



REPORT FOR ACTION

Bike Share Toronto Feasibility and Financial Impact of Extending Bike Share Travel Times and Ridership Impact from Richmond / Adelaide and Bloor Street West Bike Lanes Implementation

Date: September 6, 2019
To: Board of Directors, Toronto Parking Authority
From: Acting President, Toronto Parking Authority
Wards: All

SUMMARY

This report responds to City Council's request to the Toronto Parking Authority Board to request the President, Toronto Parking Authority, to report to the Budget Committee on the following for consideration prior to the 2020 Budget process:

- a. ridership changes at Bike Share stations directly adjacent to the Richmond / Adelaide and Bloor Street West bike lanes, from before implementation to implementation; and,
- b. the feasibility and financial impact of extending Bike Share travel times from 30 minutes to 45 minutes for annual members.

RECOMMENDATIONS

The Acting President, Toronto Parking Authority recommends that:

1. The Board of Directors of Toronto Parking Authority refer this report to the Budget Committee for consideration during the 2020 budget process.

FINANCIAL IMPACT

There is no financial impact resulting from the adoption of the recommendation in this report.

DECISION HISTORY

City Council, at its meeting on March 7, 2019, adopted the following:

City Council request the Toronto Parking Authority Board to request the President, Toronto Parking Authority, to report to the Budget Committee on the following for consideration prior to the 2020 Budget Process:

- a. ridership changes at Bike Share stations directly adjacent to the Richmond / Adelaide and Bloor Street West bike lanes, from before implementation to implementation; and,
- b. the feasibility and financial impact of extending Bike Share travel times from 30 minutes to 45 minutes for annual members.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.EX2.4>

COMMENTS

Ridership Changes at Bike Share Stations Directly Adjacent to the Richmond / Adelaide and Bloor Street West Bike lanes, from before implementation to implementation

The Richmond / Adelaide cycle tracks were installed as a pilot project between 2014 and 2016, and were made permanent in January of 2019. The Bloor Street Bike Lane Pilot was installed August 2016 and made permanent November 2017.

The phased expansion of the Bike Share Toronto system has happened alongside the growth of the City's cycling network. Both of these projects have seen an increase in bicycle ridership. As per the January 15, 2019 Report for Action "Richmond Street and Adelaide Street Cycle Tracks",

<https://www.toronto.ca/legdocs/mmis/2019/ie/bgrd/backgroundfile-123611.pdf>, cyclist volumes on Richmond and Adelaide increased by 1,194% and 858% after the installation of phases 1 and 2 of the project, respectively. As per the October 3, 2017 Report for Action "Bloor Street West Bike Lane Pilot Project Evaluation" <https://www.toronto.ca/legdocs/mmis/2017/pw/bgrd/backgroundfile-107582.pdf>, cyclist volumes on Bloor Street increased by 49% between June 2016 and June 2017.

Table 1 and 2 contain data from the report, detailing change in cyclist volumes. Before the phased expansion of the bike share program (2011-2015) the system saw approximately 2,854,000 trips in five years. Since the expansion began in 2016, the system has seen more than 5,700,000 trips in less than four years (Jan 1, 2016 to August 14, 2019).

Table 1: Change in Average 8-hour Cyclist Volume (streets with cycle tracks).

Location	Cyclist Volume- Before	Cyclist Volume - After	Change in Volume
Richmond St W, Phase 1	220 (Sep 2013)	2,420 (Sep 2018)	+2,200 (+1,000%)
Adelaide St W, Phase 1	180 (Sep 2013)	2,360 (Sep 2018)	+2,180 (+1,211%)
Richmond St E, Phase 2	170 (Oct 2013)	1,370 (Sep/Oct 2018)	+1,200 (+706%)
Adelaide St E, Phase 2	160 (Oct 2013)	1,360 (Sep/Oct 2018)	+1,200 (+750%)
Richmond- Adelaide, Phase 1	400 (Sep 2013)	4,780 (Sep/Oct 2018)	+4,380 (+1,095%)
Richmond- Adelaide, Phase 2	330 (Oct 2013)	2,730 (Sep/Oct 2018)	+2,400 (+727%)
Simcoe St	480 (Jun 2014)	1,020 (Aug 2016)	+540 (+113%)
Peter St	620 (Oct 2012)	1,080 (Jun 2017)	+460 (+74%)

