

# Agenda Including Addeds

## Civic Works Committee

12th Meeting of the Civic Works Committee

August 12, 2019, 12:00 PM

Council Chambers

### Members

Councillors P. Squire (Chair), M. van Holst, S. Lewis, S. Lehman, E. Pelozza, Mayor E. Holder

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The Committee will recess at approximately 6:30 PM for dinner, as required.

	Pages
<b>1. Disclosures of Pecuniary Interest</b>	
<b>2. Consent</b>	
2.1 7th Report of the Transportation Advisory Committee	3
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2.3 Amendments to the Traffic and Parking and Unauthorized Area By-Laws	19
2.4 Contract Award (RFP 19-02) - Recycling Collection (City-wide) and Garbage and Yard Waste Collection in a Portion of London	25
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a. <i>(ADDED) C. Butler - Bike Share System Feedback</i>	144
2.6 Upper Thames River Conservation Authority and City of London Flood Protection Projects	145
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2.8 Victoria Bridge Replacement - Geotechnical & Hydrogeological Engineering - Appointment of Consulting Engineer	156
2.9 Contract Price Increase - T18-16 Infrastructure Renewal Project - Contract 15, Main Street	161
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<b>3. Scheduled Items</b>	
3.1 Item Not to be Heard Before 12:10 PM - Delegation - K. Paleczny and S. Rooth, General Manager and Commission Chair - LTC 2018 Annual Report	168
<b>4. Items for Direction</b>	

**5. Deferred Matters/Additional Business**

5.1 Deferred Matters List

197

**6. Confidential**

6.1 *(ADDED) Solicitor-Client Privilege*

A matter pertaining to advice that is subject to solicitor-client privilege, including communications necessary for that purpose, as it relates to the appropriate ownership of the Pine Valley Condominium sewer.

**7. Adjournment**

# Transportation Advisory Committee

## Report

The 7th Meeting of the Transportation Advisory Committee  
July 23, 2019  
Committee Room #4

Attendance                   PRESENT:   D. Foster (Chair), A. Abiola, D. Doroshenko, Z. Gorski, T. Kerr, T. Khan, P. Moore, M. Rice and S. Wraight and J. Bunn (Committee Secretary)

ABSENT:     G. Bikas, B. Gibson, M.D. Ross and J. Zhu

ALSO PRESENT:  G. Dales, T. Hitchon, P. Kavcic, D. MacRae, M. Metcalfe and A. Miller

The meeting was called to order at 12:15 PM.

### 1.    **Call to Order**

#### 1.1   Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

### 2.    **Scheduled Items**

#### 2.1   Dundas Street Infrastructure Renewal

That it BE NOTED that the Memo, dated July 15, 2019, as well as a verbal delegation from T. Hitchon, Technologist II, with respect to the Dundas Street Infrastructure Renewal Project, was received.

### 3.    **Consent**

#### 3.1   6th Report of the Transportation Advisory Committee

That it BE NOTED that the 6th Report of the Transportation Advisory Committee, from its meeting held on June 25, 2019, was received.

#### 3.2   Municipal Council Resolution - 2020 Annual New Sidewalk Program

That it BE NOTED that the Municipal Council resolution, from its meeting held on June 25, 2019, with respect to the 2020 Annual New Sidewalk Program, was received.

#### 3.3   Municipal Council Resolution - 5th Report of the Transportation Advisory Committee

That it BE NOTED that the Municipal Council resolution, from its meeting held on June 25, 2019, with respect to the 5th Report of the Transportation Advisory Committee, was received.

#### 3.4   Notice of Study Completion - Clark Road Improvements Municipal Class Environmental Assessment - Veterans Memorial Parkway Extension to Fanshawe Park Road East

That it BE NOTED that the Notice of Study Completion, dated July 18, 2019, from P. Kavcic, City of London and I. Bartlett, Stantec Consulting Ltd., with respect to the Clarke Road Improvements Municipal Class

Environmental Assessment for the Veterans Memorial Parkway Extension to Fanshawe Park Road East, was received.

**4. Sub-Committees and Working Groups**

None.

**5. Items for Discussion**

None.

**6. Adjournment**

The meeting adjourned at 1:07 PM.



<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>AMENDMENTS TO THE TRAFFIC AND PARKING BY-LAW</b>

<b>RECOMMENDATION</b>
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That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the proposed by-law, attached as Appendix 'A' **BE INTRODUCED** at the Municipal Council meeting to be held on August 27<sup>th</sup> 2019, for the purpose of amending the Traffic and Parking By-law (PS-113).

<b>2019-23 STRATEGIC PLAN</b>
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The following report supports the Strategic Plan through the strategic focus area of **Building a Sustainable City** by improving safety, traffic operations and residential parking needs in London's neighbourhoods.

<b>BACKGROUND</b>
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The Traffic and Parking By-law (PS-113) requires amendments (Appendix 'A') to address traffic safety, operations and parking concerns. The following amendments are proposed:

**1. No Stopping**

Broughdale Area

On the last Saturday of September, there is expected to be an unsanctioned street party in the Broughdale area that results in large volumes of attendees and their vehicles filling the streets and impeding first responders. To address this safety issue, it is recommended that 'no stopping anytime' zones on the both sides of the following streets be implemented in advance of the unsanctioned street party:

- Audrey Avenue;
- Broughdale Avenue west of Richmond Street;
- Huron Street between The Parkway and Richmond Street;
- Regent Street between The Parkway and Richmond Street;
- St. George Street between Regent Street and Huron Street;
- Sunset Street between Huron Street and Western University Entry; and,
- Talbot Street between Regent Street and Huron Street.

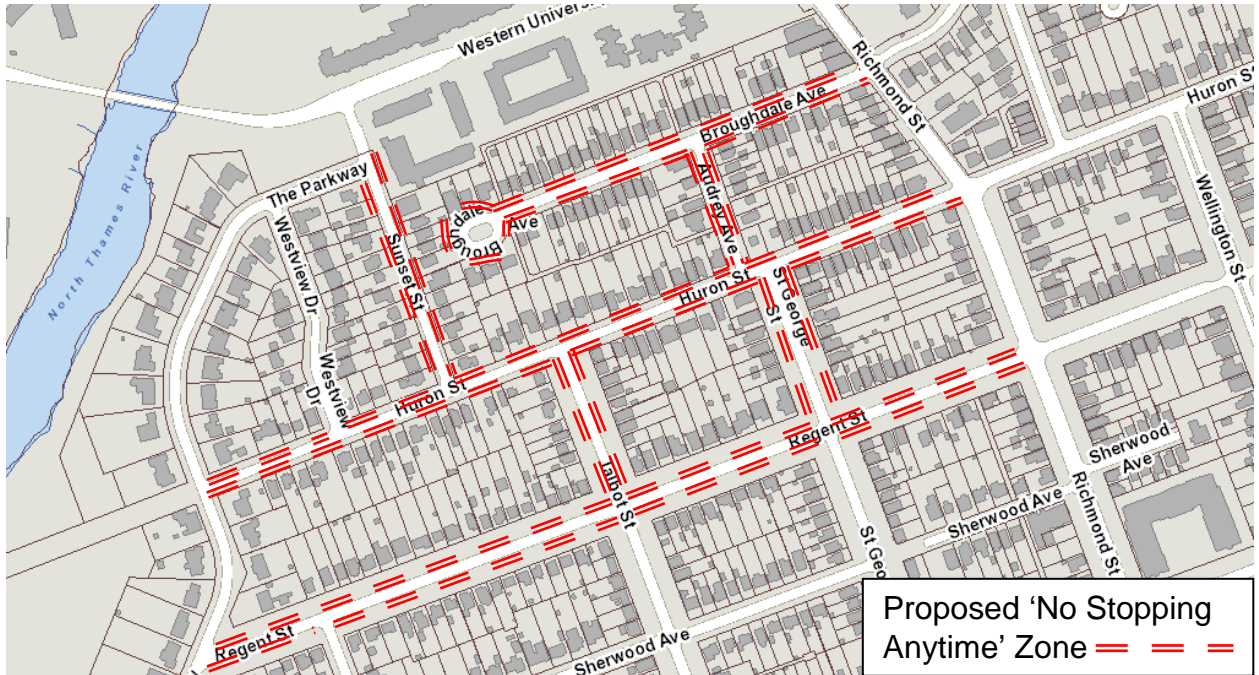


Figure 1: Broughdale Area

Any vehicles parked in these areas will be issued a parking fine and will be towed to a temporary impound yard for vehicle retrieval. There will be no cost associated with the vehicle retrieval process. Property owners/occupants will be notified of these temporary parking regulations for the purposes of public safety.

Springbank Drive

Staff have received a request to consider extending the existing 'No Stopping Anytime' zone on the south side of Springbank Drive at municipal number 460 due to delivery vehicles stopping in the 'No Parking Anytime' zone, rather than using the property for deliveries. Concerns have been raised that stopped delivery trucks are blocking the view of the pedestrian crossing just east of the property access, as well as blocking the view of exiting vehicles from the west access of the large commercial property. The current 'No Stopping Anytime' zone is from Trowbridge Avenue to 25 m west of Trowbridge Avenue. It is proposed to extend this to 95 m west of Trowbridge Avenue.

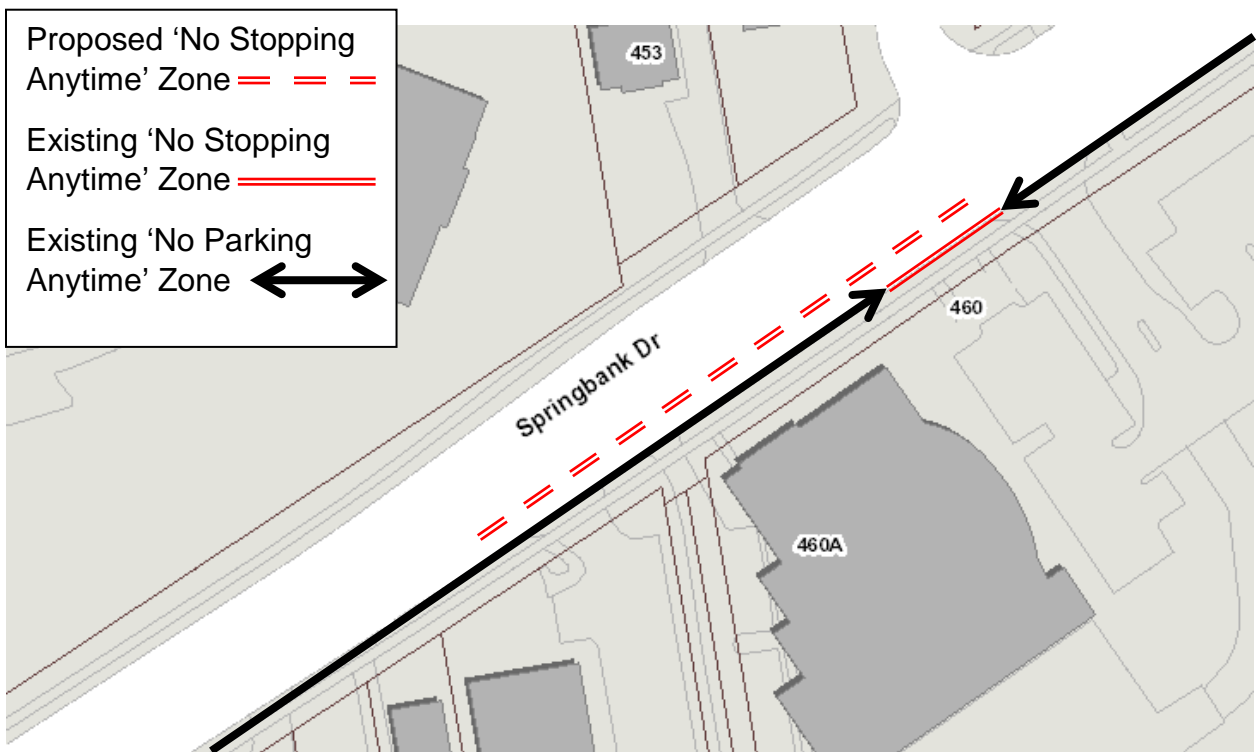


Figure 2: Springbank Drive

Amendments are required to Schedule 1 (No Stopping) to address the above changes.

## 2. Limited Parking

At the request of local businesses, a mail-back survey was sent to the property owners on Hamilton Road from East Street to Sanders Street, where the majority of the respondents supported amending an existing '1 Hour Parking 8:00 a.m. to 6:00 p.m.' zone to a '1 Hour Parking 8:00 a.m. to 9:00 p.m.' zone.

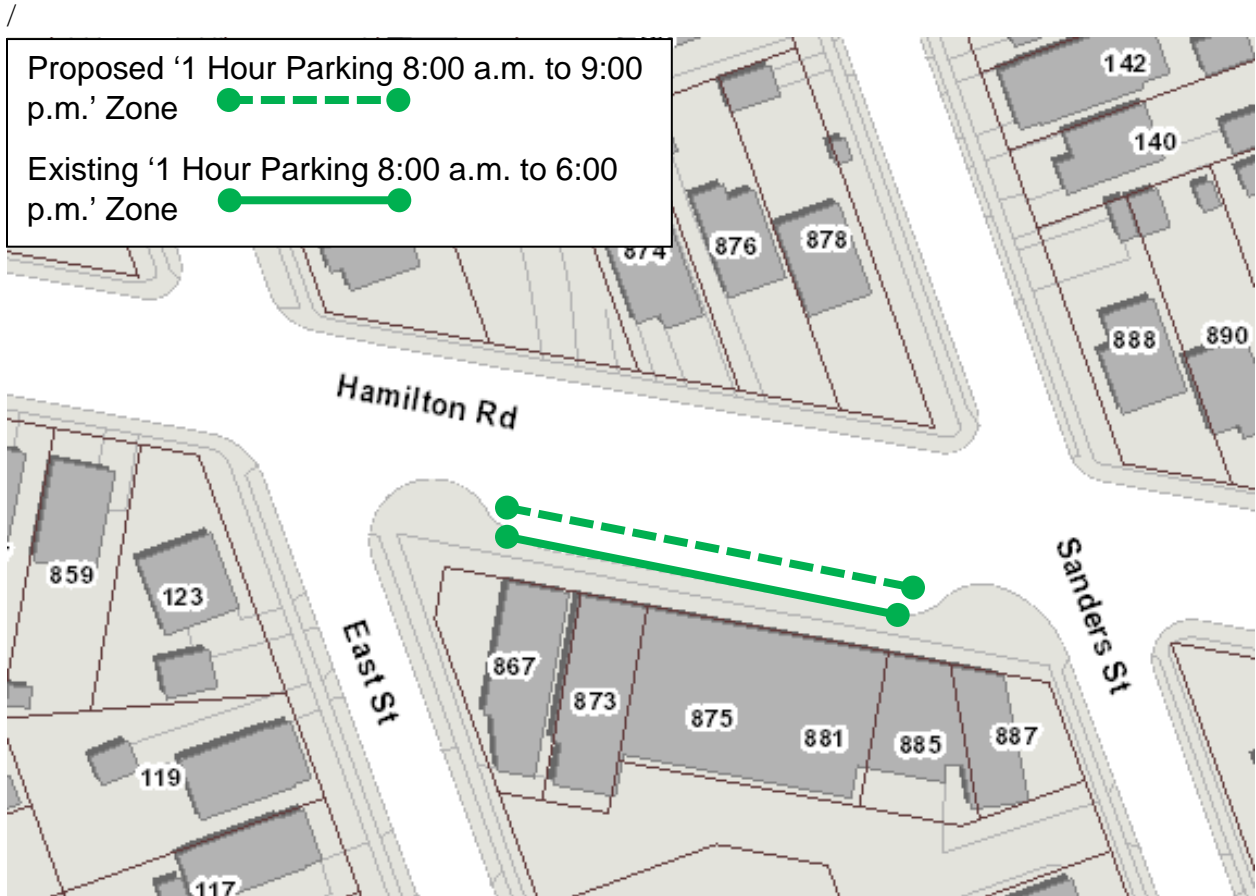


Figure 3: Hamilton Road

An amendment is required to Schedule 6 (Limited Parking) to address the above change.

### 3. Regulatory Signs

#### Highland Green Subdivision

All road accesses within Highland Green Subdivision are open to traffic. It is recommended that 'stop signs' and 'yield signs' be installed at the following location:

- Carnegie Lane at Edwin Drive; and
- Edwin Drive at Carnegie Lane.

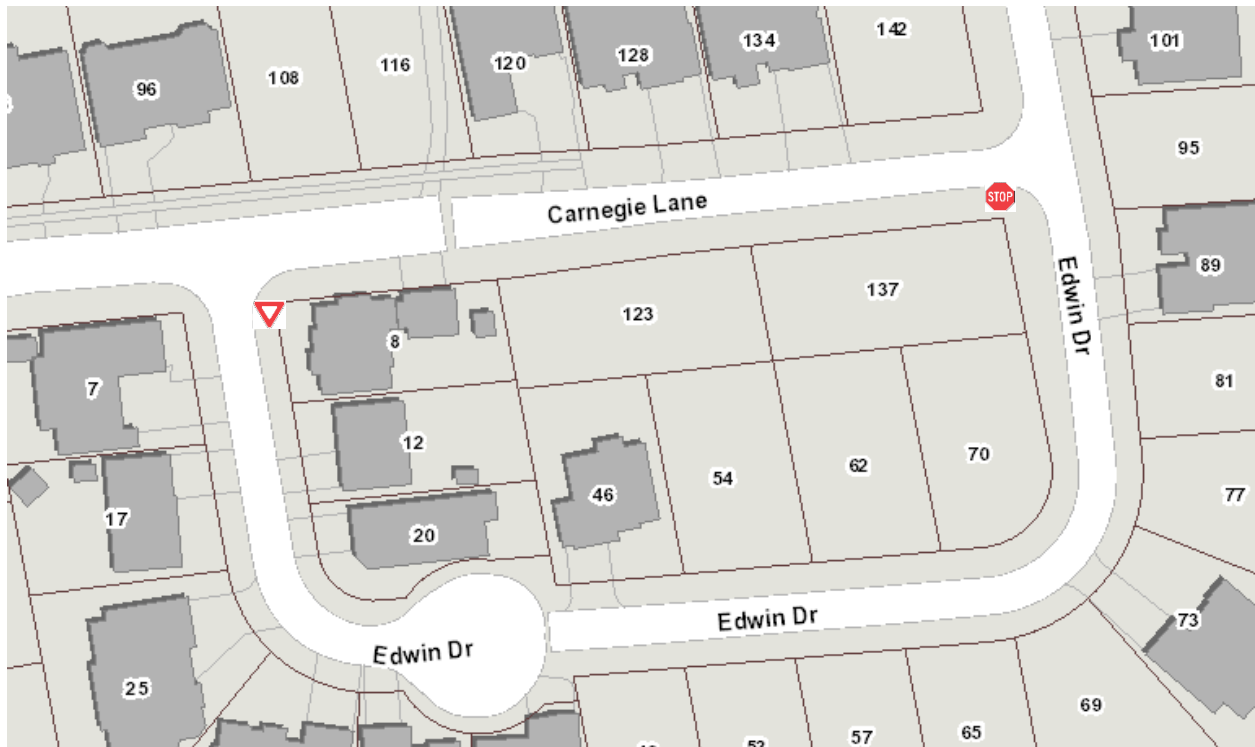


Figure 4: Highland Green Subdivision

#### Foxwood Crossing Subdivision

All road accesses within Foxwood Crossing Subdivision are open to traffic. It is recommended that 'stop signs' be installed at the following locations:

- Bakerville Street at Savoy Street;
- Bakerville Street at Westpoint Heights;
- Debra Drive at Bakerville Street;
- Debra Drive at Red Thorne Avenue;
- Red Thorne Avenue at Bakerville Street (west intersection);
- Red Thorne Avenue at Bakerville Street (east intersection);
- Westpoint Heights at Red Thorne Avenue;
- Westpoint Heights at Savoy Street;
- Westwick Walk at Beattie Street;
- Westwick Walk at Savoy Street; and
- Westwick Walk at Westpoint Heights.

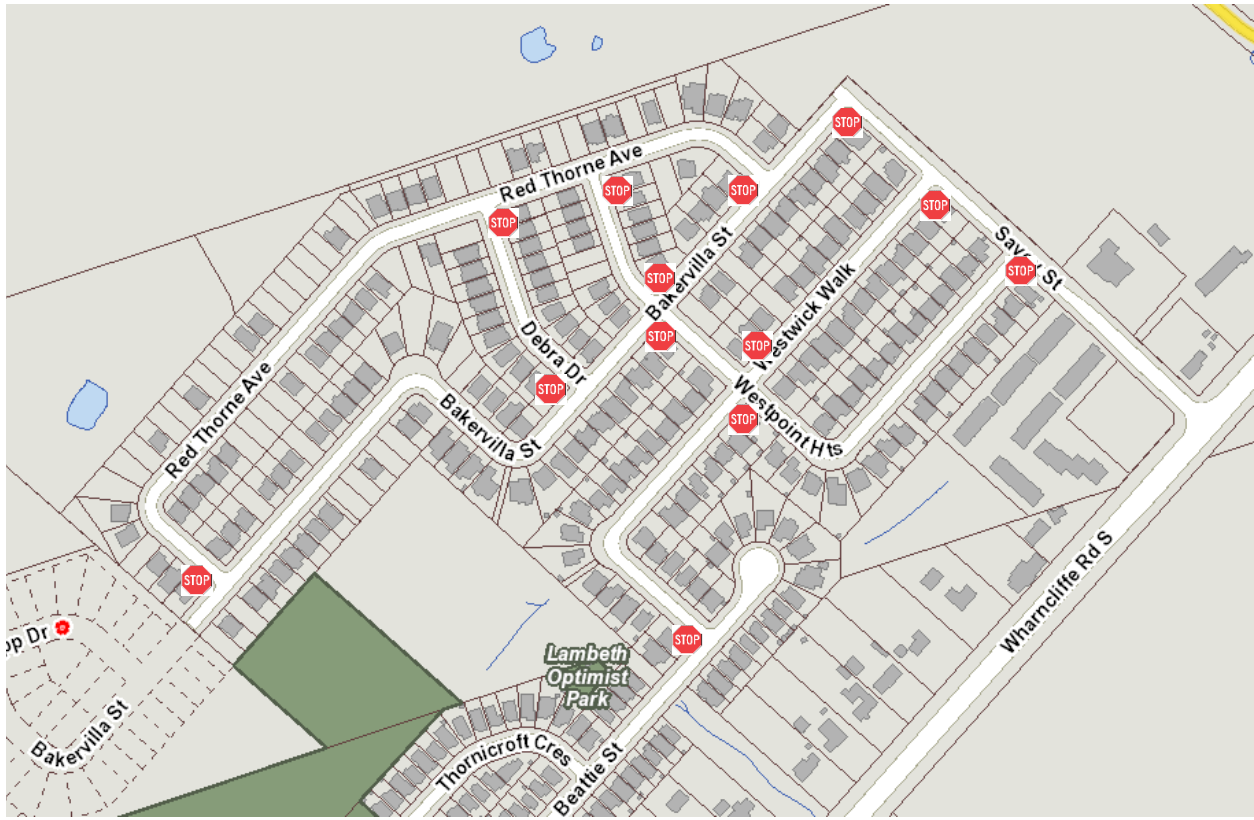


Figure 5: Foxwood Crossing Subdivision

St. James Street at Talbot Street

A high-density apartment building is in the approval process for No. 112 and No. 124 St. James Street for a high-density apartment building. Currently, traffic on St. James and Talbot Street flow freely with only the traffic exiting the park to the west being required to stop. It is recommended to implement an ‘all-way stop’ for the intersection of St. James Street and Talbot Street to address the change in traffic patterns. The signs will be implemented when the fourth leg of the intersection is implemented.

