



## REPORT FOR ACTION

# BIKE SHARE TORONTO FIRST QUARTER (Q1) 2022 UPDATE

**Date:** February 4, 2022

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

**From:** President, Toronto Parking Authority

**Wards:** All

## SUMMARY

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Bike Share Toronto is a sustainable, healthy, and low-cost program that has become an integral component of Toronto's transportation network. Designed to improve mobility options for Torontonians, the program saw numerous successes in 2021, including record ridership, growth in annual memberships, new and popular pilot programs, and increased demand for new stations and bicycle availability.

Toronto Parking Authority (TPA) aspires to make Bike Share Toronto the best bike sharing system in the world. As outlined in TPA's 2022 Operating Plan, accelerating bike share's growth is a key corporate priority.

This report provides an update to TPA's Board of Directors on the Bike Share program's 2021 accomplishments and recent activities, and an outline of Bike Share Toronto's new four (4)-year growth plan.

## RECOMMENDATIONS

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The President, Toronto Parking Authority recommends that:

1. The Board of Directors, Toronto Parking Authority receive this report for information.

## **FINANCIAL IMPACT**

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There is no financial impact resulting from this report.

## **DECISION HISTORY**

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At its meeting of November 8, 2021, TPA Board of Directors received a presentation from TPA about TPA's 2022 Annual Operating Plan. The report (PA27.1) and presentation were received for information.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.PA27.1>

At its meeting of May 14, 2021, TPA Board of Directors received a report (PA23.14) entitled "Improving Toronto's Bike Share Program," which responded to City Council's request to the Toronto Parking Authority Board of Directors to direct the Acting President, Toronto Parking Authority to report back to the City of Toronto Infrastructure and Environment Committee by the end of fourth quarter 2020 on: the feasibility of increasing the overcharge threshold; exploring low-cost options; and a strategic plan to align with ActiveTO bike lanes.

<https://www.toronto.ca/legdocs/mmis/2021/pa/bgrd/backgroundfile-166895.pdf>

PA23.4 was subsequently referred to Infrastructure and Environment Committee for consideration as IE23.20. This item was adopted, without amendment, by Infrastructure and Environment Committee at its meeting of July 5, 2021.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.IE23.20>

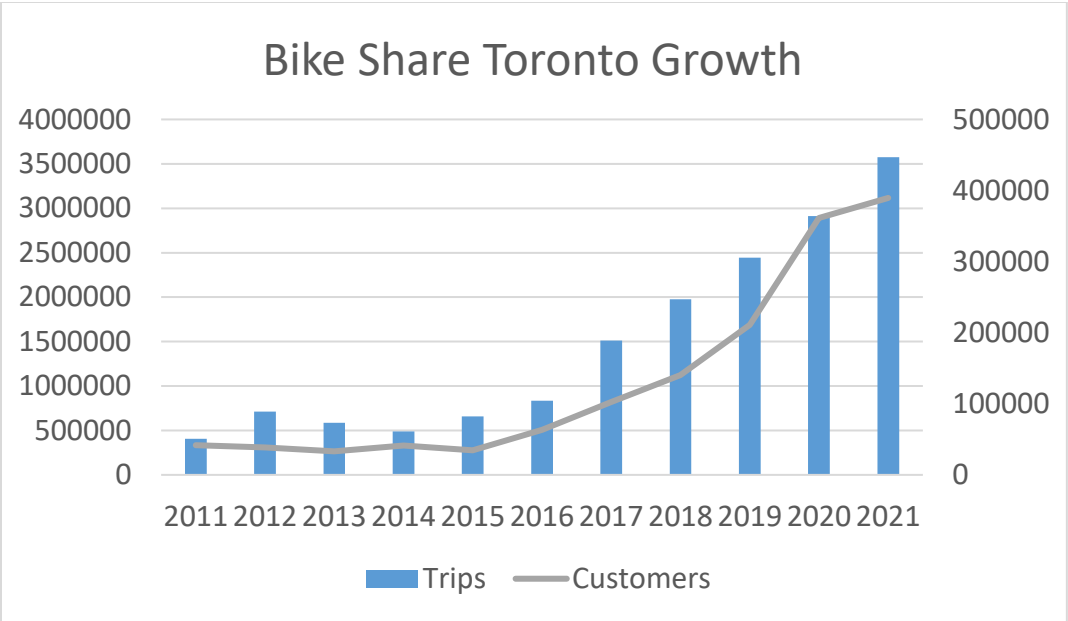
## **COMMENTS**

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### **INCREASED RIDERSHIP**

Bike Share Toronto is recognized as an integral part of the City's transportation network and in 2021 Bike Share Toronto hit milestones with ridership growing to over 3.57 million rides, an increase of 23 percent versus 2020. The system broke its one-day ridership record on May 16th with over 27,000 rides, operating at 85-90 percent of its total capacity. The increase in ridership can be attributed to bike share's network expansion, locating stations at key transit, retail, residential, employment, educational and leisure facilities.