Table 2: Corridor Average 24 Hour Bicycle Volume Summary

Street	June 2016	October 2016	Change Jun - Oct		June 2017	Change June 2016- June 2017	
Bloor St W	3,309	4,501	+1,192	+36%	4,925	+1,616	+49%
Dupont St	956	798	-158	-17%	852	-104	-11%
Harbord St	4,631	3,892	-739	-16%	3,490	-1,141	-25%

Bike Share Toronto ridership data indicates that there has been an increase in ridership at the bike share stations within close proximity (within 300m) of the Richmond / Adelaide and Bloor Street bike lanes. Table 3 shows the number of nearby stations, and total ridership. Ridership figures capture both trips that started, and ended at the stations within close proximity to the bike lanes. In short, between 2017 and 2018 ridership at bike share stations increased by 30% and 29% near Bloor Street and Richmond / Adelaide bike lanes, respectively.

Table 3: Annual Bike Share Ridership at Stations near the Bloor Street Bike Lanes and Richmond / Adelaide Cycle Tracks

	Bloor Street Bike Lanes		Richmond/Adelaide Cycle Tracks	
	Number of Stations	Ridership	Number of Stations	Ridership
2016 (Jul 1-Dec 31)	11	65,406	24	254,009
2017	17	162,835	31	591,804
2018	17	211,868	39	762,929
Percent Change (2017 to 2018)	30% increase		29% increase	

Feasibility and Financial Impact of Extending Bike Share Travel Times from 30 Minutes to 45 Minutes for Annual Members

Bike Share, as an integral component in the City’s transportation and mobility network has been designed and implemented to encourage accessible and reliable shared usage of bicycles. As it has been demonstrated in dockless systems, bicycles tend to be parked outside of the system and beyond the service area if a fee is not applied for keeping the bicycle for a longer duration. In addition, by observation through our operations, the increase in travel distance creates greater unpredictable travel behaviour, resulting in system imbalances and increased bike predictability.

A key indicator of an efficient bike share operating system, is the statistic for full or empty bike stations. It is anticipated that the system designed for short distance travel, that an increase in travel distances would impact the system balance and impact ridership experience.

The current pricing structure, by providing a fixed fee for the first 30 minutes, encourages riders to dock their bicycles while not in use in order to ensure bicycle availability and predictability for the ridership.

98.5% of Bike Share Toronto's annual member's rides are below 30 minutes. Only 196 or 0.01% of annual members consistently take trips longer than 30 minutes. Annual revenues from these overage fees are anticipated to be less than \$50,000 in 2019. Please see Table 4 - *Travel Times of Annual Members from 2016 to Present*.

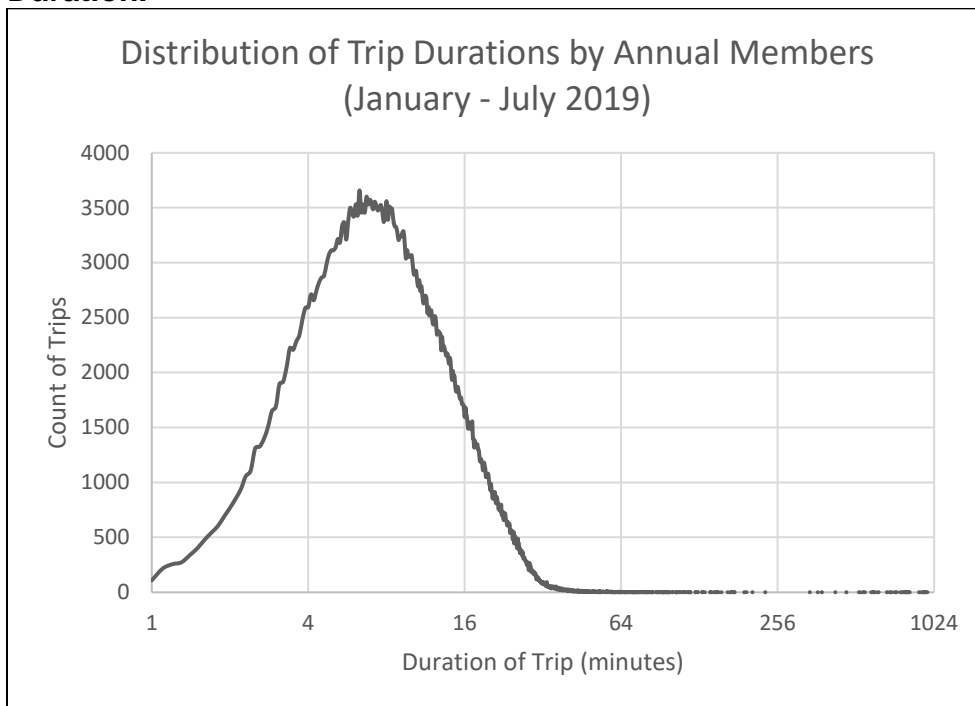
Table 4: Travel Times of Annual Members from 2016 to Present

