowing both Iconic (manual) and E-FIT bikes to be docked in any regular and e-bike charging station. E-FIT bikes can be recharged in the field in designated electric bike charging stations.

The E-FIT cost is \$2,595 per bike and is more than twice the cost of the regular manual bike of \$1,090. The e-bike pilot will assess the increased capital costs, the requirements to hardwire stations, impacts to operation strategy, and ridership. The success of the e-bike pilot will be determined through these factors including ridership experience and adoption and will also incorporate the experiences of other cities operating e-bike sharing programs. These factors will be incorporated into future expansion plans and will also form pricing strategy after a one-year period.

The inclusion of e-bikes and e-bike charging stations in the system will introduce an element of electrification to the fleet. As with any electric vehicle, e-bikes have batteries and need to be recharged at regular intervals. One of the Bike Share program goals is to contribute to the reduction of the City's carbon offset. Manual bikes do not need to be recharged, and have positive contribution to the environment. In order to ensure the e-bikes have low carbon offset, and meet the program's goals, consideration will be put into recharging practices. In Ontario, when demand for electricity is lower, the majority of the power comes from sources such as the nuclear generators and large hydroelectric stations. When demand for electricity increases, Ontario generates power from other sources that are more polluting, like natural gas-fired generation. To ensure e-bikes are powered from low-polluting sources, e-bikes will be rebalanced for recharging purposes during official off-peak times, between 7:00 p.m. and 7:00 a.m.

## **Bike Share Expansion Plan Background**

A Feasibility Study (Study) was undertaken in 2015 to establish the parameters of a viable long-term plan for the Bike Share Toronto system. The mandate for this Study was to establish parameters and guide the expansion of the system over the subsequent five years. At the time of its completion in 2016 the Study concluded that a system in the range of 6,000 bicycles and 600 stations would be optimal to handle the

demand within the city of Toronto. After the completion of the 2020 Bike Share Toronto system expansion, Toronto will have 6,850 bikes and 625 stations and the five-year phased expansion outlined in the Study will be completed.

In 2013 City Council approved the termination of the Agreement between BIXI Toronto Inc. (“BIXI”) and the City and the bike share system was transferred from BIXI to the City. In the report, “Strategy for Continuing Toronto’s Bike Share Program”, adopted by City Council on November 13, 2013, City Council discussed expansions of the bike share program. In this report, City Council granted authority to establish a Bike Share Program Reserve for the purpose of capital expansion. At the time, \$2.6 million had been secured for capital expansion from the Pan/Parapan Am Games Host City Showcase program. City Council authorized the transfer of the funds to the Bike Share Program with the intention of growing the system by 22 stations. In this report, further expansion was discussed and it was noted that they would be funded primarily with non-City funding and, where appropriate, one-time funding opportunities. City Council directed TPA to submit expansion funds beyond 2014 for consideration of Council as part of the annual budget review process when funds have been secured. Additionally, City Council directed TPA and City Staff to develop a financially sustainable expansion plan. As result of these actions, the Board of Directors of TPA received for information the changes required to Municipal Code Chapter 179 which can be found in Appendix F.

In the spring of 2015, Metrolinx became a capital partner of Bike Share Toronto and invested \$4.9 million to expand the system. This capital funding, combined with the \$2.6 million in reserve accounts within the City of Toronto for bike share expansion, well-positioned the system to fund an expansion program.

In order to optimally layout the expansion system and its timing, and follow council direction to develop a financially sustainable expansion plan, requests for a Bike Share Feasibility Study were send out to nine (9) consulting firms across North America. Each proponent was requested to provide a single fixed price to complete the consulting assignment. MMM Group Limited (now known as WSP) was selected as the successful proponent (Appendix G). MMM Group Limited suggested using demographic data, trend analysis and GIS positioning to determine optimal routes, sizes and positioning of the system. Additionally, they committed to using Toronto-specific data pertaining to its physical and cultural landscape. The size, knowledge and experience of the MMM Group Limited project team contributed to their selection as the successful proponent.