An increase in the city's cycling infrastructure has also been a positive contributor to bike share ridership growth. As an example, bike share ridership pre and post bike lane installation on Bloor Street West, more than tripled once those stations were integrated within the bike lane infrastructure.



**Annual 45 Pilot**

On July 1, 2021, TPA launched a new 45-minute ride membership option (Annual 45) as a pilot program. Since that time Annual 45 has accounted for over 20 percent of all new membership sales (included in chart above). In total, bike share saw its annual membership base grow 34 percent, with the average annual member taking 115 rides in 2021.

**Corporate Membership Program**

In September of 2021, as a partner of the City of Toronto’s multi-agency “Return to Office” Campaign led by Transportation Services, TPA introduced a new corporate discount for Bike Share Toronto annual memberships. Companies who enrolled as a corporate partner with Bike Share Toronto during the return to office period had the opportunity to offer their employees the special discount on either an “Annual 30” or “Annual 45” Bike Share membership. Employers also had the option of further subsidizing the cost of an annual membership beyond the 20 percent discounted corporate rate.

To date, over 30 companies have enrolled in the program, including two of Toronto’s largest educational institutions (University of Toronto and York University), the City of Toronto, TPA itself, as well as other notable companies including Visa, Toronto Symphony Orchestra, Destinations Toronto, CIBC and many more.

The Return to Office period ended December 31, 2021, however, the strength of the COVID19 pandemic over the fall and winter months delayed the return to office for many employees. Consequently, TPA will continue the promotion for the foreseeable future and decide on its permanent status in the rate structure once employers see employees “return to work” on a more regular basis.

## Four-year Growth Plan

In 2020, Bike Share Toronto completed five (5) years of phased annual expansions, which resulted in an expansion of the system from 80 stations and 1,000 bikes - mostly in the downtown core - to 6,850 bikes, 300 e-bikes, and 625 stations distributed across Downtown, Midtown, North York, Scarborough, York, East York, and Etobicoke. In 2022, TPA will begin the first year of its Four-Year Growth Plan to facilitate bike share as an easily accessible and convenient mobility option. TPA's work on expanding and strengthening the bike share system is summarized below.

### Growth Plan Study

To define what comes next, TPA is launching a Growth Plan Study that will lay the foundation of an expansion path for Bike Share Toronto to 2025. The study will have the following objectives:

- Expand the system by an additional 380 stations - bringing the system size up to 1,000 stations - over four years (2022-2025).
- Stretch the system into all of Toronto's 25 wards.
- Increase equitable access of the system across the city by installing stations in neighbourhoods and wards that are currently beyond the system's coverage area.
- Seek opportunities to enhance Bike Share Toronto's connectivity to public transit as a form of low-cost mobility with the capacity to support first and last mile transportation.

TPA released a Request for Proposals (RFP) in October 2021, titled "Bike Share Toronto Four-Year Growth Plan", to seek submissions from qualified proponents to support the delivery of the study including consultation, spatial analysis, and phased implementation planning. Following careful consideration by the evaluation committee, Alta Planning + Design received the highest total score in the evaluation process and was awarded the project in January 2022.

Unlike the previous 2016 study that focussed on the feasibility of the network, this new study will focus on expanding the bike share system and will consider two major elements:

1. The assessment of the network and opportunities to install new stations will consider equity, ridership, population and employment density, trip generation, and connectivity to other transportation nodes (e.g., TTC subway stations, GO Transit stations, TPA car parks).
2. Stakeholder engagement with City of Toronto departments, agencies, and boards, and public consultations through an annual member survey and a public information session. Feedback obtained will be used to inform the study's location planning recommendations and station implementation schedule.

The study has been initiated, and it is anticipated to conclude in second quarter (Q2) 2022.