Year	2016	2017	2018	2019*
Average Annual Member Trip Time	13m 52s	13m 6s	12m 48s	12m 59s
Average Casual Member Trip Time	39m 23s	40m	42m 40s	30m 8s
Number of stations	200	270	360	465
System size (km2)	25	54	75	100

*2019 ridership includes figures from Jan 1-Jul 31

Table 4 displays the average duration of all trips, and Figure 1 displays their distribution; approximately 69% of all annual member trips are between 4 and 16 minutes in duration.

Figure 1: Count of All Annual Member Trips from January-July 31 2019 by their Duration.



Chicago, New York and Montreal are among the North American cities that have increased their travel time allowance and have larger bike sharing networks. All three cities have increased the travel time allowance by 50%, from 30 to 45 minutes. The premium travel time is sold with a premium annual membership package. The increase in pricing is used to offset the anticipated losses in overage revenue from members, and corresponding increase in operating costs due to signage and system changes required. In New York the annual membership was increased from \$131CAD to

\$223CAD (+70%). In Montreal the annual membership fee was increased from \$78CAD to \$94CAD (+21%). In Chicago, the annual membership fee was increased from \$99CAD to \$131CAD (+32%). Additionally, the cost of overage fees has increased in New York and Montreal, with riders being charged for every additional 15 minutes that a bicycle is not docked, instead of every 30 minutes. For every additional 15 minutes (beyond the allowable 45 minutes) riders in New York are charge \$3.30CAD. This overage fee is consistent for annual, day, and single trip members. In Montreal, users are charge \$1.80CAD for the first 15 minutes and \$3CAD for every additional 15 minutes after that. Fee increases are required to cover the losses associated with raising the time allowance from 30 to 45 minutes.

Table 5: Comparison of CitiBike Fees to Bike Share Toronto Fees (All fees in Canadian Dollars)

City	Single Trip	Overage Fees (per 30 min)	Travel Time
New York	\$3.96	\$3.96	30 minutes
Toronto	\$3.25	\$4.00	30 minutes

City	Day pass	Overage Fee (per 30 min)	Travel Time
New York	\$15.84	\$10.56	30 minutes
Toronto	\$7.00	\$4.00	30 minutes

City	Annual Pass	Overage Fee (per 30 min)	Travel Time
New York	\$223	\$6.60	45 minutes
Toronto	\$99.00	\$4.00	30 minutes

Table 6 displays the fees associated with bike sharing programs in North America and the UK, their travel time allowances, and the number of stations in the program.

Table 6: Fee Structure and Size of Major Bike Sharing Networks

City	Travel Limit (m)	Cost of Annual Pass (CAD\$)	Overage Fee (CAD\$)	Number of stations	System size (km2)
Toronto	30	99	4 per 30 minutes	465	100
New York City	45	223	3.30 per 15 minutes	833	128
London, England	30	143	3.20 per 30 minutes	780	113
Chicago	45	131	3.97 per 30 minutes	611	237
Vancouver	30	129	3 per 30 minutes	200	32

The TPA has been committed to expanding the size and service area of the Bike Share system. Over the past four years the system has grown by over 450%, however the travel times of members has remained consistent. The TPA has been monitoring travel patterns associated with the phases of expansion and will continue to do so in 2020 when the system reaches a size of 600 stations and 6,000 bicycles.

Changes to membership fees are not recommended at this time. Bike Share Toronto is concerned that there may be further confusion and mixed messaging as the system is designed to be simple and user-friendly.