Uplands Subdivision

Due to operational and safety concerns, it is recommended to replace the existing ‘yield signs’ with ‘stop signs’ at the following locations:

- Berkley Crescent at Uplands Drive; and
- Redford Road at Uplands Drive (east and west intersections).





Figure 6: Uplands Subdivision

Warbler Woods West Subdivision

All road accesses within Warbler Woods West Subdivision are open to traffic. It is recommended that 'stop signs' be installed at the following locations:

- Sumac Way at Riverbend Road; and
- Sumac Way at Warbler Woods Walk.



Figure 7: Warbler Woods West Subdivision

## Wickerson Heights Subdivision

Due to operational and safety concerns, it is recommended to replace the existing 'yield signs' with 'stop signs' at the following locations:

- Brayford Crescent at Ironwood Road (north and south intersections);
- Dogwood Crescent at Ironwood Road (east and north intersections);
- Lilac Avenue at Ironwood Road (east and north intersections);
- Lilac Gate at Wickerson Road;
- Tyson Walk at Brayford Crescent; and
- Wickerson Gate at Brayford Crescent.

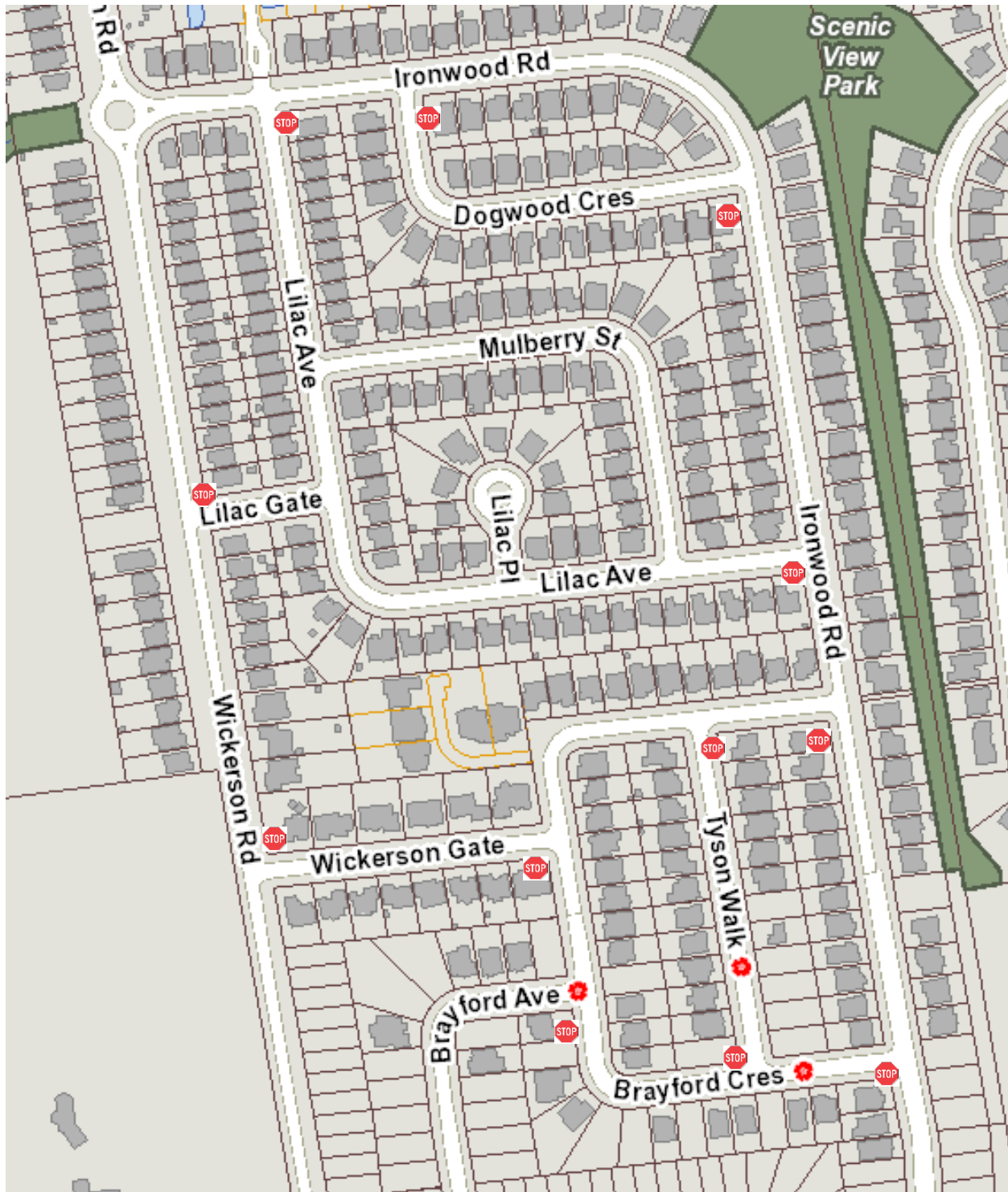


Figure 8: Wickerson Heights Subdivision

Amendments are required to Schedule 10 (Stop Signs) and Schedule 11 (Yield Signs) to address the above changes.

#### 4. Speed Limits

##### Wharnccliffe Road

Due to a significant increase in development, it is recommended to reduce the posted speed on Wharnccliffe Road South between Bradley Avenue and Legendary Drive from 80 km/h to 60km/h. This will also match the 60 km/h posted speed on Wharnccliffe Road South north of Legendary Drive.

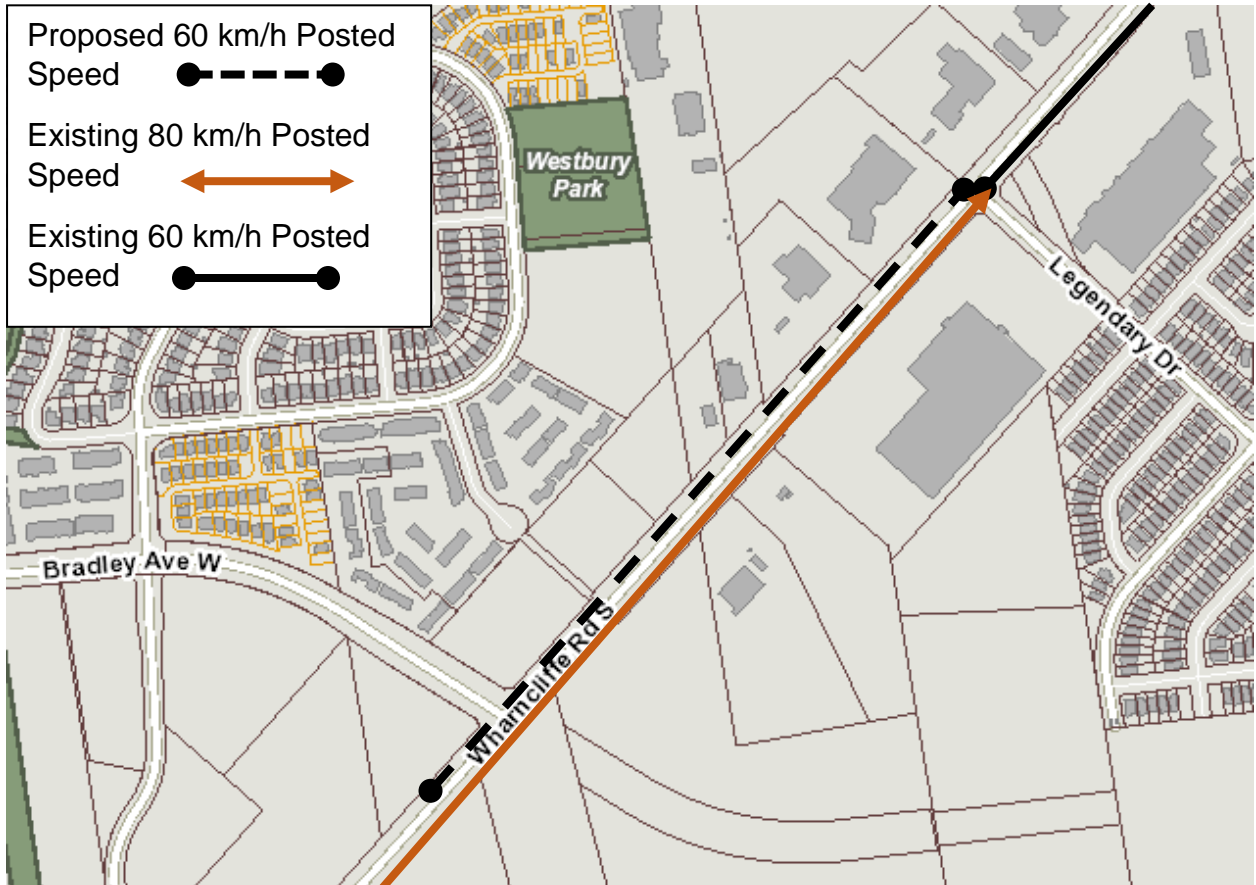


Figure 9: Wharnccliffe Road South

Amendments are required to Schedule 17 (Higher Speed Limits) to address the above changes.

#### 5. Designated Parking

##### Pacific Court

Staff received a request from a local business to convert an existing parking stall on the south side of Pacific Court to a 'designated parking space'.

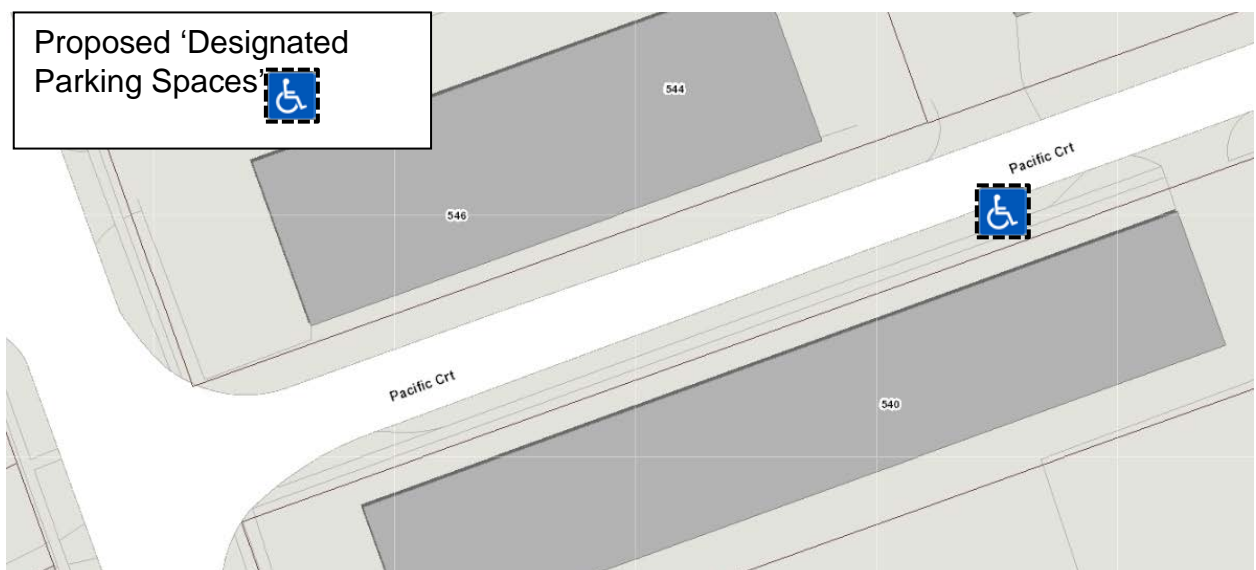


Figure 10: Pacific Court



An amendment to Schedule 27 (Designated Parking Spaces) is required to address the above change.

<b>PREPARED BY:</b>	<b>REVIEWED AND CONCURRED BY:</b>
<b>SHANE MAGUIRE, P. ENG. DIVISION MANAGER, ROADWAY LIGHTING AND TRAFFIC CONTROL</b>	<b>DOUG MACRAE, P.ENG., MPA DIRECTOR, ROADS AND TRANSPORTATION</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>	

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August 2, 2019/db

Attach: Appendix 'A': Proposed Traffic and Parking By-Law Amendments

cc. City Solicitor's Office  
Parking Office

APPENDIX A

BY-LAW TO AMEND THE TRAFFIC AND PARKING BY-LAW (PS-113)

Bill No.

By-law No. PS-113

A by-law to amend By-law PS-113 entitled, "A by-law to regulate traffic and the parking of motor vehicles in the City of London."

WHEREAS subsection 10(2) paragraph 7. Of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, provides that a municipality may pass by-laws to provide any service or thing that the municipality considers necessary or desirable to the public;

AND WHEREAS subsection 5(3) of the *Municipal Act, 2001*, as amended, provides that a municipal power shall be exercised by by-law;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. **No Stopping**

Schedule 1 (No Stopping) of the PS-113 By-law is hereby amended by **deleting** the following row:

Springbank Drive	South	Trowbridge Avenue	A point 25 m west of said street	Anytime
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Schedule 1 (No Stopping) of the PS-113 By-law is hereby amended by **adding** the following row:

Audrey Avenue	Both	Huron Street	Broughdale Avenue	Anytime from 12:01 a.m. of the last Saturday in September to 11:59 p.m. of the last Saturday in September
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Broughdale Avenue	Both	West limit of Broughdale Avenue	Richmond Street	Anytime from 12:01 a.m. of the last Saturday in September to 11:59 p.m. of the last Saturday in September
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Huron Street	Both	The Parkway	Richmond Street	Anytime from 12:01 a.m. of the last Saturday in September to 11:59 p.m. of the last Saturday in September
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Regent Street	Both	The Parkway	Richmond Street	Anytime from 12:01 a.m. of the last Saturday in September to 11:59 p.m. of the last Saturday in September
Springbank Drive	South	A point 455 m east of Berkshire Drive	A point 550 m east of Berkshire Drive	Anytime
St. George Street	Both	Regent Street	Huron Street	Anytime from 12:01 a.m. of the last Saturday in September to 11:59 p.m. of the last Saturday in September
Sunset Street	Both	Huron Street	The Parkway	Anytime from 12:01 a.m. of the last Saturday in September to 11:59 p.m. of the last Saturday in September
Talbot Street	Both	Regent Street	Huron Street	Anytime from 12:01 a.m. of the last Saturday in September to 11:59 p.m. of the last Saturday in September

## 2. **Limited Parking**

Schedule 6 (Limited Parking) of the By-law PS-113 is hereby amended by **deleting** the following row:

Hamilton Road	South	East Street to Sanders Street	8:00 a.m. to 6:00 p.m.	1 Hour
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Schedule 6 (Limited Parking) of the By-law PS-113 is hereby amended by **adding** the following row:

Hamilton Road	South	East Street to Sanders Street	8:00 a.m. to 9:00 p.m.	1 Hour
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### 3. Stop Signs

Schedule 10 (Stop Signs) of the PS-113 By-law is hereby amended by **adding** the following rows:

Eastbound	Bakerville Street	Savoy Street
Eastbound	Bakerville Street	Westpoint Heights
Westbound	Bakerville Street	Westpoint Heights
Eastbound	Berkley Crescent	Uplands Drive
Eastbound	Brayford Avenue	Brayford Crescent
Eastbound	Brayford Crescent (north & south intersections)	Ironwood Road
Eastbound	Carnegie Lane	Edwin Drive (east intersection)
Northbound	Debra Drive	Red Thorne Avenue
Southbound	Debra Drive	Bakerville Street
Eastbound & Northbound	Dogwood Crescent	Ironwood Road
Eastbound & Northbound	Lilac Avenue	Ironwood Road
Westbound	Lilac Gate	Wickerson Road
Southbound	Red Thorne Avenue (east & west intersection)	Bakerville Street
Northbound	Redford Road (east & west intersections)	Uplands Drive
Southbound	Redford Road (west intersection)	Uplands Drive
Eastbound & Westbound	St. James Street	Talbot Street
Eastbound	Sumac Way	Warbler Woods Walk
Westbound	Sumac Way	Riverbend Road
Northbound	Talbot Street	St. James Street
Northbound & Southbound	Tyson Walk	Brayford Crescent
Northbound	Westpoint Heights	Red Thorne Avenue
Eastbound	Westpoint Heights	Savoy Street
Southbound	Westwick Walk	Beattie Street
Eastbound	Westwick Walk	Savoy Street

Eastbound & Westbound	Westwick Walk	Westpoint Heights
Eastbound	Wickerson Gate	Brayford Crescent

#### 4. Yield Signs

Schedule 11 (Yield Signs) of the PS-113 By-law is hereby amended by **deleting** the following rows:

Eastbound	Berkley Crescent	Uplands Drive
Eastbound	Brayford Crescent	Ironwood Road
Northbound & Eastbound	Dogwood Crescent	Ironwood Road
Northbound & Eastbound	Lilac Avenue	Ironwood Road
Westbound	Lilac Gate	Wickerson Road
Westbound	Redford Road (east intersection)	Uplands Drive
Northbound	Tyson Walk	Brayford Crescent
Westbound	Uplands Drive	Redford Road

Schedule 11 (Yield Signs) of the PS-113 By-law is hereby amended by **adding** the following rows:

Northbound	Edwin Drive	Carnegie Lane (west intersection)
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#### 5. Higher Speed Limits

Schedule 17 (Higher Speed Limit) of the PS-113 By-law is hereby amended by **deleting** the following rows:

Wharncliffe Road S	A point 50 m north of Highview Avenue E	A point 600 m south of said street	60 km/h
Wharncliffe Road S	A point 600 m south of Southdale Road W	A point 605 m south of Campbell Street	80 km/h

Schedule 17 (Higher Speed Limit) of the PS-113 By-law is hereby amended by **adding** the following rows:

Wharncliffe Road S	A point 50 m south of Bradley Avenue W	A point 50 m north of Highview Avenue E	60 km/h
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Wharncliffe Road S	A point 605 m north of Campbell Street	A point 50 m south of Bradley Avenue W	80 km/h
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#### **6. Designated Parking Spaces**

Schedule 27 (Designated Parking Spaces) of the PS-113 By-law is hereby amended by **adding** the following rows:

Pacific Court	South	A point 120 m east of Clarke Road to a point 128 m east of Clarke Road
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This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on August 27, 2019

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – August 27, 2019  
Second Reading – August 27, 2019  
Third Reading – August 27, 2019

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>AMENDMENTS TO THE TRAFFIC AND PARKING AND UNAUTHORIZED AREA PARKING BY-LAWS</b>

**RECOMMENDATION**

That, on the recommendation of Managing Director, Environmental & Engineering Services and City Engineer, the attached proposed by-laws (Appendix ‘A’ and ‘B’) **BE INTRODUCED** at the Municipal Council meeting to be held on August 27, 2019, for the purposes of amending the Traffic and Parking By-law (PS-113) and the Unauthorized Area Parking By-law (S-3) with regards to the introduction of the Administrative Monetary Penalty System.

**PREVIOUS REPORTS PERTINENT TO THIS MATTER**

- Community Protective Services Committee - January 23, 2018 - [Administrative Monetary Penalties](#)
- Community Protective Services Committee - December 10, 2018 - [Administrative Monetary Penalties](#)
- Community Protective Services Committee – June 17, 2019 - Administrative Monetary Penalty By-law.

**COUNCIL’S 2019-2023 STRATEGIC PLAN**

The following report supports the Strategic Plan through the strategic focus area of **Building a Sustainable City** by improving safety, traffic operations and residential parking needs in London’s neighbourhoods.

**BACKGROUND**

On June 25<sup>th</sup>, 2019 Municipal Council approved the transition of parking related infractions from the Provincial Offences Act to the Administrative Monetary Penalties process effective November 1, 2019. In order to accommodate this, changes to the wording of the Traffic and Parking By-law (PS-113) and the Unauthorized Area Parking By-law (S-3) are recommended.

<b>PREPARED BY:</b>	<b>REVIEWED AND CONCURRED BY:</b>
<b>SHANE MAGUIRE, P. ENG. DIVISION MANAGER, ROADWAY LIGHTING AND TRAFFIC CONTROL</b>	<b>DOUG MACRAE, P.ENG., MPA DIRECTOR, ROADS AND TRANSPORTATION</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>	

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August 2, 2019/sm

Attach: Appendix A: By-law to amend the Traffic and Parking By-law (PS-113)  
Appendix B: By-law to amend the Unauthorized Area Parking By-law (S-3)

cc. City Solicitor's Office  
Parking Office



## APPENDIX A

### BY-LAW TO AMEND THE TRAFFIC AND PARKING BY-LAW (PS-113)

Bill No.