## **Expanding the E-Bikes Fleet**

### *The Pilot*

In 2020, TPA purchased 300 pedal-assist e-bikes and ten (10) e-bike charging stations as part of an E-Bike Pilot Program to enhance mobility options for residents and visitors to Toronto. Over the last year e-bikes have grown, and continue to grow, in popularity. Many users of the system have submitted requests for a greater availability of e-bikes and private developers have also expressed an interest in having e-stations installed in new developments, several of which are currently being planned.

In 2021, on average, Bike Share Toronto users travelled 50 percent further (distance) on e-bikes than on conventional bikes. During the pilot, TPA observed that users also made trips that were ten (10) percent longer (duration) on average with e-bikes than with conventional bikes. These findings suggest that e-bikes have the potential to increase the range of trips thus potentially replacing trips that may otherwise be taken by cars.

Due to the popularity of e-bikes and their potential to improve mobility within Toronto, TPA is ending the pilot and making e-bikes a permanent component of the Bike Share program. An expansion of e-bikes and e-stations is planned as part of its Four-Year Growth Plan.

The metrics and customer feedback we gathered on e-bikes are consistent with trends seen in other markets internationally. Over the past five years, many North American cities with large bike share systems have begun to purchase and deploy e-bike infrastructure including bikes and stations. The North American Bike Share Association (NABSA) reported that 44 percent of North American cities with bike share systems have fleets that include e-bikes and that trips made by e-bikes increased from seven million in 2019 to almost ten (10) million in 2020.

In researching e-bike ridership trends in both North American and European markets, it is found that an e-bike will get three (3) times more ridership per day as compared to a regular bike, and that customers are 60 percent more likely to choose an e-bike over a regular bike as an option.

### *Working Towards E-Bike Operational Excellence*

The pedal-assist e-bikes we purchase are engineered and designed by PBSC. The bike models - 'E-FITs' - feature a central motor with a battery that is fully integrated in the aluminum frame of the bike. Users can travel up to 25 kilometres (km) per hour and can travel for 70 km until recharging is needed.

E-bikes and charging stations are fully compatible with the rest of the system, allowing both conventional bikes and e-bikes to be docked in any solar-powered and e-bike

charging station. Their complexities, however, offer some operational challenges that don't exist in the regular system, that Bike Share staff are working to address. A list of these items can be found in Appendix A

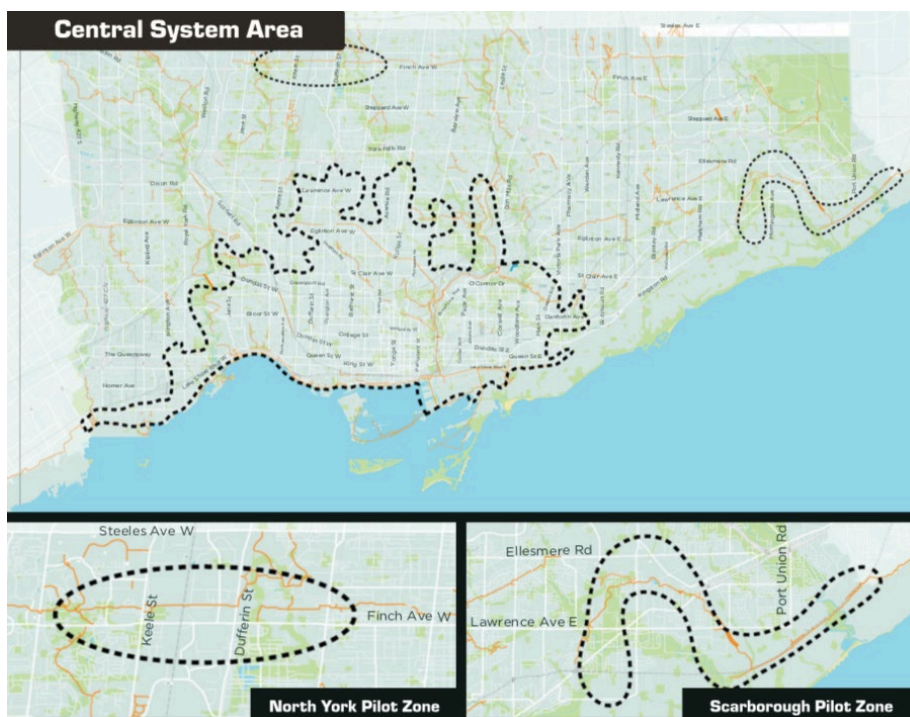
Currently, e-bike maintenance is included in TPA's Operator Agreement with SHIFT Transit Inc., whereas e-bike operations are not included. TPA is in discussions with SHIFT Transit Inc. surrounding e-bike operations to ensure that Bike Share can provide its customers with the same high-level experience expected of our regular iconic bike operations (i.e., convenient, and easy to find bikes). TPA anticipates that a report will be presented to the TPA Board of Directors in third quarter (Q3) – fourth quarter (Q4) 2022 with contract amendments specific to e-bike operations.