Should the distribution of ridership duration change, TPA will reassess the impact of an additional membership offering. In addition, it is expected that such a change will promote increased travel time and may negatively impact revenue, increase operating costs through increased balancing activity and decrease bicycle predictability.

CONTACT

Robin Oliphant, Acting President, Toronto Parking Authority, (416) 393-7282,
Robin.Oliphant@toronto.ca,

SIGNATURE

 Robin Oliphant, Acting President
 Toronto Parking Authority

ATTACHMENTS

Attachment 1: Graph of Bike Share Ridership Growth at Stations Adjacent to the Bloor Street Bike Lanes

Attachment 2: Graph of Bike Share Ridership Growth at Stations Adjacent to the Richmond/Adelaide Cycle Tracks

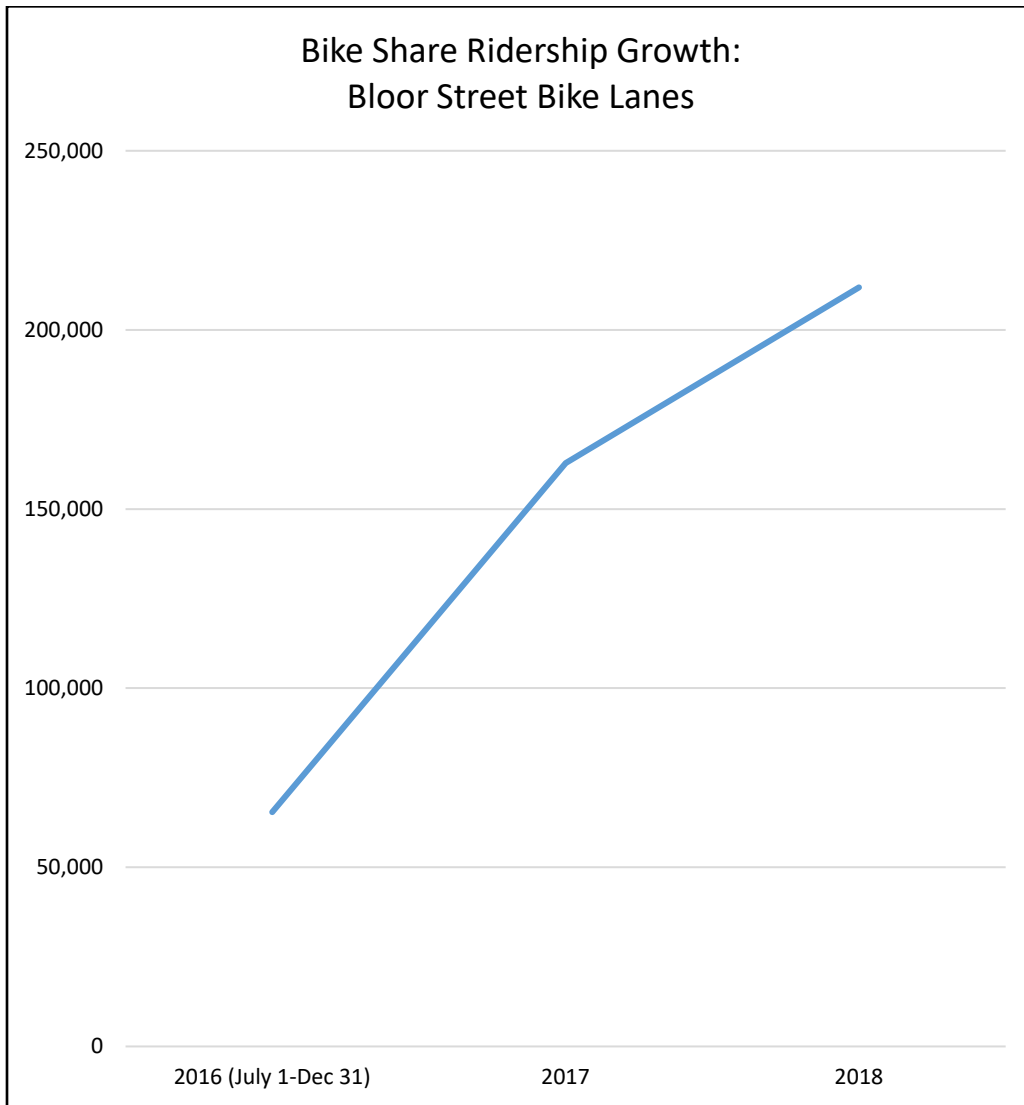
Attachment 3: Map of the Bike Share Stations Located Within 300 meters of the Richmond/Adelaide Cycle Tracks