By-law No. PS-113

A by-law to amend By-law PS-113 entitled, "A by-law to regulate traffic and the parking of motor vehicles in the City of London."

WHEREAS subsection 10(2) paragraph 7. Of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, provides that a municipality may pass by-laws to provide any service or thing that the municipality considers necessary or desirable to the public;

AND WHEREAS subsection 5(3) of the *Municipal Act, 2001*, as amended, provides that a municipal power shall be exercised by by-law;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

#### 1. General Penalty

PS-113 By-law is hereby amended by **deleting** Section 80 in its entirety and by **inserting** the following:

- 80           (1) Except where otherwise expressly provided by this by-law or the Highway Traffic Act, every person who
- (a) contravenes any provision of this by-law is guilty of an offence and upon conviction is liable to an administrative monetary penalty as per Schedule A of the Administrative Monetary Penalty System By-law;
  - (b) penalty notices indicating a contravention of the by-law shall be issued in accordance with the Administrative Monetary Penalty System By-law;
  - (c) a motor vehicle owner who is served with a penalty notice under this by-law may request a review of the matter in accordance with the Administrative Monetary Penalty System By-law.

This by-law comes into force and effect on November 1, 2019.

PASSED in Open Council on August 27, 2019

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – August 27, 2019

Second Reading – August 27, 2019

Third Reading – August 27, 2019

## APPENDIX B

### BY-LAW TO AMEND THE UNAUTHORIZED AREA PARKING BY-LAW (S-3)

Bill No.

By-law No. S-3

A by-law to amend By-law S-3 entitled, "A By-law to provide Front Yard, Side Yard and Boulevard Parking within the City of London."

WHEREAS subsection 10(2) paragraph 7. Of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, provides that a municipality may pass by-laws to provide any service or thing that the municipality considers necessary or desirable to the public;

AND WHEREAS subsection 5(3) of the *Municipal Act, 2001*, as amended, provides that a municipal power shall be exercised by by-law;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

#### 1. Fine – for contravention

S-3 By-law is hereby amended by **deleting** Section 4.1 in its entirety and by **inserting** the following:

4.1 Any person who

- (a) contravenes any provision of this by-law is guilty of an offence and upon conviction is liable to an administrative monetary penalty as per Schedule A of the Administrative Monetary Penalty System By-law;
- (b) penalty notices indicating a contravention of the by-law shall be issued in accordance with the Administrative Monetary Penalty System By-law.

This by-law comes into force and effect on November 1, 2019.

PASSED in Open Council on August 27, 2019

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – August 27, 2019

Second Reading – August 27, 2019

Third Reading – August 27, 2019

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>AWARD OF CONTRACT (REQUEST FOR PROPOSALS 19-02) – RECYCLING COLLECTION (CITY-WIDE) AND GARBAGE AND YARD WASTE COLLECTION IN A PORTION OF LONDON</b>

<b>RECOMMENDATION</b>
-----------------------

That, on the recommendation of the Managing Director, Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN**:

- a) The proposal submitted by Miller Waste Systems Inc., 8050 Woodbine Avenue Markham, ON, L3R 2N8 for the provision of curbside, multi-residential and EnviroDepot Blue Box recycling collection services for the annual value of \$7,009,156 (based on parameters provided in the Request for Proposals - RFP document), **BE ACCEPTED**, noting the following:
  - i. the actual total annual fee for service is based on Unit Rates, multiplied by the actual units collected (households, multi-residential units, stops, carts, depots) per year,
  - ii. the proposed Unit Rates will be adjusted annually for inflation by the Consumer Price Index as outlined in the RFP document, and
  - iii. the term of contract will be four (4) years, beginning August 31, 2020, with four (4), one (1) year options at the sole discretion of the City.
  
- b) Civic Administration **BE DIRECTED** to finalize a recycling program for the downtown core that addresses the unique challenges of storing and collecting recyclables in congested areas,
  
- c) The proposal submitted by Miller Waste Systems Inc., for the provision of curbside recycling collection services in the downtown core for the annual value of \$31,096 (based on parameters provided in the RFP document), **BE ACCEPTED**, noting the following:
  - i. the actual total annual fee for service is based on Unit Rates, multiplied by the actual units collected per year,
  - ii. the proposed Unit Rates will be adjusted annually for inflation by the Consumer Price Index as outlined in the RFP document, and
  - iii. the term of contract will be four (4) years, beginning August 31, 2020, with four (4), one (1) year options at the sole discretion of the City.
  
- d) The proposal submitted by Miller Waste Systems Inc. for the provision of curbside garbage and yard waste collection services in the south-west portion of the city, including Lambeth, Riverbend and Settlement Trail for the annual value of \$385,728 (based on parameters provided in the RFP document), **BE ACCEPTED**, noting the following:
  - i. the actual total annual fee for service is based on Unit Rates, multiplied by the actual units collected (households) per year,
  - ii. the proposed Unit Rates will be adjusted annually for inflation by the Consumer Price Index as outlined in the RFP document, and
  - iii. the term of contract will be four (4) years, beginning August 31, 2020, with four (4), one (1) year options at the sole discretion of the City.
  
- e) The additional unit rates, service fees and/or one-time costs for the following items;

- i. changes to collection program frequency,
- ii. units rates to extend the Hefty® EnergyBag® project,
- iii. delivery service for recycling carts and Blue Boxes,
- iv. special event collections, and
- v. early termination of contract by Council as a result of Provincial Government regulatory changes dealing with *Resource Recovery and Circular Economy Act, 2016* and extended producer responsibility.

listed in the proposal submitted by Miller Waste Systems Inc., **BE ACCEPTED**;

- f) Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this purchase; and
- g) Approval hereby given **BE CONDITIONAL** upon the Corporation entering into a formal contract or having a purchase order, or contract record relating to the subject matter of this approval.

**PREVIOUS REPORTS PERTINENT TO THIS MATTER**

Relevant reports that can be found at [www.london.ca](http://www.london.ca) under City Hall (Meetings) include:

- Current and Proposed Actions for Reducing and Managing Plastics in the Residential Sector and the Role for the Hefty® EnergyBag® Pilot Project (July 23, 2019 meeting of the Civic Works Committee (CWC), Item #2.5)
- Additional Short-Term Contract Amendment for Recycling Services (May 14, 2019 meeting of CWC, Item #2.6)
- Short-Term Contract Amendment for Recycling Services (October 30, 2018 meeting of CWC, Item #2.9)
- 60% Waste Diversion Action Plan (July 17, 2018 meeting of the CWC, Item #3.1)
- Options for Increased Recycling in the Downtown Core (December 12, 2016 meeting of CWC, Item #2.6)
- Exercise Renewal Options Curbside Collection & Material Recovery Facility Operations Contracts – Miller Waste Systems (September 7, 2016 meeting of CWC, Item #2.5)
- Blue Box Recycling Collection and Processing Contracts (July 21, 2014 meeting of CWC, Item #2.15)
- Outcome of Request for Proposal 11-01, Residential Waste Management Collection Services (June 14, 2011 meeting of Community and Neighbourhoods Committee, Item #1.2)
- Recycling Collection Services (March 19, 2008 meeting of Board of Control, Item #1.17)

**COUNCIL’S 2019-2023 STRATEGIC PLAN**

Municipal Council has recognized the importance of solid waste management and climate change in its 2019-2023 - Strategic Plan for the City of London as follows:

**Building a Sustainable City**

London has a strong and healthy environment

- Increase waste reduction, diversion and resource recovery
- Increase community knowledge and action to support the environment

**Leading in Public Service**

Londoners experience exceptional and valued customer service

- Increase community and resident satisfaction of their service experience with the City

**BACKGROUND**

## **Purpose**

The purpose of this report is to seek approval from Committee and Council to award the Contract for Recycling Collection (City Wide), Garbage and Yard Waste Collection Services in a portion of London to Miller Waste Systems Inc, effective August 31, 2020.

## **Context**

### Contracted Solid Waste Collection Programs

The City provides for the collection, processing (Material Recovery Facility – MRF, large-scale composting) and/or disposal of residential garbage (including some business garbage), recyclables and yard waste. These services are provided by the City through contracted services, or directly by City staff.

In May 2019, a Request for Proposals (RFP) for the contracted collection services was released. The RFP also sought to obtain proposals for a new service to provide recycling collection services in the downtown core area.

Miller Waste Services is the City's current collection contractor, providing services under two contracts (effective December 2008 and November 2011). The contracts are for recycling collection for the entire City (excluding downtown), and waste (garbage) collection in Lambeth and surrounding area. Both contracts have had renewal options exercised, which will end August 30, 2020.

Recent short term contract amendments were approved by Council due to uncertainty of future provincial waste management legislation and regulations. Under the previous provincial government it appeared that legislative and regulatory changes were imminent, and undertaking a new RFP for recycling services was not recommended as entering into a new long term agreement without knowing potential impacts would add significant risk, uncertainty and costs to contractors and the City.

### Status of Recycling in Ontario, Recycling Markets and Prices Paid (Appendix A)

An update on the move to full extended producer responsibility (EPR) in Ontario and the status of recycling markets in Ontario and beyond is provided in Appendix A. This information is key as it highlights provincial direction, the path to move 100% financial responsibility for Blue Box recycling to industry stewards (from the current 45% to 50%) and how recycling markets and prices are struggling.

From an overall cost perspective, recycling costs in Ontario and across Canada (and North America) have increased significantly in the last two to three years due several factors including:

- increased capital costs for vehicles,
- increased maintenance costs,
- collection labour cost increases of up to 15% (to find and/or retain qualified drivers and mechanics, MRF operators),
- insurance cost increases (reported as high as 7 to 10 times more),
- increased capital costs for MRF recycling equipment,
- increased MRF labour costs,
- extra human resources and equipment required to meet stringent market conditions caused by global conditions and fewer and more competitive end markets,
- increased quantity of harder to process container materials due to the changing material mix and end market requirements,
- decreased quantity of easier to process paper products such as newspaper, magazines and office paper, and
- the exchange rate and tariff (volatility) with the United States for equipment.

The Continuous Improvement Fund (CIF) organization reports that recent recycling collection contracts and integrated contracts (recycling and processing together) in Ontario have typically seen cost increases of 15% to 40%. Media articles indicating up to a doubling of recycling costs in some areas of Ontario (e.g., Thunder Bay).

From a material marketing perspective, London's recyclables continue to reach end markets as residents generally follow the rules (Sort it Right) coupled with processing and quality control at the MRF to produce high quality and desirable materials (Appendix A). London has not faced the difficult situation that some municipalities in Canada have with respect to significant stockpiling of recyclable materials due to lack of end markets including landfilling some materials.

#### RFP 19-02: Recycling, Garbage and Yard Waste Collection Services

The work specified in the RFP 19-02 included three Parts (details found in Appendix B):

- Part A - Collect recyclables from residential curbside stops, multi-residential buildings, and EnviroDepots
- Part B - Collect recyclables from the downtown core areas
- Part C - Collect garbage and yard waste from residential curbside stops in Lambeth and a number of other neighbouring subdivisions and surrounding rural area

In addition to submitting pricing for existing collection services, proponents were asked for pricing in the event that program changes would occur during the term of the contract:

1. Potential collection schedule changes - The 60% Waste Diversion Action Plan, approved by Municipal Council (subject to funding), proposed that bi-weekly garbage collection be implemented in conjunction with the Green Bin program. This would mean a change in the current collection schedule (42 collections per year). To provide pricing in advance of a potential change of collection schedule, Proponents were required to submit pricing on different collection frequency schedules, including: weekly, bi-weekly (for garbage only), a five-day work week and a four-day work week.
2. Potential early termination of the contract - Proponents were required to provide the cost to the City in the event of an early termination of the contract. This was added to the RFP due to potential Ontario regulatory changes that would have an impact on Ontario Blue Box programs in the near future (beginning as early as 2022 – 2023). Requesting termination costs up-front will protect the City from unexpected costs as a result of a change in the provincial program. Additionally, the length of contract term is shorter than is typical for collection contracts, which provides the City another option to implement any program changes under a new provincial program. The Contract term is four years, with four additional, one year extensions at the sole discretion of the City (for a potential of eight years in total).

A price to collect bags should the Hefty® EnergyBag® Pilot Project be extended was also requested in the RFP along with other related recycling collection services.

## DISCUSSION

### **Purchasing Process**

An open to the public Request for Proposal (RFP 19-02 for Recycling Collection, Garbage & Yard Waste Collection) as per Section 12.0 of the Procurement of Goods and Services Policy of the City of London was issued May 6, 2019 and closed June 20, 2019. The RFP was previewed and downloaded by seven companies. Three companies attended the non-mandatory site meeting. These three companies submitted proposals and were deemed compliant by Purchasing and Supply:

- Green For Life (GFL) Environmental
- Miller Waste Systems Inc.
- Waste Management of Canada Corporation

An evaluation team included three members from Solid Waste Management, the Director, Environment, Fleet & Solid Waste and one member from Purchasing and Supply.



Proponents were required to submit a Technical Proposal and a separate Financial Proposal. A score of 80% was required on the Technical Proposal in order for the Financial Proposal to be considered. All Proponents met the minimum requirements for the Technical Proposal.

<b>Evaluation Criteria</b>	<b>Potential Points</b>
Technical Proposal	
Criteria 1: Project Team Experience & Capability	18
Criteria 2: Operational Details	36
Criteria 3: Proposal Quality	6
Technical Proposal – maximum potential score	60
Financial Proposal – maximum potential score	40
Total Points	100

### **Outcome of Evaluation**

Based on the evaluation criteria and process identified in the RFP, the evaluation team determined that the proposal from Miller Waste Systems to undertake all three services (Parts A, B and C of the RFP) achieved the highest score on both the Technical Proposal and Financial Proposal. In addition, Miller Waste Systems had the highest combined Technical and Financial score for each individual Part.

### **Overview of Miller’s Proposal**

#### Part A: Blue Box Recycling

Highlights of Miller’s proposal include:

- a change in the configuration of the curbside recycling collection vehicles,
- an increase in the number of employees collecting at the curb (compared to current),
- a decrease in the number of curbside recycling collection vehicles, and
- no changes to how recyclables are collected from multi-residential buildings.

Miller proposes to use split compartment rear load compacting vehicles to collect Blue Box recyclables at the curb instead of the current vehicles (non-compacting side load). These vehicles have several advantages for collecting recyclables including:

- will reduce the amount of cross contamination that occurs when materials are unloaded,
- will allow for the collection of cardboard at the curb even if the homeowner has not broken down the material properly, and
- will hold more material than non-compacting trucks. This will reduce the number of trips to the MRF and the greenhouse gases generated.

The recyclables will be loaded in the rear of the vehicle, similar to the vehicles that are used for garbage collection by City crews. A proactive education program will be undertaken to ensure residents do not think the recyclables they set to the curb are being landfilled. The education program will include various forms of outreach as well as messaging on the collection vehicles.

#### Part B: Downtown Recycling

Staff were directed by Council to look at options for providing recycling services to the downtown core. The City has received many requests for recycling in the downtown core. In addition, many municipalities in Ontario offer curbside recycling collection to the smaller downtown business and residential units contained in small buildings or on top of businesses.

Miller proposes to send several of the curbside collection vehicles to the downtown to collect recyclables at the start of the day and be finished before the busy morning traffic

period starts. This is consistent with how garbage collection occurs in the downtown areas.

The cost to provide this service was included in the 2020 to 2023 multi-year budget. Pricing from the RFP was marginally less than the budget estimate. It is recommended that the City introduce Blue Box recycling to the downtown core in September 2020.

**Part C: Lambeth and Area Garbage and Yard Waste Collection**

Miller is proposing no changes to how garbage and yard waste are collected from Lambeth and surrounding area.

**Financial Impact**

Collection Services

The annual cost of the collection programs is based on a cost per unit serviced. Units include curbside households, multi-residential units and downtown stops. The unit rate will be adjusted annually by inflation and the number of units collected increases as new residential units/stops are added to the program. The new rates will come into effect on August 31, 2020.

Tables 1 and 2 (next page) provide the estimated contract unit rates for recycling collection (city-wide) and garbage and yard waste in Lambeth and Area.

Table 1 shows recycling collection cost increases above inflation; however it is on the low end of the range of cost increases, as a percentage, being experienced by other municipalities in Ontario. Table 2 shows a cost increases for garbage collection but a drop in yard waste collection costs. The increase in costs for garbage collection is a reflection of the below market rates the City received in the previous collection contract.

**Table 1: Recycling Collection Unit Rates**

	2017	2018	2019(a)	2020(b)	2021(c)
Curbside Unit Rate	\$0.91	\$0.93	\$0.96	\$1.07	\$1.20
Rate per Year (based on 42 pickups)	\$38.22	\$39.06	\$40.32	\$44.94	\$50.40
% increase over previous year	not applicable	2%	3%	12%	12%
Multi-res Unit Rate	\$0.217	\$0.221	\$0.227	\$0.253	\$0.281
Rate per Year (based on 52 pickups)	\$11.28	\$11.49	\$11.80	\$13.16	\$14.61
% increase over previous year	not applicable	2%	3%	12%	11%

- Notes: (a) Unit rates based on 10 months of existing contract and 2 months of contract extension approved in 2018.  
 (b) Unit rates include 8 months of existing contract extension and 4 months of the new collection contract and assume 2% inflation adjustment over 2019.  
 (c) Unit rates are estimated for a full year on the new collection contract and assumes a 2% inflation adjustment over 2020.

**Table 2: Lambeth and Area Waste Collection Unit Rates**

	2017	2018	2019(a)	2020(b)	2021(c)
Garbage - Unit Rate	\$0.87	\$0.90	\$0.91	\$1.11	\$1.43
Rate per Year (based on 42 pickups)	\$36.54	\$37.80	\$39.90	\$46.62	\$60.06
% increase over previous year	not applicable	3%	2%	22%	28%
Yard - Unit Rate	\$1.25	\$1.29	\$1.31	\$1.36	\$1.31

Rate per Year (based on 9 pickups)	\$11.25	\$11.61	\$11.79	\$12.24	\$11.79
% increase over previous year	not applicable	3%	2%	4%	-4%

- Notes: (a) Unit rates based on 10 months of existing contract and 2 months of contract extension approved in 2018.  
(b) Unit rates include 8 months of existing contract extension and 4 months of the new collection contract and assume 2% inflation adjustment over 2019.  
(c) Unit rates are estimated for a full year on the new collection contract and assumes a 2% inflation adjustment over 2020.

Collection costs go up each year by the growth of the city (assumed to be 1.5% for projected years) and inflation for unit prices. Changes also occur when Council approves new contract terms and rates. Historical and projected recycling collection costs (curbside, multi-residential and EnviroDepots) are presented in Table 3.

**Table 3 Historical and Projected Recycling Collection Costs**

Year	2017	2018	2019	2020	2021
	Actual			Projected	
Projected cost based on RFP units				\$6,303,000	\$7,009,000
Projected cost including 1.5% growth & 2% inflation	\$5,276,000	\$5,524,000	\$5,841,000	\$6,577,000	\$7,472,000

It is important to note that approximately 45% to 50% of all recycling costs are paid for by industry. This will include the increase in recycling costs under the new collection contracts. This will help mitigate the cost of the increase to London residents in the long term but the City will have to bear the entire cost of the increase in the short term, as the City does not receive the funding in the year the costs are incurred. The increase in costs in 2021 (first full year of the contract) are submitted to the funding agency in 2022 and the funding is not received until 2023.

Similar to Table 3, historical and projected garbage and yard waste collection costs for Lambeth and area are presented in Table 4.

**Table 4: Historical and Projected Lambeth and Area Collection Costs**

Year	2017	2018	2019	2020	2021
	Actual			Projected	
Projected cost based on RFP units				\$323,000	\$386,000
Projected cost including 1.5% growth & 2% inflation	\$236,000	\$274,000	\$294,000	\$340,000	\$420,000

Understanding Total and Net Recycling Program Costs in London

Total recycling program costs include recycling collection, processing (sorting) recyclables (e.g., sorting and baling materials into feedstocks for further processing into new products), providing marketing services and amortization of MRF equipment.

Deducted from these three cost areas are material revenues and between 45% and 50% funding from industry (partial producer responsibility) paid through the Resource Productivity and Recovery Authority (RPRA). London’s historical (2014 to 2018) and estimated future Blue Box program costs (2019 to 2021) are identified on Table 5.

**Table 5: London’s Historical and Estimated Future Blue Box Program Costs**

	Actuals (in millions)					Estimated (in millions)		
	2014	2015	2016	2017	2018	2019	2020	2021
Gross Recycling Program Cost (a)	\$9.9	\$9.7	\$9.9	\$10.1	\$10.3	\$10.4	\$10.9	\$11.5
Material Revenues and RPRA Payment (b)	\$6.6	\$6.1	\$6.5	\$7.0	\$6.5	\$6.5	\$6.7	\$7.1
Net Recycling Program Cost	\$3.3	\$3.6	\$3.4	\$3.1	\$3.8	\$3.9	\$4.2	\$4.4
% increase over previous year	NA	9%	(6%)	(9%)	23%	3%	8%	5%
Cost Per Household (c)	\$19	\$20	\$19	\$17	\$21	\$21	\$22	\$23
Cost Per Tonne (d)	\$129	\$152	\$147	\$137	\$174	\$182	\$200	\$214

Notes:

- (a) Includes collection and processing costs and MRF amortization costs.
- (b) Material revenues are retained by the City. RPRA pays municipalities quarterly payments for industry's share. The amount does not reflect actual costs as there is a two year lag. Municipalities absorb the initial increase then recover about half of the costs two years later.
- (c) Assumes that the number of households (both single and multi-family) will increase by 1.5% for estimated years (2019 to 2021)
- (d) Assumes that the number of tonnes marketed will decrease by 2% for estimated years (i.e. light weighting of recyclable materials)

As outlined in Table 5 the estimated net cost of London's Blue Box recycling program for the projected years (i.e., 2019 to 2021) is increasing between 3% and 8% per year or approximately a \$1 per year on a cost per household basis. The net cost per household is similar to what was experienced between 2014 and 2018.