The Feasibility Study for the Expansion of Bike Share Toronto was completed in 2016 and presented to the Board (Appendices G and H). A spatial analysis model was developed to identify positive growth areas and illustrate the relative potential and challenges to bike share usage across the City of Toronto. The Feasibility Study detailed the methodology used to develop the framework, and how it can be applied to minimize expansion risks and maximize benefits to Bike Share Toronto, its users and the communities across Toronto that host the network.

Drawing on a combination of data sources, MMM Group Limited developed a series of data-driven indicators that were combined into a spatial model, or map, illustrating bike share ridership potential across the entire City. After verifying the predictive potential of

the ridership model through regression analysis against the performance of existing Bike Share Toronto stations, GIS spatial analysis techniques were used to identify areas of least risk for expansion. The analysis results were used to generate more detailed recommendations to guide the initial phases of bike share expansion, as well as strategic recommendations for future updates and refinement of the analysis model and expansion program.

The TPA Board, at its meeting of September 17, 2015, in considering the matter, "Bike Share Toronto Market Feasibility Study", authorized the proposal from MMM Group Limited, dated August 17, 2015, to complete a Bike Share Feasibility Study for the expansion of the Bike Share Toronto system for a fee not to exceed \$45,000. (Minute No. 15-146).

### **PBSC Contract Award**

TPA issued a Request for Proposals (RFP) on July 29, 2015, for the supply and delivery of the hardware, software, integration and operational performance requirements for the bike share system. The TPA retained Procurement Consultants to conduct the RFP process and support TPA staff on the selection committee. All prospective suppliers were to provide a full-service solution including hardware, software, warranty and support services. An open call was placed on the MERX Canadian Public Tender network which closed August 26, 2015. TPA received seven responses from bike share equipment suppliers.

For the purpose of evaluating the responses, each responding company based their estimating quantities on 1,000 bikes, 400 platforms (paves), 2,000 docking points and 100 payment terminals, that is, the "Initial Order", as funding for further potential system expansions must be secured along with appropriate authorization prior to committing to expansion plans. Proponents were expected to provide assembly or installation cost per unit and the cost per unit for both a 5-year and 10-year warranty. In addition and in order to give adequate consideration to a new bike share system, proponents were requested to provide a salvage value for the existing equipment.

Appendices C, D and E outline the contract procurement process, evaluation method and recommendation to award the equipment supply contract to PBSC, having provided the lowest cost with the highest proponent score. In addition, PBSC provided TPA with the ability to exchange existing equipment which was no longer compatible with the new system solution. Subsequent equipment performance, including the ability of TPA to secure a one-system solution, has resulted in TPA benefitting from its selection. The consistency and compatibility of the system's equipment and software, has provided no need for unique solutions or customized integrations, and has simplified the operational management of the system. In addition, the bicycle manufacture standards have performed well, exceeding the anticipated useful life while retaining competitive pricing. Today, PBSC remains financially sustainable with significant expansion across Europe, Middle East and South America.

## **CONTACT**

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## **SIGNATURE**

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Robin Oliphant, Acting President  
Toronto Parking Authority

## **ATTACHMENTS**

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Appendix A - Quote from PBSC Urban Solutions Inc.

Appendix B - 2020 Bike Share Expansion Plan

Appendix C - In-Camera Board Memorandum dated February 19, 2016 - Minute Number 16-031 (Authorized for public release by the Acting President, Toronto Parking Authority, on January 27, 2020)

Appendix D - Bike Share Toronto Request for Proposal

Appendix E - Equipment Supply Request for Proposal Results

Appendix F - In-Camera Board Memorandum dated November 15, 2013 - Minute Number 13-171 (Authorized for public release by the Acting President, Toronto Parking Authority, on January 27, 2020)

Appendix G - In-Camera Board Memorandum dated September 10, 2015 - Minute Number 15-146 (Authorized for public release by the Acting President, Toronto Parking Authority, on January 27, 2020)

Appendix H - Feasibility Study for the Expansion of Bike Share Toronto (April 2016)