Attachment 4: Map of the Bike Share Stations Located Within 300meters of Bloor Street and Count of Annual and Casual Member Trips with a Duration of over 30 Minutes

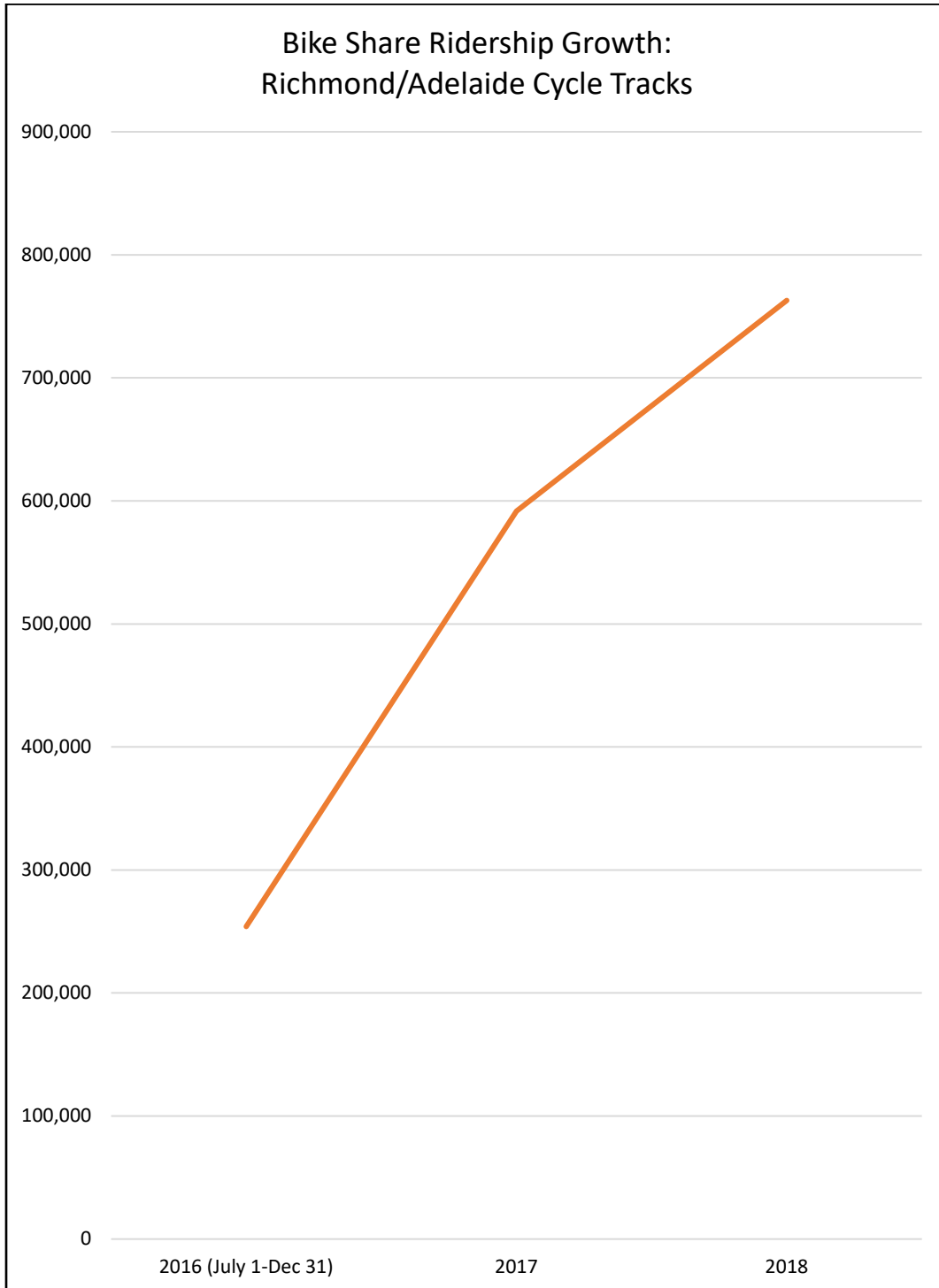
Attachment 5: Count of All Annual and Casual Member Trips from January-July 31 2019 by their Duration