There are much larger increases in the cost per tonne, in both the previous year's actuals and the estimated years. This is a function of the changing nature of the materials collected in Blue Box programs. Changes to raw materials include less paper (e.g., less newsprint), more plastic, product and package lightweighting, concentrated products, bulk purchasing, etc. Although the weight of materials is going down, in most cases the volume is going up and is actually a more important indicator of recycling these days as it drives cost. This same trend has been observed across all Blue Box programs in Ontario.

The increase in collection costs noted above, along with all other costs and revenues for recycling, will be incorporated into the multi-year budget process.

<b>CONCLUSION</b>
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It is recommended that Miller Waste Systems be awarded the contract for RFP19-02 Recycling Collection, and Garbage and Yard Waste Collection, including collection of recyclables from the downtown core area, as their proposal submitted in response to RFP19-02, achieved the highest technical and financial score(s) on each individual packages of work and the combined packages of work.

<b>PREPARED BY:</b>	<b>PREPARED &amp; SUBMITTED BY</b>
<b>MICHAEL LOSEE, B.SC., DIVISION MANAGER, SOLID WASTE MANAGEMENT</b>	<b>JAY STANFORD, MA, MPA DIRECTOR, ENVIRONMENT, FLEET &amp; SOLID WASTE</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

Appendix A: Update on Full Extended Producer Responsibility (EPR) in Ontario and the Status of Recycling Markets in Ontario and Beyond

Appendix B: RFP 19-02: Scope of Work

c: John Freeman, Manager of Purchasing & Supply  
John Stevely, Procurement Officer

## Appendix A

### Update on Full Extended Producer Responsibility (EPR) in Ontario and the Status of Recycling Markets in Ontario and Beyond

#### Update on Moving Towards Full EPR

In June of this year, the Minister of Environment, Conservation and Parks appointed Mr. David Lindsay, as Special Advisor on Recycling and Plastic Waste and to facilitate a discussion on transitioning the Blue Box program to full producer responsibility. This appointment has been viewed positively by municipalities as it has restarted the transition process which had been stalled since before the last provincial election.

Under a full producer responsibility program, industry would pay the full cost of municipal Blue Box programs, instead of the approximate 50% that is currently paid by industry in the form of quarterly financial grants to municipalities. This also includes taking operational responsibility for recycling and making sure materials are recycled. Also included in this new program will be the onus on industry stewards to make packaging decisions that deliver better environmental outcomes.

The Special Advisor's work is to be guided by the following policy objectives (which are reflective of the interests municipalities have advocated for):

- Standardization across the province of what can be recycled in homes, workplaces and public;
- Improve diversion rates and increase what materials can be recycled;
- Reduce litter and waste in communities and parks;
- Improve Ontario's Blue Box program by requiring producers to pay for the recycling of the products they produce, through achieving producer responsibility; and,
- Maintain or improve frequency of Blue Box collection.

The Special Advisor's Report with recommendations was submitted on July 20, 2019. The Association of Municipalities of Ontario (AMO) has been assured that municipal governments will be very involved in the transition process but these details are not known yet.

The anticipated timeline for when municipalities can expect to transition to a system of full extended producer responsibility is currently expected by 2022 to 2024. It is not expected that all municipalities will transition at once but rather over a period of three years depending on a variety of factors including operational strategies of industry stewards.

#### Status of Recycling Markets in Ontario and Beyond

##### Focus – Newspaper and Other Paper Products

Over the past eighteen months to two years, the Chinese government introduced the National Sword and Blue Sky regulations to reduce the amount of contamination from imported recyclable materials. These restrictions resulted in North American municipalities and recycling companies facing challenges to find alternative markets for their recyclables, and in particular recovered paper.

The restrictions imposed by China are expected to remain in place for 2019 through 2021. Other countries (e.g., Malaysia, India, Taiwan, Vietnam, Thailand, Indonesia) have since imposed similar quality restrictions to prevent North American low-quality recyclables from entering their countries.

Due to a gradual closure of North American newsprint mills during the past number of years, there has been an increasing dependency on foreign newsprint mills to take North American recovered newsprint. In Ontario, paper mills in Whitby and Thorold,

which had previously provided a domestic market for all Ontario's newsprint, closed in 2010 and 2017.

A number of factors contributed to this changing landscape of newsprint recycling, including:

- increased newsprint production in Asia resulting in demand for recycled material,
- the low cost to ship recovered newsprint to China in returning otherwise empty sea containers that had shipped electronic and other merchandise to North America,
- a drastic decline in North American newsprint demand (from a peak of 14 million tonnes in 1988 to 4 million in 2015), and
- an increase of contamination levels in recovered recyclables resulting from recycling programs changing to single-stream recycling.

Initially the specifications in China had been more accepting of lower quality material containing higher levels of out-throws and contamination. North American mills were not willing or able to manage this same material quality. However, in more recent years, the Chinese became concerned that the amount of contamination in mixed paper and plastics was causing significant environmental challenges within their country, and imposed strict regulations (e.g., National Sword and Blue Sky) on the import of mixed paper grades in an effort to reduce the amount of contamination from other countries.

(Source: [https://thecif.ca/wp-content/uploads/2019/02/789-Ontario\\_Fibre\\_Capacity\\_Final\\_Report.pdf](https://thecif.ca/wp-content/uploads/2019/02/789-Ontario_Fibre_Capacity_Final_Report.pdf))

#### Focus – Plastics and Other Packaging

Plastics, various metals and glass also are having challenges in foreign and in some North American locations. The situation points to a need for developing substantially more recycling markets domestically, especially for selected grades of paper and plastic. Material quality and contamination concerns continue to be one of the driving factors on materials moving slowly (or not moving at all) in the marketplace.

Another key challenge is the need for new products to contain an increasing percentage of recycled content and for large procurement agencies to commit to buying these materials.

#### Focus – Prices for Recyclable Materials Continue to Drop

In Ontario, the Continuous Improvement Fund (CIF) for recycling publishes a monthly Markets Price Sheet that contains a blend of municipal spot market prices for Ontario-based municipalities. It details current (monthly) and historical price trends for post-consumer metals, glass, plastic and fibre. The June 2019 Price Sheet (two pages) is at the end of Appendix A.

Items to note include:

- As of June 2019, the average Blue Box of materials is worth about \$88 per tonne and has dropped steadily for 18 months. Most of this slide is associated with paper products (fibres).
- The average over six months in 2019 is \$103 per tonne which represents the second lowest amount since 2002 (when data was published). The lowest year was 2009 when material prices dropped to an average of \$80 per tonne.

#### Focus – Where do London's Recyclables Go?

The London MRF, designed to handle two stream materials (fibres and containers separately versus a single stream MRF), handles recyclables from the City of London, 9 municipalities, Western University and some businesses. The incoming quantities currently exceed 37,000 tonnes per year with about 33,000 tonnes heading to end markets.

At the MRF, over 96% (sometimes as high as 97% to 98%) of the recyclable materials (by weight) that are requested in the recycling program make it to end markets.

Based on incoming tonnage, about 7 to 9% by weight is "non-recyclables" that people in London think are recyclable or are placed in the Blue Box/ Blue Cart in error. During the processing of all materials another 2 to 3% might be created as process residuals (e.g., glass that breaks and is too small to recover, a milk carton that makes its way through the processing system and the level of effort to recover it cannot be justified, etc.).

Generally the total residual rate at the London MRF ranges between 7% and sometimes as high as 11% with a typical annual amount being about 9%. This residual rate is considered on the low side compared to other MRFs in Ontario and Canada. Two stream MRFs also typically have lower residual rates than single streams MRFs.

As noted above, end markets for recyclables have gone through many twists and turns in the last three years. Miller Waste Systems use of marketing networks continue to move London's two stream recyclable materials into established markets including some difficult to reach overseas markets. The reason is London's two stream materials, processed to meet specifications, are considered desirable from quality and consistency perspectives. Miller continues to work with the City and Try Recycling on some alternative uses for more difficult to recycle materials like container glass and coffee cups.

Currently London's materials are moving to end markets located in the following jurisdictions:

- Newspaper, each month the location adjusts, whenever possible end markets in China or India are used if higher prices can be obtained. For the first half of 2019, more newspaper has been shipped to United States paper mills with a large portion heading to India. Hopefully in the near future a small amount may be marketed in Ontario again depending on the availability of markets on a week to week basis.
- Other papers and/or hardpack - 100% stays in North America. Paper mills are generally located in Ontario, Quebec, and United States.
- Cardboard – generally stays in Ontario (Toronto) with some to various United States locations.
- Glass – Ontario (Guelph).
- Steel – Ontario (Toronto, Hamilton) where it is aggregated then sent to various United States locations.
- Polyethylene terephthalate (PET #1) - Ontario (Shelbourne, Toronto) & Quebec (Joliette).
- High density polyethylene (HDPE #2) – Ontario (Listowel) and United States (various locations).
- Mixed plastics – Ontario (Listowel).
- Aluminum – United States (various locations)
- Film Plastic – Ontario (Listowel)
- Polycoat - India



# Price Sheet – June 2019

Ontario Market Price Trends | CDN\$/Metric Tonne | Page 1

		MONTHLY AVERAGES (CDN\$/Metric Tonne)												# of Muni. (Monthly Change)	Price Range (CDN/Metric Tonne)					
Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	June 2018	July 2018	Aug 2018	Sept 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019			Mar 2019	Apr 2019	May 2019	June 2019	
Newspaper (ONP #8 / SRP #56) <sup>1</sup>	88	83	72	54	48	49	55	64	54	61	54	57	61	55	56	50	39	40	7 (-1)	17 - 78
Mixed Paper #54 / ONP#6 <sup>2</sup>	33	25	18	2	(2)	(3)	(13)	(11)	(8)	(7)	(6)	(0)	(9)	(12)	(8)	(1)	(9)	(16)	6 (0)	(50) - 11
Corrugated (OCC)	160	147	147	130	120	119	120	121	118	120	119	122	128	111	109	96	80	72	11 (-1)	63 - 80
Hardpack (OBB/OCC)	86	65	74	57	57	51	49	44	53	49	54	45	45	39	40	29	12	6	4 (-1)	2 - 10
Boxboard (OBB)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	3 (0)	na
Polycoat Containers	45	46	42	50	70	65	84	72	85	79	67	49	38	45	51	50	50	36	10 (3)	7 - 70
PET (mixed)	342	351	373	390	416	455	475	486	469	479	462	479	485	482	468	450	453	432	14 (0)	375 - 463
HDPE (mixed)	434	464	496	531	527	469	435	468	461	492	492	523	514	498	471	480	437	435	13 (-1)	400 - 466
Plastic Tubs & Lids	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2 (-1)	na
Mixed Plastics <sup>3</sup>	30	39	43	40	49	52	49	46	44	48	57	69	68	66	69	72	75	78	12 (-1)	0 - 170
Film Plastic	11	15	16	14	18	18	15	18	15	16	13	15	15	14	11	4	na	0	7 (4)	0 - 0
Aluminum Cans	1723	1756	1788	1828	1994	2044	1923	1847	1643	1526	1388	1339	1328	1350	1398	1428	1431	1396	14 (1)	1168 - 1565
Steel Cans	283	280	320	345	341	342	343	326	298	314	332	343	316	313	336	316	276	236	13 (-1)	206 - 263
Glass (mixed)	(53)	(56)	(49)	(42)	(35)	(36)	(35)	(39)	(41)	(26)	(39)	(38)	(40)	(40)	(43)	(43)	(41)	(43)	7 (-1)	(80) - (30)
<b>Composite Index</b>	<b>129</b>	<b>125</b>	<b>124</b>	<b>114</b>	<b>114</b>	<b>116</b>	<b>118</b>	<b>121</b>	<b>112</b>	<b>117</b>	<b>110</b>	<b>114</b>	<b>116</b>	<b>110</b>	<b>110</b>	<b>104</b>	<b>93</b>	<b>88</b>		
<b>Fibre Composite Index<sup>4</sup></b>	<b>103</b>	<b>95</b>	<b>87</b>	<b>70</b>	<b>64</b>	<b>64</b>	<b>68</b>	<b>74</b>	<b>67</b>	<b>72</b>	<b>67</b>	<b>70</b>	<b>72</b>	<b>63</b>	<b>64</b>	<b>57</b>	<b>44</b>	<b>42</b>		
<b>Container Composite Index<sup>5</sup></b>	<b>205</b>	<b>210</b>	<b>226</b>	<b>239</b>	<b>256</b>	<b>263</b>	<b>259</b>	<b>238</b>	<b>238</b>	<b>244</b>	<b>232</b>	<b>238</b>	<b>239</b>	<b>238</b>	<b>238</b>	<b>234</b>	<b>227</b>	<b>214</b>		

<b>YEARLY AVERAGES (CDN\$/Metric Tonne)</b>																		
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Newspaper (ONP #8 / SRP #56) <sup>1</sup>	100	99	114	101	89	118	121	72	90	126	76	71	69	72	103	111	62	50
Mixed Paper #54 / ONP#6 <sup>2</sup>														43	73	73	2	(9)
Corrugated (OCC)	106	89	114	95	80	131	111	68	149	173	133	131	131	127	152	221	128	99
Hardpack (OBB/OCC)	63	62	75	68	50	89	76	42	74	95	61	53	51	66	91	121	57	29
Boxboard (OBB)		43	62	53	41	70	62	26	61	84	62	46	48	50	50	na	na	na
Polycoat Containers	58	64	67	66	59	84	75	39	105	127	96	65	79	114	114	64	63	45
PET (mixed)	166	278	432	507	314	368	352	187	391	652	431	372	377	295	265	383	431	462
HDPE (mixed)	233	364	428	683	565	524	573	320	464	562	552	497	659	617	533	497	483	473
Plastic Tubs & Lids	0	12	51	104	128	146	204	22	54	247	265	na	na	na	na	na	na	na
Mixed Plastics <sup>3</sup>										48	32	38	46	58	61	32	47	71
Film Plastic	0	8	55	148	137	51	35	3	13	25	23	14	29	47	40	24	15	9
Aluminum Cans	1709	1619	1772	1763	2169	2065	1904	1215	1591	1790	1516	1523	1783	1548	1576	1772	1733	1389
Steel Cans	47	76	191	116	141	168	245	89	263	335	277	257	299	179	200	262	322	299
Glass (mixed)	(15)	(19)	(12)	(31)	(31)	(31)	(24)	(18)	(15)	(11)	(18)	(22)	(22)	(30)	(37)	(42)	(41)	(42)
<b>Composite Index</b>	113	114	131	124	111	145	150	80	124	169	118	107	117	105	129	154	118	103
<b>Fibre Composite Index<sup>4</sup></b>														77	109	132	75	57
<b>Container Composite Index<sup>5</sup></b>														188	184	217	239	232

Disclaimer: The CIF Price Sheet provides an estimate of the average commodity prices from a sample of municipalities located across Ontario. Please note the estimate in no way represents, reflects or captures all municipal conditions. You acknowledge that in using the CIF Price Sheet neither CIF, nor any of its agents, partners, affiliates, directors, employees, assigns and associates may be held liable, responsible or accountable for any type of damage, litigation or other legal action that may arise directly or indirectly from the reliance on the CIF Price Sheet.

## **RFP 19-02: Scope of Work**

An overview of the Scope of the Work to be completed is provided below. This Work has been divided into “Parts”. Proponents were able to submit a proposal on one or more of the Parts.

### **Part A – Curbside, Multi-residential Building, EnviroDepot Recycling Collection Services**

#### Curbside Collection:

Provide a Curbside Recycling Collection Service to 127,000 households. Currently collection is scheduled on a ‘different-day’ cycle (once every six business days). The City may move to a weekly collection cycle in the future for recycling and Green Bin; therefore prices for both current and possible future frequencies were requested. Proponent were required to submit pricing on three collection schedule options:

- Option 1) Collect on a different day schedule (42 pickups annually)
- Option 2) Collect on a weekly schedule (52 pickups annually, on 5 day schedule).
- Option 3) Collect on a weekly schedule (52 pickups annually, on 4 day schedule).

#### Multi-residential Building and EnviroDepot Recycling Collection

Provide a Multi-residential Recycling Collection Service. Collection of Recyclables from Multi-residential Buildings to include:

- a) Two-stream recyclables in 360 litre carts on a weekly schedule at 55,000 households in 870 buildings, and
- b) Fibre Materials (predominately old corrugated cardboard) in Front-end Loading Bins on a weekly schedule from 100 buildings.

Collection of Recyclables from EnviroDepots to include:

- a) Two-stream recyclables in 360 litre carts on a variable schedule from four EnviroDepots.

### **Part B – Downtown Area Recycling Collection Services**

Collect residential and business Recyclables from designated Downtown Area at 460 stops to include:

- a) Collection of two-stream recyclables in blue bags or blue boxes from the curbside, and
- b) Collection of cardboard (either bundled or stacked).

### **Part C – Lambeth and Area Garbage and Yard Waste Collection Services**

Provide a Curbside Garbage and Yard Waste Collection Service to 5,600 households. Garbage is currently collected on a ‘different-day’ cycle (once every six business days). The City may move garbage collection to weekly or bi-weekly in the future and therefore required prices for all collection frequencies.

- Option 1) Collect Garbage on a different-day schedule (42 pickups annually) and collect Yard Waste (9 pickups annually),

- Option 2) Collect Garbage on a weekly schedule (52 pickups annually, 5 day schedule), and collect Yard Waste (9 pickups annually),
- Option 3) Collect Garbage on a bi-weekly schedule (26 pickups annually, 5 day schedule) and collect yard waste (9 pickups annually).
- Option 4) Collect Garbage on a weekly schedule (52 pickups annually, 4 day schedule), and collect Yard Waste (9 pickups annually),
- Option 5) Collect Garbage on a bi-weekly schedule (26 pickups annually, 4 day schedule) and collect yard waste (9 pickups annually).

Part D – Includes all Work as described under Parts A and C.

To submit a proposal on Part D, Proponents must also submit separate proposals on Part A and Part C.

Part E – Includes all Work as described under Parts A, B and C.

To submit a proposal on Part E, Proponents must also submit separate proposals on Part A, Part B and Part C.

Part F – Alternative Proposal(s)

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>BIKE SHARE SYSTEM FOR LONDON: UPDATE AND NEXT STEPS</b>

<b>RECOMMENDATION</b>
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That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the potential introduction of bike share to London:

- a) The following report containing background details and preliminary analysis to develop a comprehensive business case for a bike share system in London **BE RECEIVED** for information;
- b) Civic Administration **BE AUTHORIZED** to implement a Request for Proposals (RFP) process to obtain pricing and a vendor that can implement a bike share system in London based on, but not limited to, the following key parameters (assuming 300 bikes are required):
  - i) all bikes, software and hardware to be provided by the vendor;
  - ii) all operating and maintenance costs to deliver the bike share system to be provided by the vendor;
  - iii) project duration for up to three years with two, one year options at the sole discretion of the City of London;
  - iv) operate in the service areas delineated by the City of London through a licensing agreement and a process to expand into other areas of London;
  - v) a one-time capital investment into bike sharing parking installations provided by the City of London (racks that are available to bike share users and other London cyclists);
  - vi) work with City staff to develop an equity program for low-income Londoners and an employer membership program;
  - vii) address the data and information security and risk management requirements to the satisfaction of the City; and
  - viii) allow an option whereby the vendor can propose an alternative program and costing arrangement.
- c) Civic Administration **BE DIRECTED** to finalize the bike share business case and prepare a draft implementation plan to implement a bike share system in London, including identifying potential partners, an operations plan, a marketing plan and financing strategies, and submit to Civic Works Committee by January 2020.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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Relevant reports that can be found at [www.london.ca](http://www.london.ca) under City Hall (Meetings) include:

- Ontario Municipal Greenhouse Gas (GHG) Challenge Fund Transfer Payment Agreement for the Bike Share System (March 19, 2018 meeting of the Civic Works Committee (CWC), Item # 5.3)

## COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of active transportation, cycling, overall mobility and climate change in its 2019-2023 - Strategic Plan for the City of London as follows:

### **Strengthening our Community**

Londoners have access to the supports they need to be successful and Londoners have access to the services and supports that promote well-being, health, and safety in their neighbourhood and across the city

- Improve the health and well-being of Londoners
- Promote pedestrian safety and active transportation

### **Building a Sustainable City**

London has a strong and healthy environment and Londoners can move around the city safely; London's growth and development is well planned and sustainable over the long term; and easily in a manner that meets their needs

- Advance sustainability and resiliency strategies
- Increase community knowledge and action to support the environment
- Increase access to transportation options

### **Growing our Economy**

London is a leader in Ontario for attracting new jobs and investments

- Increase partnerships that promote collaboration, innovation and investment

### **Leading in Public Service**

Londoners experience exceptional and valued customer service

- Increase community and resident satisfaction of their service experience with the City

## BACKGROUND

### **PURPOSE**

The purpose of this report is to:

- provide Committee and Council with background details and preliminary analysis on the development of a comprehensive business case for a bike share system, and
- provide Committee and Council with the details to recommend the approval to develop and undertake a Request for Proposals (RFP) process to obtain pricing and a vendor that can implement a bike share system in London. The outcome of the RFP would be used to complete the business case.

### **CONTEXT**

#### **What is Bike Share?**

Bike share is a transportation service where bicycles are available at a minimal cost for shared use to individuals on a short-term basis. These systems allow residents, students or tourists to borrow a bike from one location and return it to another location. The systems can handle both "pay-as-you-go" one-time users as well as regular users with typically discounted membership fees.

Many long-established bike share systems use "docks" that are special purpose-built bike racks for locking the system's bikes, and only release one by payment through a payment kiosk or by using a smart phone "app" for the bike share system. The user returns the bike by placing it in a dock, which locks the bike in place.

Other, newer bike share systems are “dockless”, where bikes have built-in payment technology and locks that are activated by smart phone apps. These dockless bikes do not have to be returned to specific locations, providing greater flexibility for bike users. However, many dockless bike share systems encourage their bikes to be picked up and returned to “havens”, or areas designated for the bikes, to help manage bike parking issues. These havens may be regular bike racks and/or an area painted on the ground.

Hybrid systems use a combination of dockless bike share technology and the rigorous designated bike parking areas used for docked bike share systems, some of which include the option to use payment kiosks instead of smart phone apps to rent the bike in high demand locations. These hybrid systems still allow users the choice to park bikes outside of a designated area, but extra fees are applied to the user for this privilege.