### *Expanding the Scarborough and North York Pilot*

In 2020, Bike Share expanded the network beyond the boundaries of the central system area by creating two pilot zones – one in North York and one in Scarborough with up to nine (9) stations in each area. The pilot zones cover Ward 6 (York Centre) and Ward 7 (Humber River-Black Creek) in North York, and Ward 24 (Scarborough-Guildwood), and Ward 25 (Scarborough-Rouge Park) in Scarborough. A map of stations for pilot areas can be found in Appendix B

The pilot zones were created to provide more accessibility to the system, encourage suburban usage of Bike Share, and facilitate first / last mile mobility solutions by connecting users to TTC and GO stops. A two-year timeline (Summer 2020 to Fall 2022) was initially established for the pilot zones. The bike share pilot zones are illustrated in Map 1.

**Map 1: Bike Share Central System Area and Pilot Zones**



Preliminary results of the pilot zones based on data collected from January 1 to December 31, 2021, indicate that there is a strong demand for bike share beyond the central system area and in the suburban communities of the City. The pilot zones have had positive ridership and revenue in the first and second year of operations with ridership in the pilot areas reaching 25,279 trips in 2021 including 13,483 in the North York Pilot Zone and 11,796 trips in the Scarborough Pilot Zone.

On average, casual trips account for 28 percent of all trips system wide. In the North York pilot zone however, casual trips account for 78 percent of all trips, and 89 percent of all trips in the Scarborough pilot zone. Based on the proportion of casual rides, it is assumed that these are largely made up of new users in the area that can be converted to members in future years.

Bike Share Toronto has also received feedback on the pilots through customer service requests for new stations. While difficult to quantify, Bike Share users have communicated their interest in having more stations within these areas, improving their connectivity to the central bike share network, and allow them to travel greater distances without incurring overage fees.

The North York and Scarborough pilot areas were the first step into gaining a foothold into more suburban communities and Bike Share Toronto aims to expand on their success.

As part of the Four-Year Growth Plan, beginning in January of 2022, Bike Share will conclude the pilot and expand the network to improve connectivity by installing new stations that will connect the Central System Area to stations in the North York and Scarborough.

## **Modernizing Bike Share's Rate Structure - Annual Membership**

Another focus for Bike Share in 2021 was to modernize the current annual rate structure that has been in place since 2018. The objective is to provide membership options and, ultimately, attract new annual members. TPA also recognizes that as the Bike Share network expands outside of the downtown core, distances between stations may be greater and customers may consequently need a membership option that provides allows for longer travel distances without incurring overage fees.

Bike Share Toronto launched a pilot program for an Annual 45 Membership which allows users to take 45-minute station-to-station trips. As of December 31, 2021, 937 net-new pass purchases, and 1,868 passes have been upgraded from the Annual 30 Membership. In addition, the Annual 45 membership accounts for 22 percent of all membership sales each month since launching on July 1, 2021.

The average trip duration of Annual 45 members is 14.7 minutes compared to 11.8 minutes for Annual 30 members. Annual 45 members have taken a total of 193,647 trips in 2021, with eight (8) percent of these trips being 30 to 45 minutes, compared to only one (1) percent of 30 to 45 minutes trips for Annual 30 members.

This data, along with customer feedback on this membership option indicates that there is a clear demand for 45-minute trips. TPA will continue to evaluate this pilot program and bring forward recommendations to the TPA Board of Directors in Q1 of 2023.

### **Modernizing Bike Share Toronto's Rate Structure - Casual**

In 2021, casual trips accounted for 28 percent of all Bike Share Toronto's ridership which is down from 35 percent of casual ridership in 2020. In addition, casual revenue only increased by one (1) percent year-over-year. The COVID-19 pandemic has impacted travel patterns and user needs as people are shifting how, when, where, and why they travel. Due to the on-going impacts of the pandemic, Bike Share Toronto is not looking to change the Casual Membership Rate structure at this time. Bike Share Toronto will continue to review casual revenue and sales, ridership data and customer feedback to ensure the casual pass types and fee structure reflect the changing needs of our customers.