Attachment 6: Count of All Casual Member Trips from January-July 31 2019 by their Duration

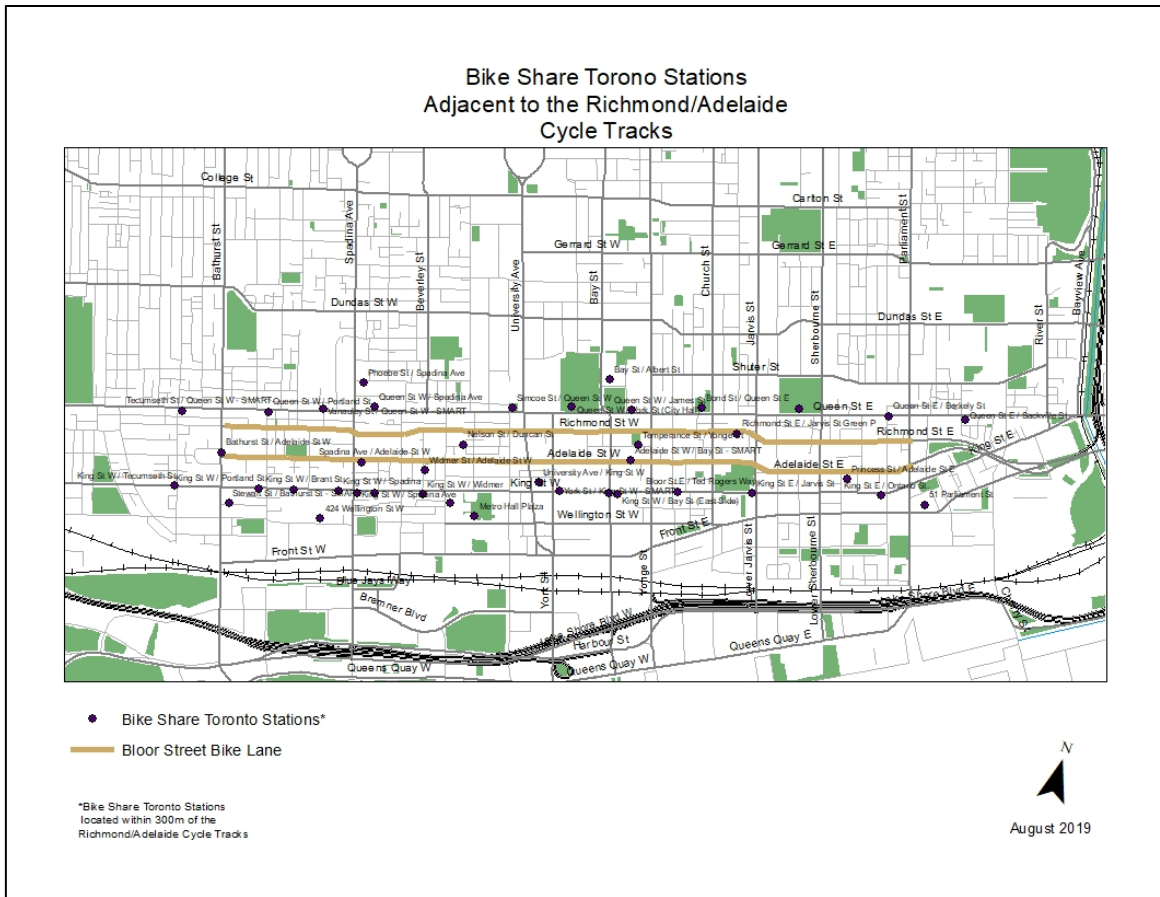
ATTACHMENT 1: GRAPH OF BIKE SHARE RIDERSHIP GROWTH AT STATIONS ADJACENT TO THE BLOOR STREET BIKE LANES