For all major bike share services, smartphone mapping apps show nearby available bikes and available parking.

It should be noted that the scope of this bike share business case does not include kick-style e-scooters, as they currently are illegal on Ontario roads under the Highway Traffic Act. However, any future changes in legislation to allow them will be monitored.

Bike share systems in Canadian communities the size of London or smaller are becoming more common. For example, Kitchener-Waterloo (340,000), Kingston (130,000), and Kelowna (130,000) have dockless bike share systems. Bike share systems are more common in larger Canadian communities such as Hamilton (500,000), Toronto (2.9 million), Ottawa (1 million), Montréal (1.8 million), Calgary (1.3 million) and Vancouver (2.4 million).

### **Why Examine a Bike Share System for London?**

In London, there is excellent potential to integrate a bike share system into the existing transportation system. A bike share system has been identified in two Council approved documents:

Cycling Master Plan (2016)

*Action #4 Exploring a Bike Share System. To identify a system “for rent”/“on-call” bicycles located at key destinations to provide residents and visitors with an opportunity to ride a bike to work, for fun or for fitness.*

The London Plan (2017)

*796\_ Our Downtown will be an exceptional neighbourhood unto itself - with housing, services, and amenities targeted to serve a wide spectrum of lifestyles such as families, seniors, and young adults. The shared economy will thrive in our core, including such features as shared office and work space, as well as shared car and bicycle fleets. Our Downtown will be the most highly connected location in the entire city, being the hub for rapid transit, rail, high speed rail, and the multi-use pathway along the Thames River. Downtown will offer the city’s premier pedestrian experience.*

*803\_10. Shared car and bicycle parking facilities and carshare/bikeshare programs will be encouraged within the Downtown.*

Bike share serves even more Londoners when viewed as compatible with LTC service. Sponsoring hard-to-reach industrial employment area havens could be an option for employers to facilitate their employees’ commute by bike as the bike share system expands.

### **Addressing the Need for Action on Climate Change**

On April 23, 2019, the following was approved by Municipal Council with respect to climate change:

*Therefore, a climate emergency be declared by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.*

A bike share program will help deepen London’s progress towards meeting its greenhouse gas emission (GHG) reduction targets through the promotion of cycling as a viable option for short trips as well as “first/last mile” trips for public transit.

### **Technical Consulting Assistance**

To develop the background details, preliminary analysis and technical assistance to develop a business case, City staff worked with the consulting team of IBI Group and Foursquare ITP to provide technical assistance. Members of the team are: Zibby Petch, P.Eng., IBI Group Hamilton; Vikram Hardatt, RPP, IBI Group Hamilton and Andrew Zalewski, AICP, Project Manager/Senior Transportation Planner, Foursquare ITP, Philadelphia.

## **DISCUSSION**

This section contains two parts with details provided in the appendix and a companion report:

- PART A      Business Case Development – Part One - Background Details and Preliminary Analysis (Appendix A and the companion report)
  
- PART B:      Preliminary Financial Information and Next Steps; Develop and Release a Request for Proposals (companions report)

### **PART A: Business Case Development – Part One - Background Details and Preliminary Analysis (Appendix A)**

#### **Background**

Developing the comprehensive bike share business case work includes:

- Developing a set of guiding principles
- Conducting a program review of bike share systems in select cities in North America
- Hosting two workshops to gather preliminary input from several City service areas and several key London stakeholders
- Reviewing bike share ownership models in use and their applicability to London
- Reviewing operating models and their applicability to London
- Investigating bike share system parking options
- Developing a market share and propensity analysis
- Determining the recommended bike share launch service area
- Seeking preliminary community feedback
- Identifying risk and insurance needs and potential challenges upfront
- Determining capital costs, operating costs, revenue sources, and other funding options.

The components listed below are discussed in Appendix A and presented in more detail in the companion report called Bike Share Preliminary Analysis - Part One include:

- Guiding Principles
- Programs Reviewed
- Bike Share Staff & Stakeholder Workshop Summary
- Market Share and Propensity Analysis
- Get Involved London Summary (preliminary feedback)
- Executive Summary
- Background Details and Preliminary Analysis



## PART B: Preliminary Financial Information and Next Steps; Develop and Release a Request for Proposals

### Preliminary Financial Information

The following tables highlight the preliminary financial information associated with the various bikes share service models. Table 1 provides a comparison of capital costs for the three common technology types. Docked-systems are increasingly uncommon in small and mid-size systems due to their cost and complexity. A dockless system can be easily adapted into a hybrid program by providing or expanding the station infrastructure. The implementation costs vary considerably for hybrid systems based on the design of stations.

Table 2 presents forecasted costs borne by the City under the three most likely operating scenarios: a City-owned bike share program, a fully privately owned and operated program, and a program that is privately operated but includes a public contribution in the form of station infrastructure. The table is based on information provided by the consulting team.

Table 1: Comparison of Capital Costs for Three Common Bike Share Technology Types for a 300 Bicycle System

	Dock-Based System	Fully Dockless	Hybrid System
Description	Bicycles locked to mechanical docks at designated stations. All stations include a payment kiosk and signage.	Bicycles do not need to be locked to a fixed object. No station infrastructure.	Dockless bicycles combined with simple stations. Stations may vary from a bicycle rack to location with a payment kiosk and signage.
300 Bicycles	\$ 380,000	\$ 670,000	\$ 670,000
60 Hubs/Stations	\$ 2,630,000	\$ 0	\$ 850,000(a)
<b>Total</b>	<b>\$ 3,010,000</b>	<b>\$ 670,000</b>	<b>\$ 1,520,000</b>
Pros	<ul style="list-style-type: none"> <li>Least prone to theft</li> <li>Alleviates concerns over improperly parked bicycles.</li> </ul>	<ul style="list-style-type: none"> <li>Low capital costs.</li> <li>Flexible operations – trips can start or end anywhere in a service area</li> </ul>	<ul style="list-style-type: none"> <li>Reduces likelihood of improperly parked bicycles due to use of stations.</li> <li>Combines pros of dockless and docked.</li> </ul>
Cons	<ul style="list-style-type: none"> <li>High capital costs.</li> <li>More complex to operate due to need to manage dock/bicycle availability.</li> <li>Trips limited to destinations near stations.</li> <li>Mechanical stations are a point of failure.</li> </ul>	<ul style="list-style-type: none"> <li>Many dockless systems struggle with enforcing parking regulations; bicycle end up blocking the public right-of-way.</li> <li>More susceptible to theft and vandalism.</li> </ul>	<ul style="list-style-type: none"> <li>More expensive than a dockless system</li> <li>Does not fully eliminate concerns over theft, vandalism, and improperly locked bicycles.</li> </ul>

Notes:

(a) Assumes that all stations/hubs include bicycle racks and signage. Twenty percent of station would feature a kiosk. Station costs can scale down or up based on the type of station investment. Eliminating kiosks would significantly reduce costs.

Table 2: Costs to City under three Operating Scenarios for a 300 Bicycle System  
(Using Hybrid or Dockless Systems)

	Publicly-Owned	Privately-Owned No Public Investment	Privately-Owned Public investment in station infrastructure
Technology Assumption	Hybrid System	Dockless System	Hybrid System
Annual Ridership	125,000	125,000	125,000
<b>Capital Costs (Cost to City of London)</b>			
Bicycles (300)	\$ 670,000	\$ 0	\$ 0
Stations/hubs (60)	\$ 850,000	\$ 0	\$ 850,000
Total	<b>\$ 1,520,000</b>	<b>\$ 0</b>	<b>\$ 850,000</b>
Annual Replacement Costs (a)	\$ 160,000	\$ 0	\$ 70,000
<b>Annual O&amp;M Costs (Cost to City of London)</b>			
City Administrative staff (1/3 FTE)	\$ 35,000	< \$35,000	< \$35,000
Program Operations	\$ 540,000	\$ 0	\$ 0
Program Marketing/Outreach	\$ 15,000	\$ 0	\$ 0
Additional Municipal Outreach	\$ 10,000	\$ 0	\$ 25,000
Total	\$ 600,000	< \$35,000	< \$60,000
<b>Annual Revenue (Revenue to City of London)</b>			
User fees	\$ 280,000	N/A	N/A
Advertising/Sponsorship	unknown	N/A	N/A
Total	\$ 280,000	N/A	N/A
<b>Net Subsidy(b)</b>			
Total	\$ 320,000	< \$35,000	< \$60,000
Operating Subsidy per Rider	\$ 2.56	<\$ 0.28	<\$ 0.48
<b>Pros and Cons</b>			
Pros	<ul style="list-style-type: none"> <li>• Maximizes City control over program</li> <li>• Potentially feasible even with weak private-sector interest in operating bike share in London</li> </ul>	<ul style="list-style-type: none"> <li>• Lowest cost to City</li> <li>• Absolves City of financial risk associated with funding and operating bike share.</li> </ul>	<ul style="list-style-type: none"> <li>• City maintains some control over bicycle deployment</li> <li>• Station infrastructure could be used to generate advertising revenue</li> </ul>
Cons	<ul style="list-style-type: none"> <li>• City takes on risk and responsibility for bike share</li> <li>• Most costly scenario for City</li> </ul>	<ul style="list-style-type: none"> <li>• City has little control over program deployment.</li> <li>• Lack of stations could result in bikes being improperly parked on sidewalks</li> </ul>	<ul style="list-style-type: none"> <li>• City could be left with redundant station infrastructure if private operator folds.</li> </ul>

Notes:

(a) Assumes City sets aside a fixed annual sum to replace equipment at end of useful life

(b) Subsidy could be covered in part by sponsorship revenue and third-party funding.

**City Proposed Budget (Investment)**

During the 2016-2019 Multi-Year Budget deliberations, Council approved a ten year capital project to assist with the implementation of Active Transportation (TS6020) as part of the implementation of the Cycling Master Plan. The capital project is financed by funds received through the Federal Gas Tax program at a rate of \$300,000 per year with the exception of 2016 (\$150,000).

At this point in time \$750,000 has been set aside for capital infrastructure for a bike share system. This amount is consistent with amount previously approved by Council for the 2017 City of London submission to the Ontario Municipal GHG Challenge Fund (part of the previous Cap & Trade Program) for a bike share system.

The capital funds earmarked could be used to purchase bike racks that are available to bike share users and other London cyclists. Depending on location and available space, many of these racks would be multi-purpose. In high bike share use locations, the racks would be signed and reserved for the exclusive use of bike share riders. For locations adjacent to or near large festivals, racks could be temporarily signed for bike share use only and other temporary bike parking provided for all other cyclists.

## Summary

Now is a good time to pursue bike share for London. Other peer municipalities have tested bike share and are willing to share their learnings. London has made important strides in developing cycling infrastructure. London's cycling culture and interest in riding a bike for transportation and recreation is growing. In addition, the ability for a municipality to invest minimal upfront tax dollars to launch a viable bike share system has become a reality in recent years. Launching a bike share system in a designated service area will be of great benefit to current and future cyclists, and all Londoners using other modes.

Current annual operating costs for the City of London are estimated to be between \$35,000 and \$320,000 per year depending on the type of ownership for a hybrid or dockless system. In addition, there would be the need for some capital replacement costs. The wide range is associated with the limited information that is publically available at this time with these newer system designs. City staff cannot complete the business case until it confirms private sector interest in operating a bike share system in London along with operating costs, if any, that may need to be supported by the City of London and/or other sources.

To complete the business case are recommending a Request for Proposals (RFP) to obtain pricing and a vendor that can implement a bike share system in London based on the following key parameters (assuming 300 bikes are required):

- i) all bikes, software and hardware to be provided by the vendor;
- ii) all operating and maintenance costs to deliver the bike share system to be provided by the vendor;
- iii) project duration for up to three years with two, one year options at the sole discretion of the City of London;
- iv) operate in the service areas delineated by the City of London through a licensing agreement and a process to expand into other areas of London;
- v) a one-time capital investment into bike sharing parking installations provided by the City of London (racks that are available to bike share users and other London cyclists);
- vi) work with City staff to develop an equity program for low-income Londoners and an employer membership program;
- vii) address the data and information security and risk management requirements to the satisfaction of the City; and
- viii) allow an option whereby the vendor can propose an alternative program and costing arrangement.

Development of the RFP and review of the responses would be done in concert with the City's Information Technology Services and Risk Management staff to manage and ensure data privacy. The RFP would include:

- Legal, insurance and risk management requirements,
- A security assessment to avoid a breach of the users' personal data gathered and stored,
- Where the bikes could/could not be parked, and
- Penalties for the operator when bikes are not removed from locations outside the service areas.

City staff, with assistance from the technical consultants, currently plan to finalize the business case and prepare a draft implementation plan to implement a bike share system in London, including identifying potential partners, an operations plan, a marketing plan and financing strategies, and submit to Civic Works Committee in January 2020. The timetable for activities is as follows:

<b>Activity</b>	<b>Timeframe</b>
Prepare RFP	August 2019
Complete background work with stakeholders, identify potential stations/haven locations, etc.	August to Early November 2019
Release RFP	September 2019
RFP Closing Date	Mid to late October 2019
Complete Business Case	Late November/December 2019
CWC & Council review of Business Case and RFP recommendation	January 2020
Bike Share System Launch (if approved)	Spring/Summer 2020

<b>PREPARED BY:</b>	<b>PREPARED BY:</b>
<b>ALLISON MILLER, M.C.P., MCIP, RPP COORDINATOR, TRANSPORTATION DEMAND MANAGEMENT</b>	<b>JAMIE SKIMMING, P.ENG. MANAGER, COMMUNITY ENERGY INITIATIVES</b>
<b>PREPARED AND SUBMITTED BY:</b>	<b>RECOMMENDED BY:</b>
<b>JAY STANFORD, M.A., M.P.A. DIRECTOR, ENVIRONMENT, FLEET, &amp; SOLID WASTE</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>

#### Appendix A Overview of Bike Share Preliminary Analysis - Part One

The companion report found on the City of London's *Get Involved* website ([www.getinvolved.london.ca](http://www.getinvolved.london.ca))

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## Appendix A

### Overview of Bike Share Preliminary Analysis - Part One

#### Guiding Principles

A set of guiding principles was developed to help guide the business case. At a high level, these included:

- *Financial Sustainability*: Create a system that is financially sustainable, transparently operated, and accountable.
- *Mobility and Access*: Increase the ability of Londoners to access their daily needs via the current and ever-growing cycling network.
- *Environment and Health*: Address the effects of personal transportation on climate change by providing a new option for getting around London.
- *Community Building*: Leverage the bike share system and accompanying cycling usage as a tool to promote livability, and attract or retain residents, businesses and visitors.

The detailed Guiding Principles can be found in Section A *Guiding Principles* in the companion report.

#### Programs Reviewed

City staff and the consulting team spoke to municipal representatives in several Canadian and U.S. communities with bike share to identify their performance metrics, gather background documents, and discuss key takeaways and considerations for London to move forward. In summary:

- The bike share landscape is evolving quickly;
- Many smaller municipalities can feasibly introduce bike share with a third-party operator (little to no upfront capital expenditure); and
- Private bike share companies are shifting to e-bikes and kick-style e-scooters.

A list of the municipalities contacted is presented in Section B of the companion report, *Bike Share Preliminary Analysis - Part One*.

#### City Staff and Stakeholder Workshops

Two workshops were held in April, 2019 to seek input for the business case and identify any major challenges moving forward. One workshop was for City staff from several service areas that can influence or would be affected by bike share operations, such as Legal and Corporate Services, Information Technology Services, and Planning. The other workshop was for representatives of local stakeholder groups, such as Tourism London, Western University, Fanshawe College and the Middlesex-London Health Unit.

Some of the highlights from the input received include:

- Need to involve IT early on to review the security of bike share user data gathering and storage;
- Need to consider winter operations if bike share is year-round;
- Need to consider equity possibilities for potential users;
- Tourists represent a potential ridership base of 10-15%; and
- Concern with how bike share may impact bike theft (already a concern).

See Section C for the *Bike Share Staff & Stakeholder Workshop Summary* in the companion report.

#### Ownership Models



There are generally three bike share system ownership models currently in use in North America. These are:

- Public-owned (e.g., Toronto Bike Share)
- Private-owned (e.g., DropBike Kelowna)
- Public-Private Partnership (e.g., SoBi Hamilton)

Further details on these ownership models are provided in Section G of the companion report, *Background Details and Preliminary Analysis*.

### Operating Models

There are generally three bike share system operating models currently in use in North America. These are:

- Docked (e.g., Bixi Montréal)
- Dockless (e.g., Lime Calgary)
- Hybrid (e.g., SoBi Hamilton)

It is important to note that the majority of new bike share systems in North America use dockless operating models.

Further details on these operating models are provided in Section G of the companion report, *Background Details and Preliminary Analysis*.

### Bike Share Parking Options

There are many types of stations (or havens) for bike share bikes. The infrastructure (and accompanying costs) can vary greatly depending on which operating model is used. Stations vary between docked, hybrid and dockless. For example, a docked station has a substantial integrated bike rack, an integrated payment technology kiosk and map and/or advertising space (See Figure 1 below of Bixi in Montréal). A hybrid station can be fully accessible with payment options on site and integrated into a multi-modal transportation facility (such as with SoBi Hamilton's West Harbour GO Station in Figure 2 below). A dockless "haven" can be a simple bike rack and/or a space delineated by paint. If the space is only delineated by paint, the bikes have an integrated lock which allows them to be locked onto themselves (see Figure 3 below of UBC's dockless bikes in a painted haven).

Figure 1: Bixi Montréal (Example of Docked System with Integrated Payment Kiosk and Map/Advertising Space)

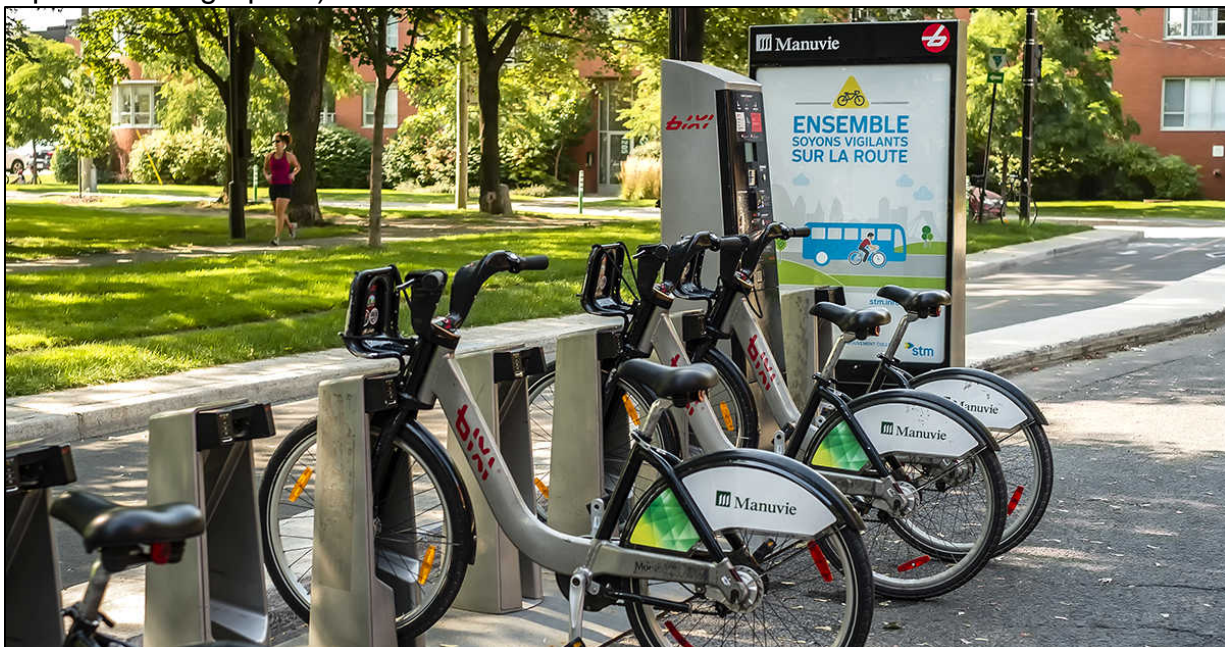


Figure 2: SoBi Hamilton (Example of Hybrid System Integrated Into the West Harbour GO Station)





Photo: IBI Group

Figure 3: UBC (Example of Dockless System with a Simple Haven Delineated with Paint)



Further details on parking typologies are provided in Section G of the separate report.

### **Preliminary Community Feedback**

To coincide with the business case development, City staff sought preliminary community feedback through the City's *Get Involved* website. It was promoted at the City's 2019 London Home Show display and through social media.

Between late January and late March, 526 responses were received. Results included:

- Of the 98 per cent who answered the question, 82 per cent said they would use bike share in London at least once a month, once a week, or several times a week. Sixteen per cent indicated they would not use bike share.
- Of the 87 per cent who answered the question, 40 per cent indicated they would use it for commuting to/from work, 61 per cent to run errands, and 76 per cent for recreation.

- Of the 88 per cent who answered the question, 71 per cent indicated they would use bike share in the downtown. Other popular potential service areas included 17 per cent in Byron/Springbank Park, 11 per cent in Old East, 12 per cent in Old South, and 17 per cent in the Western/University Heights area.

More details about the *Get Involved* community feedback can be found in Section E *Get Involved London Contribution Summary* of the companion report.

In addition, the survey was promoted through the City's Facebook and Twitter pages. Approximately 200 comments were received, both supportive and non-supportive of bike share in London. The top concerns in order raised on Facebook and Twitter were:

1. Lack of infrastructure (separated cycling infrastructure)
2. Bike theft
3. Bikes poorly parked
4. Not everyone sharing the road
5. People like to drive

Further community feedback is planned as the system details are developed. For example, key stakeholder businesses and institutions will be surveyed in the Fall to provide more details on potential employee use and to provide an opportunity to raise awareness of the concept and dialogue with future users. Employers represent an opportunity for bulk corporate bike share memberships, including for City of London staff.

In addition, once a potential bike share system operator has been selected, community input will help inform preferred bike station locations. User input will be valuable to ensure that bike locations meet demand and tap into potential interest.