The Casual Rate review will be conducted in the Q3 and Q4 of 2022, and results will be presented to the TPA Board of Directors in Q1 of 2023.

### **Providing a Low-income, Barrier Free Option**

TPA recognizes that how people commute to work, school, or appointments can be tied to their financial status. Therefore, in collaboration with City of Toronto staff, the TPA will launch a Bike Share Fair Pass Discount Program to decrease financial barriers to the bike share network and make bike sharing more affordable to low-income residents.

Like the City of Toronto's existing Fair Pass Discount program with the TTC, the Bike Share program would operate under the same eligibility criteria and provide an Annual Pass for \$5 (yearly fee) for eligible residents.

In 2021, Bike Share Toronto began exploring the viability of implementing a low-income program that could be administered by the City's Social Development, Finance and Administration (SDFA) department through some of their existing programs, such as Fair Pass. As part of the Fair Pass Program, SDFA is currently looking at the development of a City-wide program, including an initiative to have an automated income verification tool to confirm the eligibility of residents based on a set of requirements and criteria. This would allow staff to better streamline applications, and provide a better end-user experience, while ensuring that the information is securely collect and stored. TPA and SFDA have agreed in principle to work together and explore opportunities of developing a low-cost barrier free program for bike share, including potentially integrating bike share into phase three(3) of the Fair Access Program when it launches.



TPA has concluded that there is greater benefit to the customer experience to streamline efforts and work with SDFA to administer Bike Share Toronto's low-income program. City staff already have extensive experience administering a similar program (Fair Pass Program), and can ensure eligibility requirements are clear and concise, and that the program is user friendly. Moving forward, Bike Share Toronto will continue to work with City staff from SDFA to explore options and will update the TPA Board of Directors on progress going forward.

## **CONTACT**

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## **SIGNATURE**

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W. Scott Collier  
President Toronto Parking Authority

## **ATTACHMENTS**

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Appendix A: Summary of Key Challenges With an Expansion of E-Bikes  
Appendix B: North York and Scarborough Pilot Station Map

## **APPENDIX A -**

### **SUMMARY OF CHALLENGES WITH AN EXPANSION OF E-BIKES**

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The following provides a summary of the key challenges that Bike Share Toronto is working to address as it plans for an expansion of e-bikes and e-stations.

#### **1. Challenge:**

Installing e-stations takes longer and requires more capital funding than conventional solar powered stations because they need a hardwire connection to a sufficient power source. The capital cost for one e-station is approximately \$35,000.

#### **Fix:**

Bike Share Toronto is currently prioritizing the installation of e-stations within TPA car parks and new developments upon request by developers where feasible.

#### **2. Challenge:**

There are currently 300 e-bikes in Bike Share Toronto's fleet of equipment and approximately half of is in circulation at any given time. The volume of e-bikes in circulation is limited by the system's current charging capacity (i.e., the number of e-stations). As a result, users have expressed difficulty finding charged e-bikes.

#### **Fix:**

Increasing the number of e-stations in the bike share network will improve the system's charging capacity and ensure more e-bikes are available. In 2022, Bike Share Toronto will install up to 13 new e-stations into the network. Two e-stations are currently being installed at 85 Lee Ave (Car Park 48) and 111 Broadview Ave (Car Park 45).

#### **3. Challenge:**

Currently, Bike Share Toronto's operator (SHIFT Transit Inc.) collects e-bikes with depleted batteries and returns them to their warehouse for recharging before returning them into the system fully charged. This approach is time-consuming and the number of e-bikes that can be charged at one time is limited by the number of docks within the warehouse.

Fix:

Bike Share Toronto is exploring operational strategies that will increase the number of charged e-bikes in circulation. An alternative approach that is currently being explored is in-field battery swapping, which has been successfully applied in other markets like Montreal.

Battery swapping involves charging a large supply of batteries and swapping them with depleted batteries in the field. Once implemented, Bike Share Toronto's Operator would not need to bring e-bikes back to the warehouse for charging and they could increase the number of charged e-bikes in circulation.

# APPENDIX B -

## NORTH YORK AND SCARBOROUGH PILOT STATION MAP