ATTACHMENT 2: GRAPH OF BIKE SHARE RIDERSHIP GROWTH AT STATIONS ADJACENT TO THE RICHMOND/ADELAIDE CYCLE TRACKS



ATTACHMENT 3: MAP OF THE BIKE SHARE STATIONS LOCATED WITHIN 300 METERS OF THE RICHMOND/ADELAIDE CYCLE TRACKS



ATTACHMENT 4: MAP OF THE BIKE SHARE STATIONS LOCATED WITHIN 300 METERS OF BLOOR STREET AND COUNT OF ANNUAL AND CASUAL MEMBER TRIPS WITH A DURATION OF 30+ MINUTES

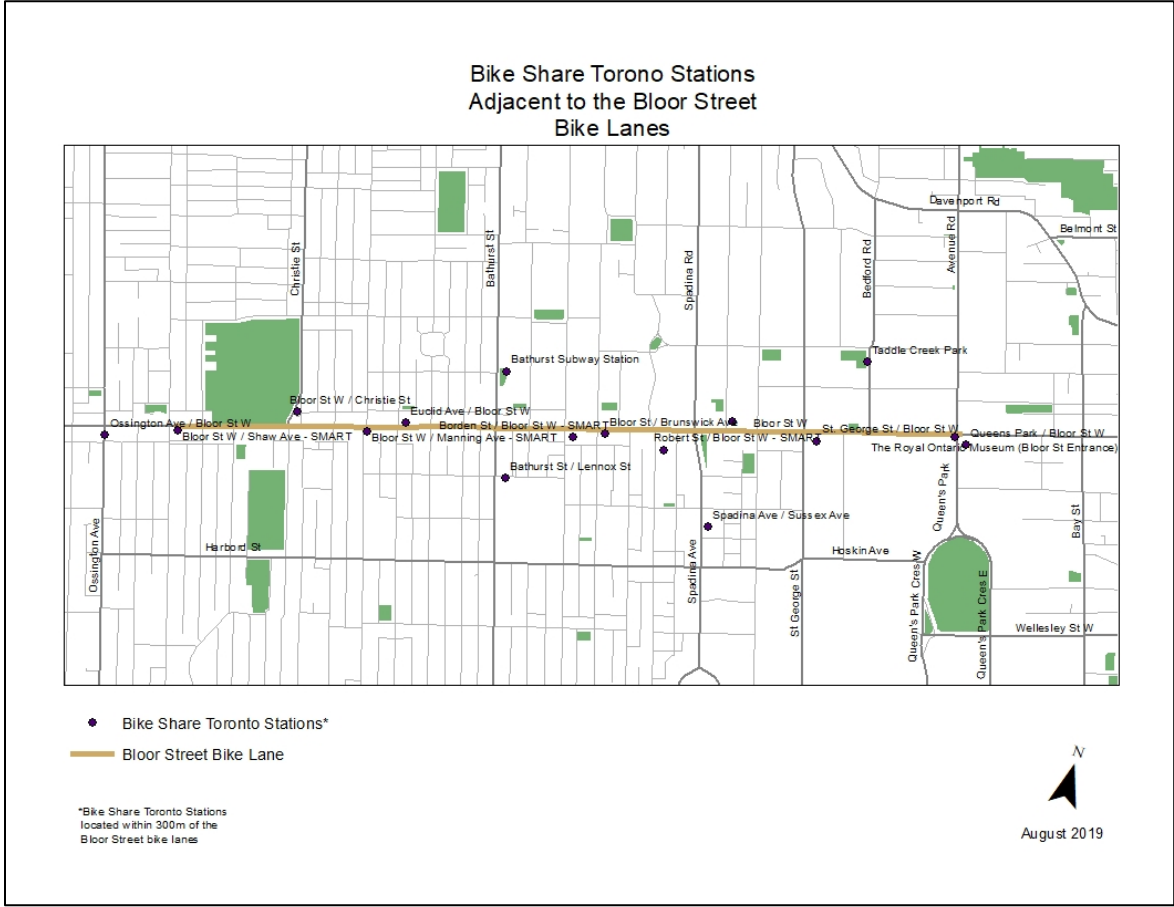
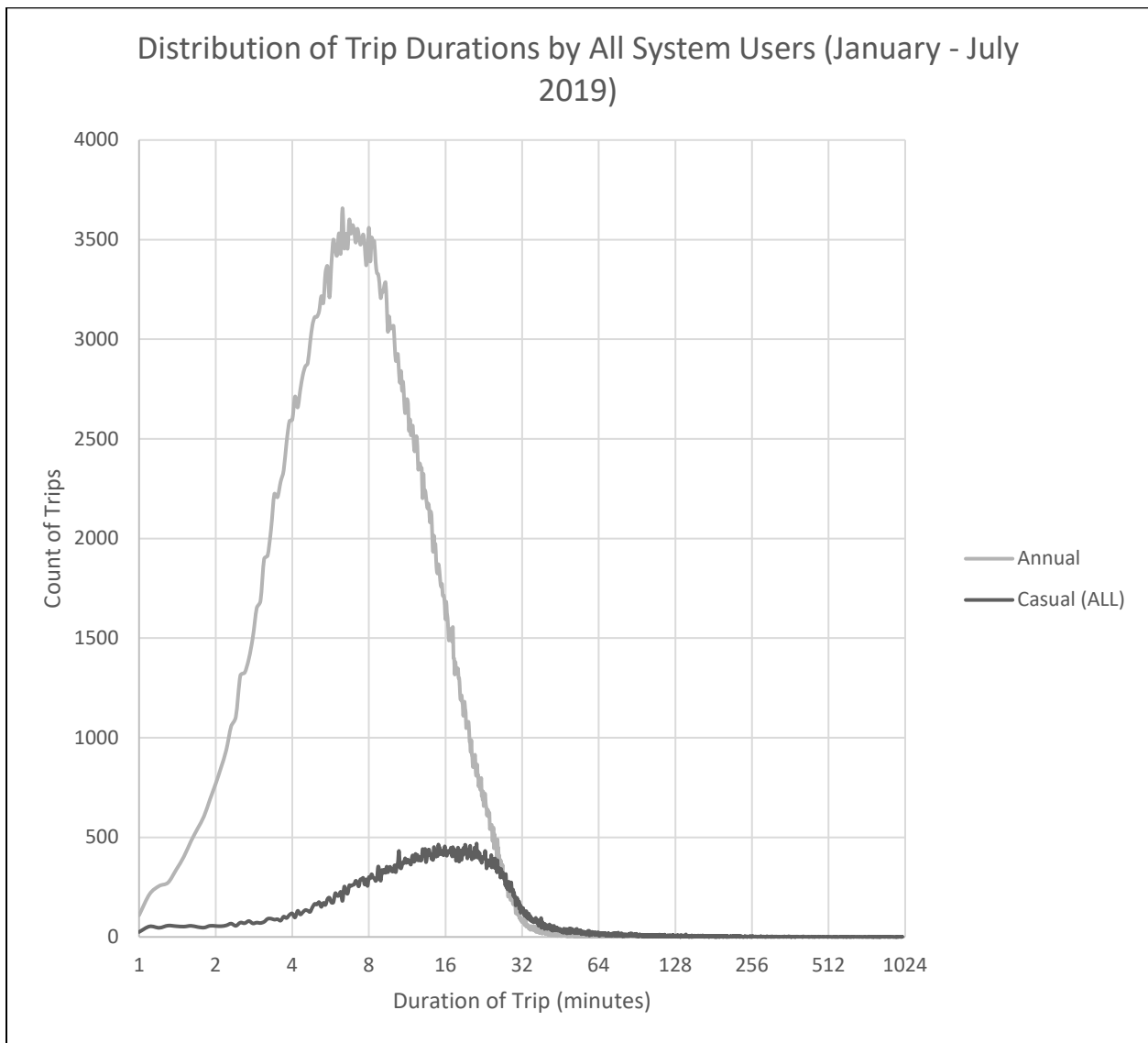


Chart 1: Count of Annual and Casual Member Trips with a Duration of 30+ Minutes

TRIPS 30 MINUTES AND OVER (JAN-JULY 2019)	Annual	Casual	Combined
Total trips	929430	120076	1049506
Count of trips 30+ minutes	14509	24975	39484
Percentage of 30+ minute trips	1.56%	20.7%	3.76%

ATTACHMENT 5: COUNT OF ALL ANNUAL AND CASUAL MEMBER TRIPS FROM JANUARY - JULY 31 2019 BY THEIR DURATION



ATTACHMENT 6: COUNT OF ALL CASUAL MEMBER TRIPS FROM JANUARY - JULY 31 2019 BY THEIR DURATION