### **Risk Management**

There are many inherent risks with Bike Share programs including: theft, damage, financial loss, personal injury or death. Safety of the user is the top concern. Management of these risks shall require detailed plans toward mitigating liability in areas such as: Safety and use procedures, bike maintenance, data privacy, infrastructure maintenance, checkout processes and project overruns. Through the RFP process, the City will look to control and mitigate potential risks as much as possible.

Due to the relative new existence of bike share programs, there is limited data to draw any objective analysis; however, there is some research suggesting that bike share users are at a lower risk of harm compared to the general cycling community. This is based on the fact that bike share users are often novice or part-time riders and as such they have a tendency to be more cautious and ride slower than more experienced riders.

Moreover, if bike share is introduced with a host of other supportive measures, particularly separated bicycle infrastructure and other initiatives to improve our City's bicycle friendliness, it is more likely that the safety of all people choosing to cycle (bike share and private) will be enhanced.

### **Market Share and Propensity Analysis**

A market share and propensity analysis was completed to help inform the business case by illustrating the relative demand for bike share in London. Overall, London has numerous strengths that would support bike share, such as a large student population, walkable downtown, retail corridors, extensive pathway networks, and a relatively high walking, cycling, and transit mode share in central neighbourhoods.

However, low land-use density and de-centralized development patterns beyond the central service area do not support a city-wide bike share system at this point in time. Detailed results of the market share and propensity analysis are provided in Section D of the companion report, *Market Share and Propensity Analysis*.



## Launch Service Area

Based on the propensity analysis and community feedback, the proposed Core Phase One Service Area was developed (see Figure 4 below).

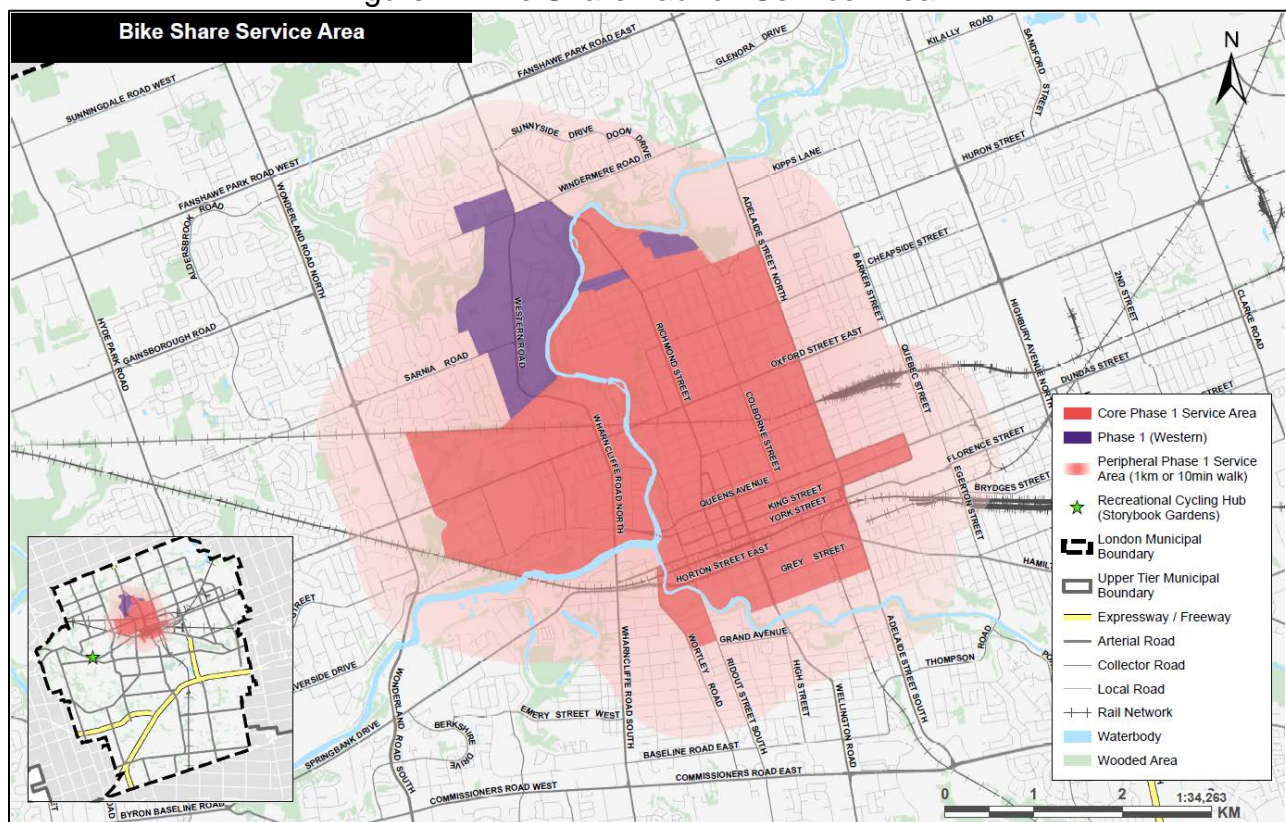
This proposed service area will be included within the RFP to help RFP respondents determine bicycle station/haven locations. However, their launch service area may differ from that presented below.

The RFP will assume that the start-up service area would consist of approximately 300 bikes over 60 stations (spaces for eight bikes each, with an average of five bikes parked at each station). It would serve approximately 40,000 residents, 35,000 employees, two hospitals, and Western University and Fanshawe College (downtown campus) faculty, staff and students. An additional target audience includes visitors to London.

Also, as indicated on the map in purple, the proposed service area for the Western University campus is treated as a separate area, as the City does not have jurisdiction over their property. Western University (and Fanshawe College's downtown campus) will be part of discussions moving forward. It is up to their respective administrations to determine if and how to provide bike share for their faculty, staff and students.

Springbank Park is identified as a special recreational hub outside of the service area, because it was one of the highest ranked locations to use bike share in the community feedback process. The Thames Valley Parkway (TVP) is already a popular cycling route that feeds into and out of Springbank Park. Similar recreational hubs outside of core service areas have been set up by the bike share system operator in Hamilton.

Figure 4: Bike Share Launch Service Area



# Bike Share Preliminary Analysis - Part One

July 2019



Defining the cities  
of tomorrow



FOURSQUARE ITP



London  
CANADA

This report accompanies *Bike Share System for London: Update and Next Steps* (August 12<sup>th</sup>, 2019 meeting of the Civic Works Committee (CWC)).

It contains background details and preliminary analysis to develop a comprehensive business case for a bike share system in London. It should be read alongside the CWC report.

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## SECTION A

### Bike Share Guiding Principles

**Guiding Principles:** The Business Case will be guided by four key principles: financial sustainability; mobility and access; environment and health; and community building.

**Key Project Outcome:** The Business Case will include Expected Case, Best Case and Worst Case scenarios to ensure that Municipal Council has a good understanding how a Bike Share system could roll out in London in the following areas:

1. Environmental Considerations
2. Social Considerations
3. Financial Considerations
4. Sensitivity Analysis
5. Risk Analysis and Mitigation

Guiding Principles	Focus
<p><b>1: Financial Sustainability</b></p> <p>Create a system that is financially sustainable, transparently operated, and accountable.</p>	<ul style="list-style-type: none"> <li>• Ensure that public funds are utilized in an efficient and transparent manner that maximizes the return on investment</li> </ul>
	<ul style="list-style-type: none"> <li>• Ensure system is viable for the long term by planning for future maintenance and state-of-good-repair needs</li> </ul>
	<ul style="list-style-type: none"> <li>• Encourage private sector and/or social enterprise participation in service delivery in a manner that respects and supports all other Bike Share Goals</li> </ul>
	<ul style="list-style-type: none"> <li>• Share updates as the project develops to ensure transparency with decision-makers and the public</li> </ul>
<p><b>2: Mobility and Access</b></p> <p>Increase the ability of Londoners to access their daily needs via the current and ever-growing cycling network.</p>	<ul style="list-style-type: none"> <li>• Integrate with London Transit (including the BRT network)</li> </ul>
	<ul style="list-style-type: none"> <li>• Coordinate with large employee and student centres such as Western University, Fanshawe College, hospital campuses, business areas</li> </ul>

Guiding Principles	Focus
	<ul style="list-style-type: none"> <li>• Make all sustainable mobility options (walking, cycling, transit) more convenient and connected</li> <li>• Reduce pressure on parking resources by reducing driving within the city</li> <li>• Provide bicycles to households that wish to have access to commuter bicycles that do not have to be stored, locked up or subject to the threat of theft</li> <li>• Use the bike share system to improve and facilitate access to public facilities and services</li> </ul>
<p><b>3: Environment and Health</b></p> <p>Address the effects of personal transportation on climate change by providing a new option for getting around London.</p>	<ul style="list-style-type: none"> <li>• Reduce vehicle trips, resulting in less congestion and automobile-related air pollution and greenhouse gas (GHG) emissions reduction</li> <li>• Reduce vehicle kilometres travelled (vkt)</li> <li>• Improve public health by incorporating physical activity into increased mobility options</li> </ul>
<p><b>4: Community Building</b></p> <p>Leverage the bike share system and accompanying cycling usage as a tool to promote livability, and attract or retain residents, businesses and visitors.</p>	<ul style="list-style-type: none"> <li>• Facilitate biking as an appealing way for Londoners and visitors to get around London</li> <li>• Grow the local cycling culture</li> <li>• Attract and retain new businesses and residents looking for a city with robust walking and cycling options</li> <li>• Provide visitors in London’s core with a viable and comfortable option for getting around</li> </ul>

Guiding Principles	Focus
	<ul style="list-style-type: none"> <li>• Support existing and future cycling infrastructure and programs (as detailed in the 2016 Cycling Master Plan)</li> </ul>
	<ul style="list-style-type: none"> <li>• Support and strengthen the local economy by improving access to London’s central employment areas, major institutions, and “main street” commercial areas</li> </ul>
	<ul style="list-style-type: none"> <li>• Encourage the quality of life of London residents by supporting the bicycle as a fun and convenient transportation mode</li> </ul>

## SECTION B

### Bike Share Programs Reviewed

Interviews were held with municipal staff in these communities:

<b>Location - System</b>
Hamilton ON - SoBi
Toronto ON – Bike Share Toronto
Kingston ON – Drop Bike
Kelowna, BC – Drop Bike
Howard County, MD – Howard County Bikeshare
Boulder, CO – Boulder B-Cycle
Topeka, KS – Topeka Metro Bikes
Calgary, AB - Lime
Victoria, BC – U-Bicycle

To note that City of London staff has direct experience with bike share services in other communities as well as



**IBI GROUP**  
7th Floor – 55 St. Clair Avenue West  
Toronto ON M4V 2Y7 Canada  
tel 416 596 1930 fax 416 596 0644  
[ibigroup.com](http://ibigroup.com)

# Memorandum

**To/Attention** Allison Miller, City of London    **Date** July 3, 2019  
**From** Zibby Petch, Vikram Hardatt    **Project No** 118299  
**cc** Andrew Zalewski,  
Foursquare ITP  
**Subject** **Bike Share Staff & Stakeholder Workshop Summary  
(April 8, 2019)**

## Introduction

The City of London is preparing a business case for a potential public bike share system. To successfully plan for and launch a bike share system, it is necessary to engage with City staff and stakeholders to discuss bike share, review progress of the business case to date, and gather feedback. In order for bike share to launch successfully, it is critical that the appropriate staff and stakeholders are consulted to incorporate their requirements into the process.

The City of London hosted two workshops on April 8<sup>th</sup>, 2019, together with IBI Group and Foursquare ITP. The first workshop was held for City staff and the second workshop was held for community stakeholders. A list of workshop attendees is in Appendix A. This memo summarizes the workshops and identifies key discussion and input gathered from both groups.

## Presentation Summary

Similar material was presented at both workshops providing an overview and examples of what bike share is; the challenges, myths, and realities of bike share; the results of the market analysis and online public engagement; discussion about the potential bike share scenarios; and a discussion about the next steps of the project and the future involvement of each stakeholder. During the workshop, an online audience interaction tool (PollEverywhere) was used to collect responses from the workshop participants and display their answers to the rest of the group. Answers from the PollEverywhere tool and comments received during the workshop and outlined in each section of this memo.



## Introduction & Purpose

The City of London introduced the strategic and policy context for the bike share business case, the purpose of the workshop, and the project's guiding principles.

## Bike Share Overview & Examples

Foursquare ITP introduced the concept of bike share, indicating that it is a form of shared public transportation intended for short trips, and is a flexible, one-way, point-to-point service. There are 18 bike share programs in Canada, in communities varying in size; and over 100 programs in North America. There is a wide variety of bike share program types and models.

Implementing bike share can accomplish the following:

- Introduce a new mode of transportation;
- Provide first/last mile connections to transit;
- Strengthen mobility options within the city's downtown;
- Connect the city and student population;
- Promote public health; and
- Provide a leisure and recreational amenity.

When preparing a business case for a bike share system, it is important to identify the goals, objectives, and measures for bike share. It is critical to integrate a municipality's priorities when determining the feasibility of bike share as each community has different needs and priorities. The goals, objectives, and measures influence the geography and scope of the system. The system geography and scope determines the funding model, technology, operating model, and ownership model used for the bike share system.

There are three forms of bike share technology: dock-based, hybrid, and dock-less. Dock-based systems have infrastructure integrated in to the station whereas in the hybrid and dock-less systems the infrastructure is integrated into the bicycle. Hybrid systems have physical stations, however the stations are typically branded bike racks that the bike share bikes lock up to free-of-charge. In hybrid systems, there may be an option for bikes to lock outside of a station for a small convenience fee. Dock-less systems do not have any stations and the bikes can be parked anywhere within the service area. Dock-less systems can use geofencing to create virtual "stations" but do not have any branded bike share parking infrastructure.

There are emerging technologies in the bike share industry such as e-bikes and e-scooters that present similar planning concerns but have distinct challenges from traditional bike share systems. As of April 2019, e-scooters are illegal on Ontario roads under the Highway Traffic Act, and will not be considered as a

service offering in the business case for bike share, but will be monitored to determine if there are changes in legislation to allow e-scooters.

Generally speaking, there are four sources of funding for bike share:

- Public funding including municipal/provincial funding, bonusing (e.g. Section 37), or a dedicated revenue stream;
- Sponsorship and advertising including in-kind contributions (e.g. physical space);
- Direct private investment (i.e. venture capital investment); and
- User revenue from memberships varying in cost based on per trip, day, monthly, or annual membership types and costs anywhere from \$1 – \$3 per trip or \$50 – \$150 per year.

### ***Ownership and Governance Models***

There are various bike share ownership and governance models as seen in Exhibit 1.

*Exhibit 1: Ownership & Governance Models*

MODEL	DESCRIPTION	EXAMPLE
<b>Public</b>	City, public authority, or regional owner. Operations can be contracted out to a third party.	Toronto Bike Share
<b>Non-Profit</b>	Existing non-profit or dedicated non-profit program. Similar to public model.	Waterloo (Former Community Access Bike Share); Boulder, CO
<b>Private (exclusive)</b>	Private organization owns and operates the program with exclusive access to public right-of-way.	CitiBike (NYC)
<b>Private (non-exclusive)</b>	Private firm owns and operates bike share. Multiple firms may be active in same market.	Dropbike, Lime, Spin (e.g. Seattle)

### ***Operating Models***

There are various operating models as seen in Exhibit 2. The distinction between directly operated and turn-key increasingly blurred.

*Exhibit 2: Bike Share Operating Models*

MODEL	DESCRIPTION	EXAMPLE
<b>Directly Operated</b>	System owner responsible for operations	BIXI (Montréal)
<b>Contracted Operations</b>	System owner pays a third party to operate the system. Vendor typically provides support infrastructure like maintenance facility and IT platform.	Toronto Bike Share (Shift Transit); Howard County Bikeshare (Corps Logistics)
<b>Contracted Turn-Key</b>	Vendor provides equipment and operations services, often in exchange for revenue guarantee, infrastructure investment, or fee	Kingston DropBike, Zagster (multiple cities)

**Questions/Comments Received**

1. Staff raised the possible implications of outdoor advertising on bike share stations. Staff should look to the existing street furniture contract as an example.
2. There has been over \$2 billion of venture capitalist funding for bike share over the last two years.
  - Some companies are willing to lose money on bike share in order to gain market share and data which could be beneficial for municipalities in the short term.
3. A question received during the staff workshop asked if a municipality can prescribe where the bikes should go in either private models.
  - The municipality can prescribe where the bikes should go, but there is the challenge of enforcing this on private companies.
4. A question received during the staff workshop asked if lines between different operating models are increasingly blurred, then how would a municipality implement a system when there is much uncertainty within the industry?
5. There is literature about scooters that talks about the negative aspects of this new form of micro-mobility.
  - The City of London is tackling the program at the right time. Kick-style e-scooters are currently not allowed on roads and therefore not within the scope of this business case.
6. There was discussion about liability insurance, and whether other municipalities see an increase in incidents.

- Other municipalities have taken this into account during the procurement process (i.e. bike share operator must maintain liability insurance).
7. There was discussion about how bike share will affect snow plowing operations.
    - As a result of bike share, there may need to be changes to standards about snow plowing and Council needs to be aware of the associated costs.
    - Bike share usage varies and systems can be seasonal if necessary.

## Challenges – Myths and Reality

### *Key Challenges*

1. Few bike share programs sustain themselves solely on user revenue.
  - Private programs likely still lose money and are subsidized through private funding.
2. Successful programs have to pull together various funding sources to sustain operations.
3. The bike share vendor and operator market is quickly changing.
4. Launching bike share with suitable scale, proximity to high-demand locations, and stable/quality equipment is key to ensuring long-term success.

### *Addressing Frequently Stated Concerns*

A variety of frequently stated concerns were reviewed:

1. “Bike share cannot succeed here because we don’t have adequate cycling infrastructure.”
  - In cities like San Antonio and Chattanooga, bike share led to better bike infrastructure.
  - London has better cycling infrastructure than many US peers with bike share.
2. “How can bike share work in a place with our climate?”
  - There are several examples of systems in similar or harsher climates (Montreal, Toronto, Hamilton, Minneapolis, Madison...)
3. “Does bike share expose our organization to additional liability if someone is injured?”

- Low injury rate – two deaths in 10 years.
  - Operator holds insurance. Indemnifies City of liability.
4. “What if all the bicycles are stolen?”
    - Theft/loss rates rarely exceed 1%-2% per year
  5. “How do we protect the public ROW?”
    - Geofencing; requiring users to return bikes to stations.
  6. “What about cyclist behaviour?”
    - Education and outreach; bike share bicycles are bulkier and slower than a typical bicycle which can reduce instances of risky manoeuvres.
  7. “Will bike share actually attract new users?”
    - Bike share attracts new users to cycling; a share of riders own bicycles at home but still use bike share for specific types of trips (e.g. work-related).
  8. “Bike share won’t integrate effectively with transit”
    - Bike share systems often closely complement transit as a first/last mile mode. A few systems have experimented with integrated payment.
  9. “Will new micro-mobility options supplant bike share in a few years?”
    - Industry is still trying to understand the impact of micromobility services on bike share. Unclear whether services like e-scooters are sustainable or a fad.

**Poll Everywhere Results**

Workshop participants were invited to identify key challenges to bike share through an online repository. Responses are summarized below in Exhibit 3.

*Exhibit 3: Summary of Key Challenges noted by Workshop Participants*

Key Challenges identified by staff	Key Challenges identified by stakeholders
Current cycling culture	Current cycling culture
Overcoming preconceived myths (e.g., too dangerous to bike in London)	Tailoring programs to meet a variety of needs..... how do we get it down to 3 or 4 packages?
Establishing a real marketplace of users	What is the student population between April through October?

Dealing with the 1% that goes wrong and the media	Finding suitable hub locations
Theft or leaving bikes in poor locations	Student's auxiliary fees include a bus pass, bike share would be an additional transit cost
Data protection and managing reputational liabilities.	Finance. For London Transit, bike congestion at transit stops.
Developing a flexible and resilient business case given levels of uncertainty in many key elements.	Uptake without current protected cycle tracks connecting destinations and neighbourhoods
Change winter level of maintenance	Securing strong operations and snow removal budgets
Accessibility	No available bikes or too many bikes at one place
Driver behaviour	Identifying key locations
Infrastructure conditions	Plan to bike but there is none available
Community response	Lower income families that do not have a vehicle could not afford this
Neighbourhood penetration	
Clearly articulating benefits vs risks of system	
Urban sprawl causing service concerns	

### **Questions/Comments Received**

1. There is a poor driving culture in London.
  - Bike share increases the amount of people on bikes, which make drivers more aware about cyclists.
2. Theft
  - For private dockless systems it may be an issue, as private operators are typically not spending a lot on operations and rebalancing.
3. What about battery-powered e-assist bikes?
  - These will not be the main type of bike. However, if they are introduced, batteries can be swapped out overnight or when a

battery is running low. E-bikes can be used at a different cost to the user.

4. There is a concern about dockless bikes on the sidewalks, blocking the right-of-way and bikes not in hubs.
  - The program can use financial incentives, education, and outreach to avoid these issues and improve system reliability.
5. What about kick-style e-scooters?
  - Have been around for a year, but there are already concerns about long-term viability. This form of micro-mobility is not within the scope of this business case.

### **Market Analysis & Outreach Feedback**

Based on experiences in other municipalities, there are generally five elements that influence bike share demand:

- Population and demographics;
- Trip characteristics;
- Tourism;
- Infrastructure; and
- Land use.

A propensity analysis was completed to illustrate the relative demand for bike share across London. Overall, there are numerous strengths that support bike share such as a large student population, walkable downtown and vibrant retail corridors, extensive pathway network, and a relatively high walking, cycling, and transit mode share. However, a low land-use density and decentralized development patterns do not support bike share use. Detailed results of the market and propensity analysis can be seen in the Market Share & Propensity Analysis Memo.

### ***Online Public Feedback (as of April 2019)***

The City initiated public engagement around bike share through the Get Involved London platform, and the preliminary results of engagement were discussed (to April 2019):

- 495+ respondents
- More than 50% have used bike share before
  - Canadian examples such as: Toronto; Montreal; Hamilton; and Ottawa.

- North America & beyond such as: New York City; Washington; Paris; London; and China.
- Most (83%) suggested they would use bike share
  - 51% once a week or more frequently
- Neighbourhoods of interest include:
  - Downtown
  - Byron/Springbank Park
  - Old East
  - Old South
  - Western/University Heights

### ***Questions/Comments Received***

- There is a need to seek the feedback of employers.
- Bike share should exist throughout the city, in all of the top five neighbourhoods listed in the online survey, along TVP, where there is existing cycling infrastructure, and in locations one would typically drive, but not want to find parking.
- What if there was a set of bikes only for City of London employees at City Hall?
  - Noted that there is a concern about theft if there was a “City of London” fleet as people target police bikes for theft.

### **Scenario Exercise**

Three scenarios were reviewed to illustrate how the City of London might launch a bike share system. An overview of each scenario was provided followed by discussion questions.

- Scenario 1 is a publicly funded program where the City of London owns the bike share program (bikes and stations) but may contract operations to a third-party vendor.
- Scenario 2 is a private program where a private firm sets up and operates a bike share program. There would be limited municipal involvement beyond providing a permit to the company, therefore limiting the amount of public investment.
- Scenario 3 is a hybrid of the previous two scenarios, where a public-private partnership (P3) is established. Both partners share a degree of risk and municipal involvement can vary substantially from guaranteeing



exclusive access to the public right-of-way to funding parts of the operation and capital costs.

### ***Scenario Discussion: Staff Workshop***

- Need to consider equity across wards regarding bike share implementation to ensure support across the city.
- Consider operations and usage of bike share in the winter time.
  - There is a possibility of not offering winter service initially. However, there are many examples of successful bike share systems with harsh winter conditions (e.g. Montreal, Quebec; Helsinki, Finland).
  - May require Council direction to provide additional funding for winter maintenance of the bike share system.

### ***Scenario Discussion: Stakeholder Workshop***

- Are there any other stakeholders to engage?
  - Student residence buildings
  - Current cycling advocates (note: Vancouver bike share is staffed by former bike advocates)
  - Western University
    - Western Active Transportation Society (WATS)
    - Purple Bikes (non-profit cycling co-operative on campus)
- Tourism London
  - Tourists can potentially be 10-15% of ridership base, but account for 40-50% of revenue.
  - Tourism London can promote bike share through neighbourhood spotlights, highlight hubs that are near the Thames Valley Parkway, Downtown, and VIA Rail station.
  - Tourism London can work with hotels in London to promote bike share. They have worked with bike shops in the past to offer rentals.
  - Tourism London can distribute a survey about bike share, but haven't collected any data about bike share in the past.
- St. Joseph's Health Care London
  - City staff to send online public feedback survey to St. Joseph's hospital staff to determine potential usage at their sites.

- There is a concern about using bike share to travel long distances between hospital sites.
- The key issue that St. Joseph's is facing is not having enough parking for patients.
- Downtown London BIA
  - Bike share is targeted to new riders and it requires safe and protected bike infrastructure in order to work.
  - Progress in both bike share and cycling infrastructure will benefit all cyclists.
- Fanshawe College
  - Is there a possibility to have customized bike infrastructure to support bike share? (i.e. custom bike racks).
    - There is a certain level of customization available.
  - Fanshawe is interested in conducting a survey in the summer and fall.
  - Fanshawe is interested in sheltered bike parking infrastructure.
- London Transit Commission (LTC)
  - Will need a strategy to reduce any chances of bike share blocking pedestrian areas around transit stations.
  - LTC might consider a corporate pass program.
  - Bike share is seen as an avenue for collaboration between the City and LTC, as it is a first-last mile solution for transit.
- Middlesex-London Health Unit
  - Happy to contribute to the promotion of the program.
  - Health Unit is changing office locations. There is an opportunity to target staff who are moving locations and to change modes and try bike share to get to work or for recreation.
  - Health Unit can support an equity program as clients include vulnerable populations/children.
- London Police Service
  - Concerned with a bike theft problem in Downtown London. Will need to monitor how bike share may impact bike theft.
- Western University

- Interested in a partnership similar to McMaster University and the City of Hamilton regarding bike share (i.e. allowing stations on campus)
- Should bike share stations be at residences outside of campus? Requires input from users.
- City to follow up with Western to identify contacts at the University Colleges to engage with them about bike share.

## **Mobility Hubs and Bike Share Equity Programs in Hamilton, ON**

### ***Mobility Hubs***

IBI Group provided an example of how bike share provides first and last mile connections at major transit nodes. For example, at the West Harbour GO station or Hamilton GO Centre in Hamilton, GO transit riders often take bike share or park their own bicycles at the transit station and take the train to their destination.

### ***Bike Share Equity Programs***

In Hamilton, the Everyone Rides Initiative (ERI) launched in 2017. The ERI is committed to equity in cycling and removes the barriers that prevent people from accessing bikes and cycling as an option for transportation. The ERI program:

- Provides additional bikes and hubs in priority neighbourhoods
- Offers three levels of subsidized memberships
- Provides education about bike share and how to ride
- Conducts outreach to promote and gain confidence in riding

## **Next Steps (Post-Workshops)**

### Phase 1

- Consider and incorporate feedback from workshops
- Confirm geographic scope of system
- Develop criteria for locating docking stations or racks
- Identify system infrastructure requirements
- Prepare business case and present to Committee/Council

### Phase 2

- Pending Council direction, proceed to RFP process



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## Appendix A – Workshop Attendee List

Staff Representative	Department
Don Purchase	Roadside Operations
Brian Tschirsow	Neighbourhood, Children and Fire Services
Justin Adema	City Planning
Laurie Green	Financial Business Support
Pat Tiller	Roadside Operations
James McCloskey	Information Technology Services
Britt O'Hagan	City Planning
Ryan Nemis	City Planning
Kerri Killen	City Planning
Andrew Giesen	Transportation Planning & Design
Peter Kavcic	Transportation Planning & Design
Gregg Barrett	City Planning

Stakeholder Representative	Organization
Jahmoyia Smith	Fanshawe College
Ivan Walker	Fanshawe College
Michelle Cong	Fanshawe College
Laura Pendlebury	Western University
Melissa De Luca	Tourism London
Andrew Sercombe	Downtown London
Michael Pottruff	London Police Service
Tara MacDaniel	Middlesex-London Health Unit
David Cole	St. Joseph's Health Care London
Ben Goodge	London Transit Commission



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# Memorandum

**To/Attention** Allison Miller, City of London    **Date** June 20, 2019  
**From** Zibby Petch, Vikram Hardatt    **Project No** 118299  
**cc** Andrew Zalewski,  
Foursquare ITP  
**Subject** **Market Share & Propensity Analysis**

## Introduction

The City of London is completing a feasibility study and preparing a business case for a potential public bike share system. To successfully plan for and launch a bike share system, it is necessary to determine where bike share is likely to succeed, understand key bike trip generators, target user groups, and gather and analyze preliminary feedback from the public.

This memo provides an overview of the market study conducted to find areas that could best support bike share service in London. The market study consists of a qualitative review and propensity (quantitative) analysis to identify a Phase I Service Area.

## Target Users

Based on the experience of other bike share systems in cities that share similarities to London, it is possible to identify likely target users for bike share.

Bike share users are a diverse group, but typically include:

- Daily riders that utilize bike share as part of their daily transportation, for a variety of trips such as errands, work, or school. In London, this group is likely to overlap significantly with the existing cycling community. However, bike share also attracts new cyclists. For example, Hamilton’s SoBi system 2017 user survey reported that:
  - 17% of users have replaced automobile trips with SoBi trips.
  - 44% of users use their private vehicle less often or much less often because of SoBi. Casual riders (primarily residents), that want to have occasional access primarily for recreational trips to downtown and nearby multi-use pathways.

- One-time riders that are visitors/tourists that are looking to explore London by bike for recreational trips. For example, in Toronto, there have been 110,000 casual riders (24 or 72-hour pass) meant for visitors since 2011. In Boulder, CO, there were approximately 12,500 24 hour pass users in 2017. In Victoria, BC, it is estimated that the majority of users are visitors.
- Students and staff on and around post-secondary institutions form a key portion of bike share users in many municipalities. In London, it is anticipated that the Western University and downtown Fanshawe College campuses will be major hubs in the bike share system, including significant trips between campus and downtown.

Due to the size, land use patterns, and built form of London, successfully attracting all target user groups is critical for the system's success. The biggest opportunities for generating ridership are from residents, employers, and students. Bike share will have to fit into people's daily commutes and travel patterns. The tourist and recreation market are smaller drivers of ridership but have the potential to be financially lucrative.

### **Key Bike Trip Generators**

The City of London has some key bike trip generators that will heavily influence the distribution of any potential bike share network.

#### ***Downtown***

Residents travelling to or within Downtown London are the most likely to consider trips by bicycle, based on current trip patterns, and this trend is expected to carry over to bike share trips. Generally speaking, trips of 5 kilometres (km) or less are considered to be feasible bike trips. Downtown London generates approximately 13,400 daily trips on the average weekday. The area extending 5 km from downtown generates approximately 37,100 daily trips into downtown on the average weekday.

The National Association of City Transportation Officials (NACTO) determined that the average trip length for casual riders is 4.8 km using a station-based bike share system. For dockless systems, NACTO estimates that the average trip length ranges between 2.4 km and 4.8 km.<sup>1</sup> London has a walkable downtown area which is a destination for many Londoners and residents of surrounding municipalities. These casual riders can use bike share as a way to explore London using an active mode of transportation. Downtown London and the Thames Valley Parkway are well positioned to support this type of ridership. A

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<sup>1</sup> National Association of City Transportation Officials (<https://nacto.org/bike-share-statistics-2017/>)

map of the existing cycling trips taken in London as well as a summary of total trips within and to the downtown core is included in Appendix A.

### ***Thames Valley Parkway***

London's Thames Valley Parkway is a multi-use pathway network along the Thames River that could attract bike share users. It allows users to easily connect to and from downtown. Residents, students, and visitors alike could use bike share to access the city's network of shared-use paths, especially those that are fully separated from vehicular traffic and provide recreational value. A map of the existing cycling network in London, including the Thames Valley Parkway, is included in Appendix A.

### ***Institutions of Higher Education***

Western University and the downtown Fanshawe College campus are likely to be major trip generators for bike share.

Western's campus is adjacent to the Thames Valley Parkway and within cycling distance of downtown. Western's campus is approximately 4.5 km<sup>2</sup> and bike share can provide a convenient and quick way for students to travel around campus. Bike share would help connect students and staff at Western to downtown London and the Thames Valley Parkway, further integrating Western into the urban fabric of London.

The downtown Fanshawe College campus consists of three buildings located in the heart of downtown and has approximately 2,500 students. The Fanshawe downtown campus is in close proximity to existing cycling infrastructure. Bike share can provide students and staff with a convenient way to travel around downtown and the surrounding area for commuting and recreational activities.

Bike share provides students access to a bike without the need to own, store, and maintain a bike. The important role of post-secondary institutions to bike share schemes was highlighted through peer reviews, including systems in Hamilton, Kingston, Kelowna, Howard County, MD, Boulder, CO, and Topeka, KS. A map of the post-secondary institutions in London is included in Appendix A.

### ***Connections to Transit***

Public transit and bike share complement one another. In Toronto, for example, Union Station is the busiest bike share location in the entire city. A bike share system in London can provide residents a first/last mile connection to the City's proposed BRT system, as well as conventional and current express bus service. The system would extend the reach of high-frequency transit service and serve the types of short trips poorly suited for fixed-route bus service.

### ***Other Shared Mobility***

Carsharing, provided by Vrtucar, is currently available in London. Bike share in other communities supports car share by providing a transportation option to get to and from parked car share vehicles, similar to how bike share supports the first and last mile transit connection. Car share provides access to a vehicle without the expense of owning and maintaining a car. There is also likely to be overlap in the target markets of car share users and potential bike share users, as these are often used by households with 0-1 cars. A map of these car share locations is included in Appendix A.

### **Bike Share Propensity Analysis**

Drawing on the key bike trip generators and land-use factors, a propensity analysis was conducted to quantitatively explore demand for bike share in London. The propensity analysis considered nine measures which typically correlate with bike share use, and are drawn from experiences with other bike share systems:

- Population density;
- Population density of younger adults (20 – 35 years old);
- Existing active transportation trips (by bike or walking);
- Existing transit trips;
- Zero car households;
- Density of cycling infrastructure;
- Proximity to proposed bus rapid transit (BRT) stations;
- Community centres; and
- Post-Secondary Institutions.

The propensity analysis concluded that downtown, Old East, and Richmond Row-West Woodfield-Talbot Street have the highest bike share propensity. The dense street grid, multi-family housing, and existing active transportation mode share contribute to the greatest potential for a bike share system.

The propensity analysis also concluded that there are some challenges to bike share in London as the city has decentralized development patterns with several nodes of higher density and commercial development that are somewhat isolated from each other by bike. Additionally, the predominant built form throughout the city is lower-density single family homes. There are few areas with densities of over 4,000 people per square kilometre.

See **Appendix B** for the full propensity analysis.



### **Online Public Feedback**

To coincide with the Business Case development, City staff sought community feedback through the City's Get Involved website. It was promoted at the City's 2019 London Home Show display, through social media, and a London Hydro insert.

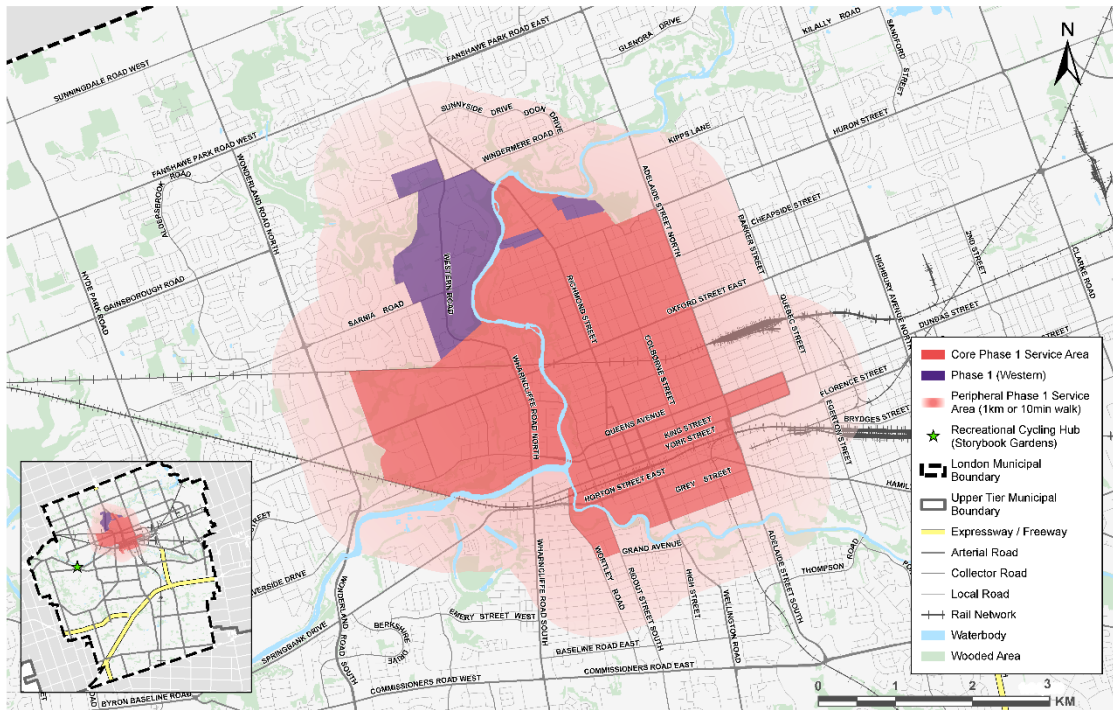
Between late January and late March, 526 responses were received. Results included:

- Of the 98 per cent who answered the question, 82 per cent said they would use bike share in London at least once a month, once a week, or several times a week. Sixteen per cent indicated they would not use bike share.
- Of the 87 per cent who answered the question, 40 per cent indicated they would use it for commuting to/from work, 61 per cent to run errands, and 76 per cent for recreation.
- Of the 88 per cent who answered the question, 71 per cent indicated they would use bike share in the downtown. Other popular potential service areas included 17 per cent in Byron/Springbank Park, 17 per cent in Western/University Heights area, 12 per cent in Old South, and 11 per cent in Old East.

### **Core Phase I Service Area**

Building upon the qualitative review, propensity analysis and public feedback, a preliminary Phase I Service Area for bike share has been identified and is illustrated in Exhibit 1. A full-size version of this map is also included in Appendix C.

### Exhibit 1: Bike Share Service Area



The Phase I service area is intended to facilitate a range of trips including:

- Improving transportation options within Downtown London to enable residents to complete short trips such as running errands, or commuting to and from work without a car;
- Improving transportation options for students and staff at Western University and the downtown Fanshawe College campus, providing a convenient, affordable, active options to travel downtown, to and from student housing, or around campus;
- Providing recreational amenity for visitors and residents to explore downtown, the Thames Valley Parkway, and parks adjacent to the Thames River; and
- Providing a first and last-mile solution for transit users to connect to transit stations or stops.

### Conclusions

The market review demonstrates the potential initial size and shape of a bike share system in London. Based on public feedback, the location of existing multi-modal transportation infrastructure, and the propensity analysis, Downtown London and surrounding neighbourhoods show the greatest promise for a successful bike share system, and a preliminary Core Phase I Service area has been identified to serve these areas.

While Downtown London and adjacent neighbourhoods represent the area with the greatest potential demand for bike share, bike share could grow to other neighbourhoods in future phases. There are opportunities to extend bike share to commercial areas including locations such as the Masonville mall area in the future. These areas would face additional challenges such as the need for additional re-balancing by bike share operators and potentially lower ridership. However, the type of bike share system chosen will determine the feasibility of expanding the system.

Like other municipalities, there are challenges that may impact the system's success. Population densities downtown are lower than many other communities with bike share systems. London has an extensive multi-use pathway system, but on-street bicycle infrastructure, and in particular separated cycling facilities, are still being expanded within the core. London's bicycle community is relatively small, and this may impact residents' familiarity with the concept of bike share. However, London's bike share business case will put forward recommendations for technology, infrastructure, and policy recommendations to address the market's challenges as these are common challenges other communities face and overcome.

## **Recommendations**

- Launch a privately-operated, hybrid bike share system with City investment in station infrastructure within the identified preliminary Core Phase I Service area

## **Appendices**

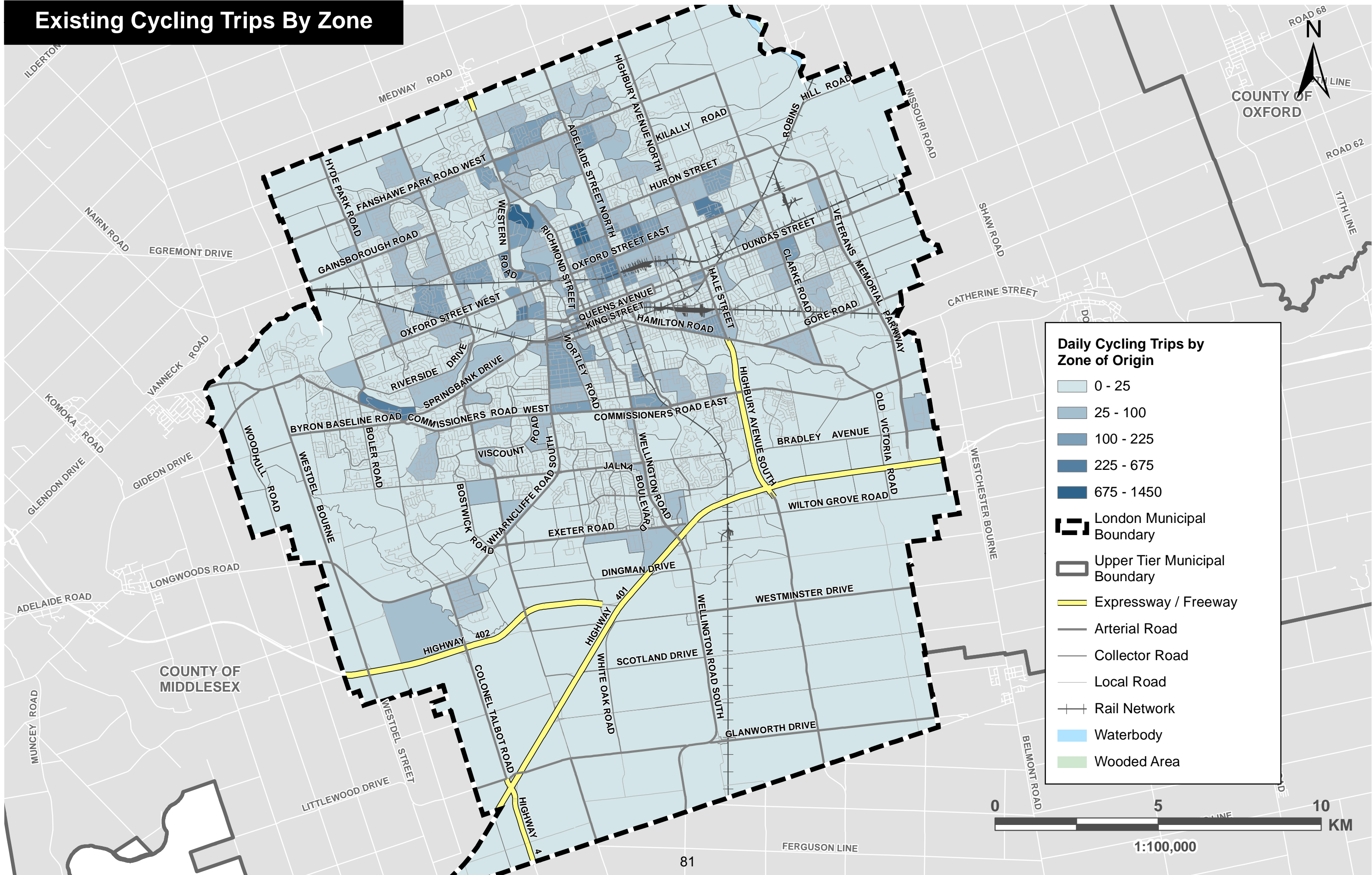
Appendix A – Bike Share Base Maps

Appendix B – Propensity Analysis

Appendix C – Bike Share Service Area

## **Appendix A – Bike Share Base Maps**

# Existing Cycling Trips By Zone



ROAD 68



COUNTY OF OXFORD

ROAD 62

17TH LINE

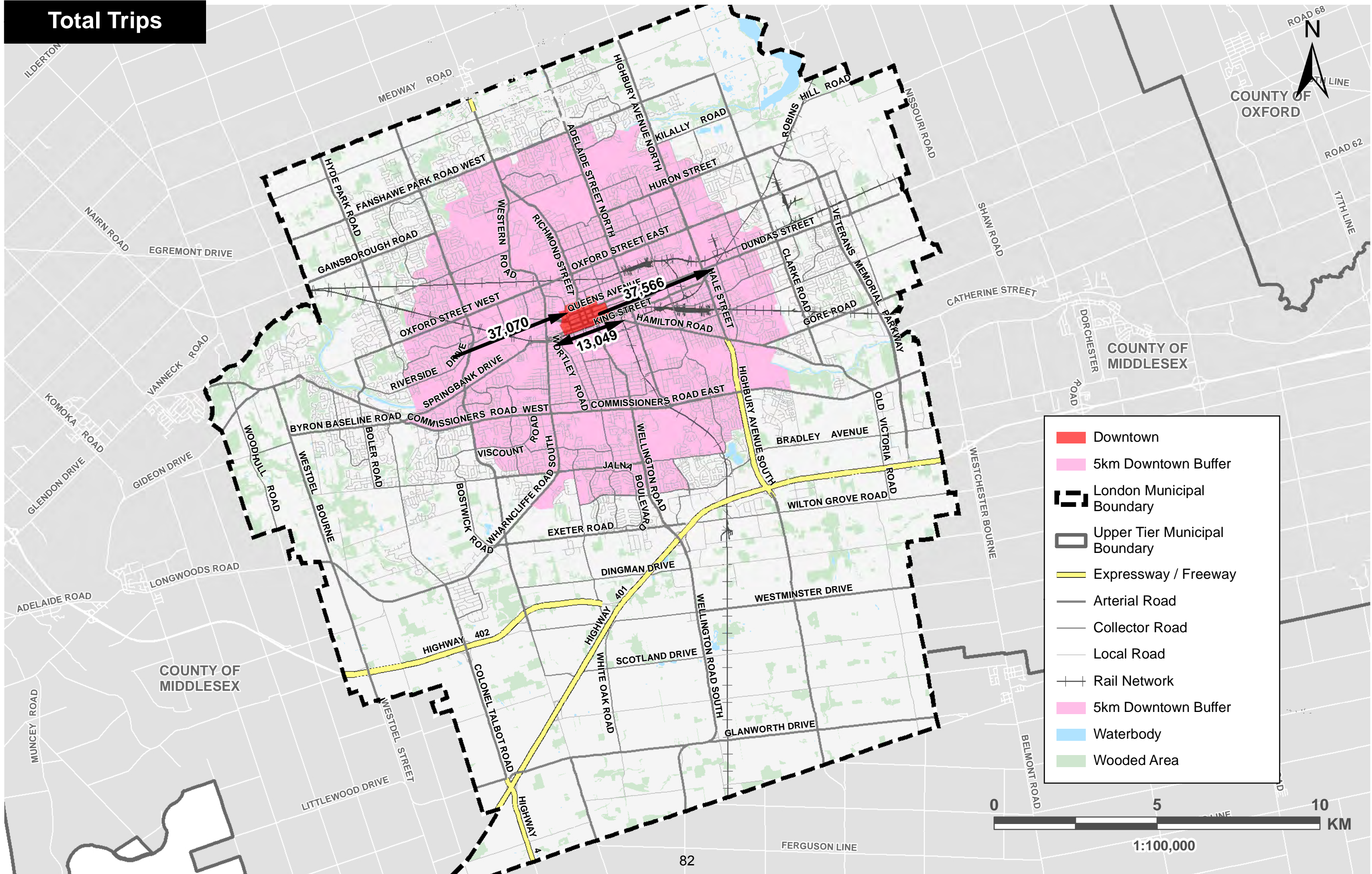


1:100,000

FERGUSON LINE

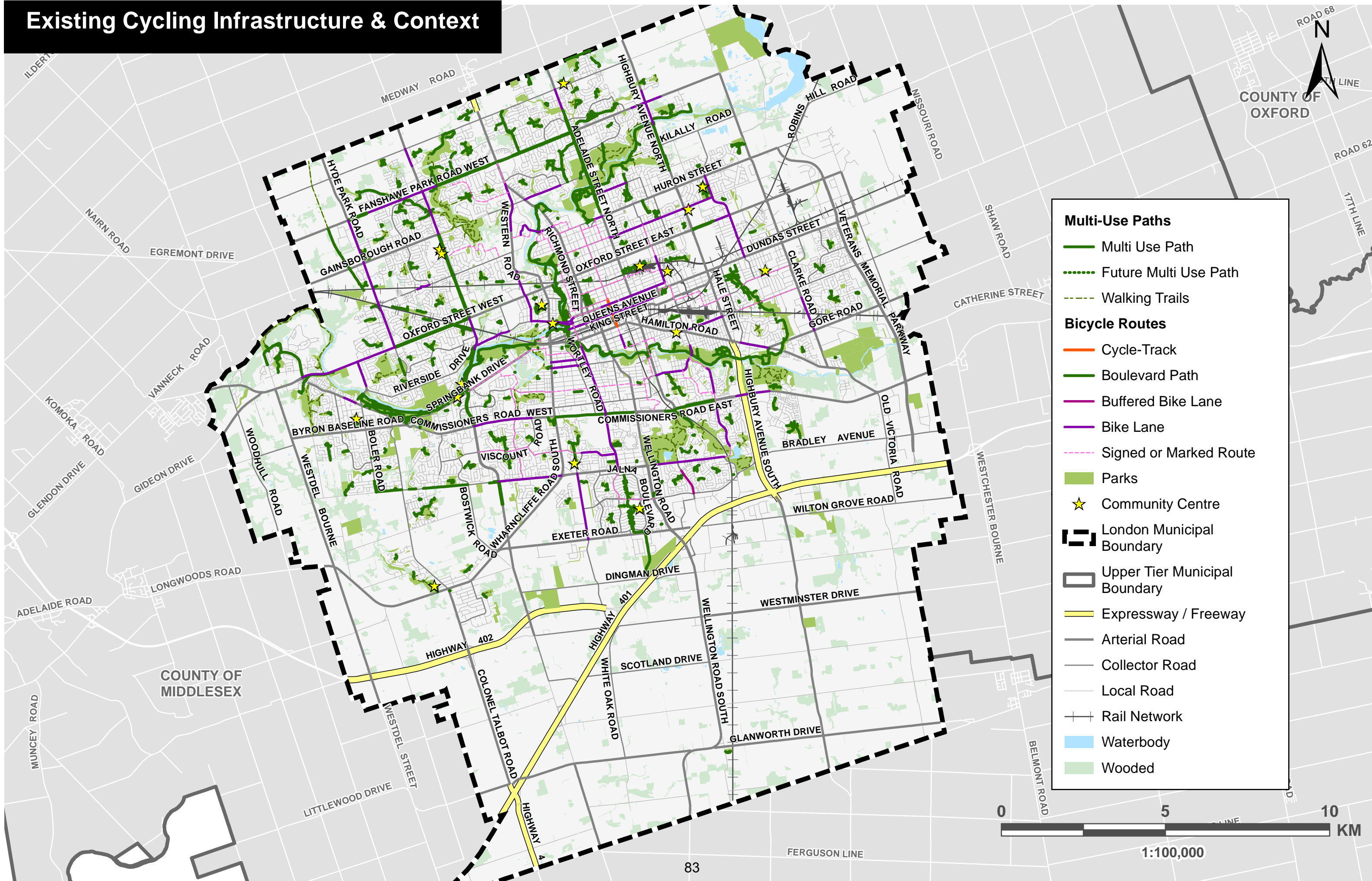


# Total Trips



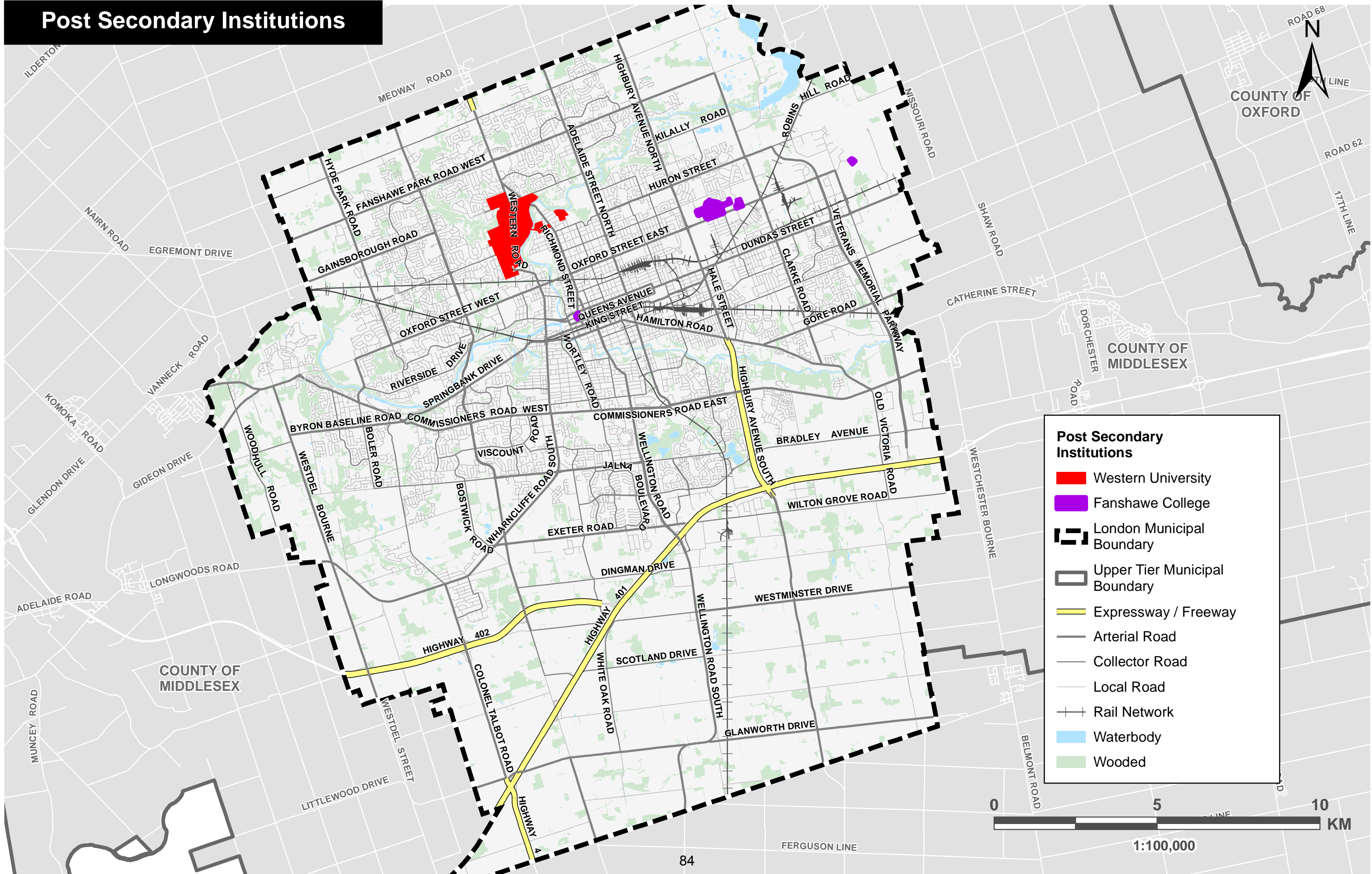


# Existing Cycling Infrastructure & Context





# Post Secondary Institutions

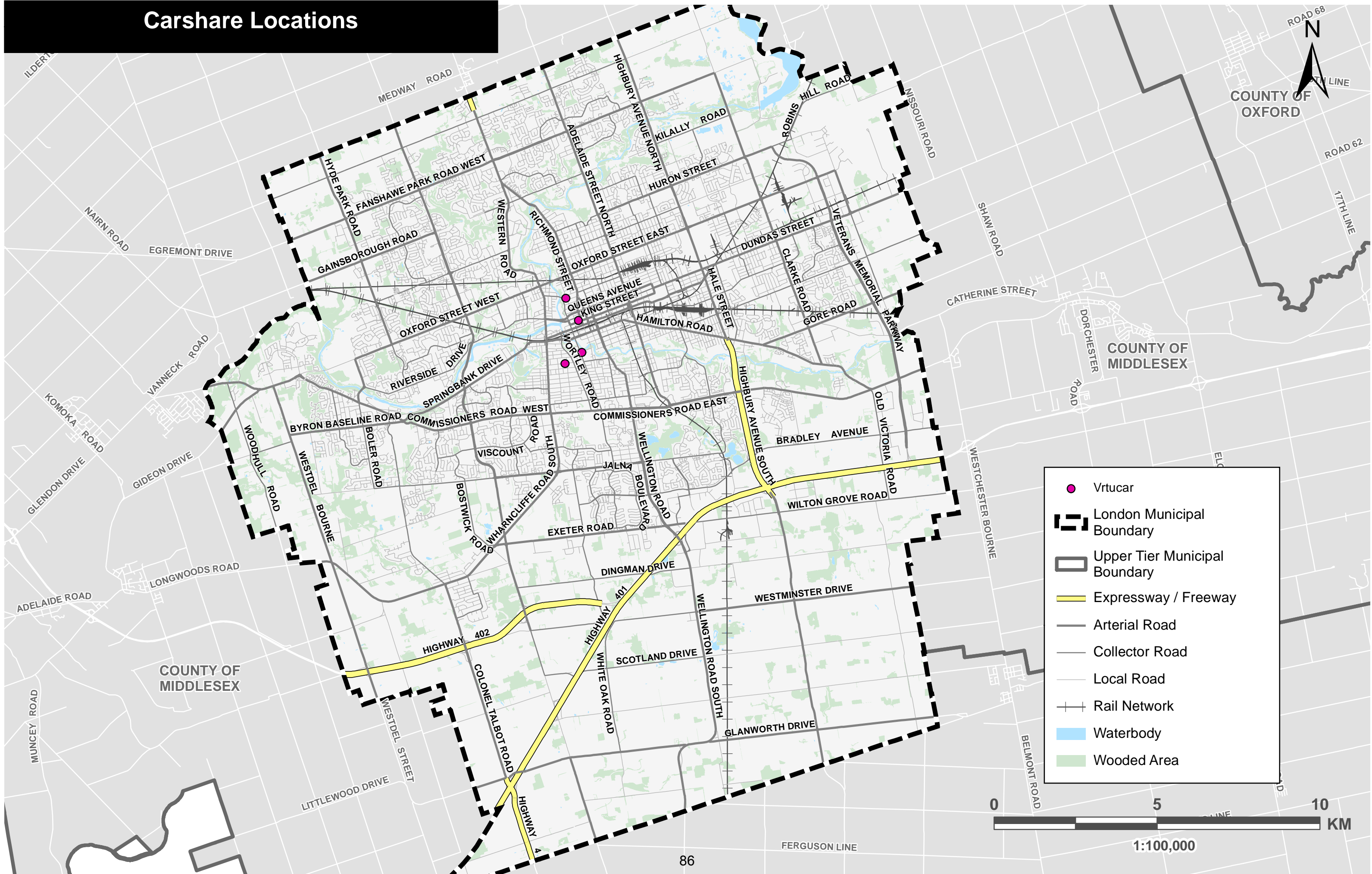








# Carshare Locations



## **Appendix B – Propensity Analysis**



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7th Floor – 55 St. Clair Avenue West  
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tel 416 596 1930 fax 416 596 0644  
[ibigroup.com](http://ibigroup.com)

# Memorandum

<b>To/Attention</b>	Allison Miller, City of London	<b>Date</b>	July 18, 2019
<b>From</b>	Andrew Zalewski, Foursquare ITP	<b>Project No</b>	118299
<b>cc</b>	Zibby Petch, Vikram Hardatt, IBI Group		
<b>Subject</b>	<b>Propensity Analysis</b>		

This memorandum explains the methodology and gives the findings for bike share propensity for London, Ontario.

## Methodology

The propensity analysis is done to find areas that could best support bike share service in London. The results of the propensity analysis show the relative likelihood of bike share ridership demand. As the analysis is relative, a score in one community does not necessarily correlate with the same score in another. For example, a high-scoring area in London may be merely a moderate scoring area in Toronto.

The analysis is organized by a grid of 500-meter x 500-meter cells clipped to London's boundary. The size of the cell corresponds roughly to a coverage area of a bike share station (5 to 10-minute walk).

Table 1 outlines the data and measures used to create the propensity map. Most of these factors relate to high bike share demand, including population density, existing mode share for bike/walk/transit, availability of bike infrastructure, and concentration of retail activity. The team created several iterative maps to understand the impact of weighting and eventually arrived at the following factors and weighting that best reflected the nature of demand in London.

Allison Miller, City of London – July 18, 2019

*Exhibit 1: Data used in propensity analysis*

Data	Source	Weighting
Average people per square kilometre by dissemination area	Statistics Canada	2
Average young people (20 – 35 years old) per square kilometre	Statistics Canada	1
Average trips by bike or walking	City of London Household Travel Survey 2016	2.5
Average trips by transit		0.5
Average number of zero car households	City of London Household Travel Survey 2016	1
Metres of bike infrastructure within one kilometre	City of London	0.5
Distance from nearest proposed bus rapid transit (BRT) station	City of London	0.5
Community center within a square	City of London	0.5
Institutions of Higher Learning	City of London	0.5

The propensity analysis uses a proportional scaling, where each factor is normalized into a score between 0 and 1. For example, if a population density of 1000 people per square kilometer equaled a score of 0.2, 2000 people per square kilometer would be scored a 0.4. The analysis constrains outliers at the top of each sample range so that values over a particular percentile rank (99% for most measures), receive a score of 1. A weighting factor was applied to the factors considered stronger predictors of bike share demand.

## Findings

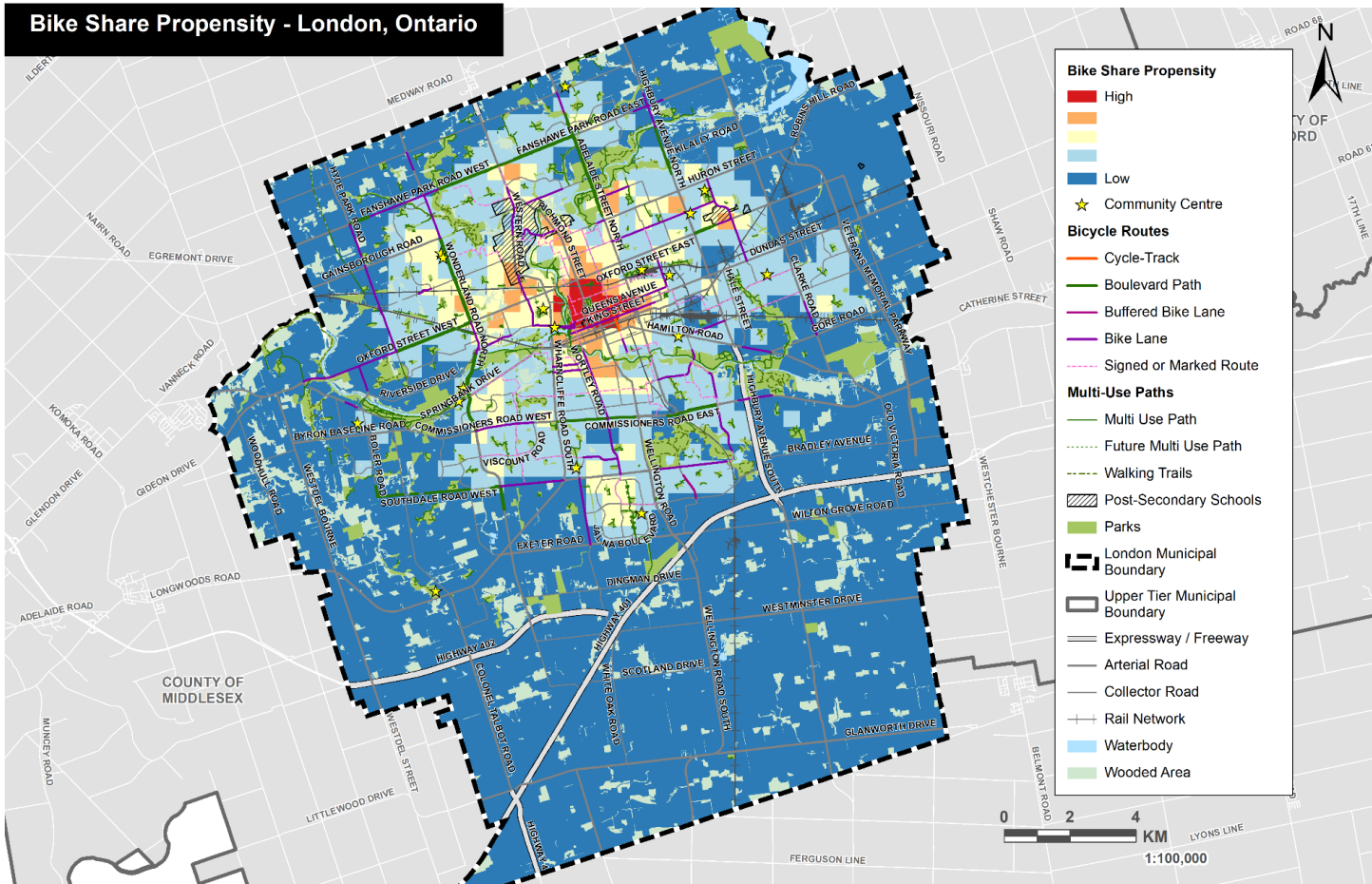
**Figure 1** shows a map of the results of the bike share propensity analysis.





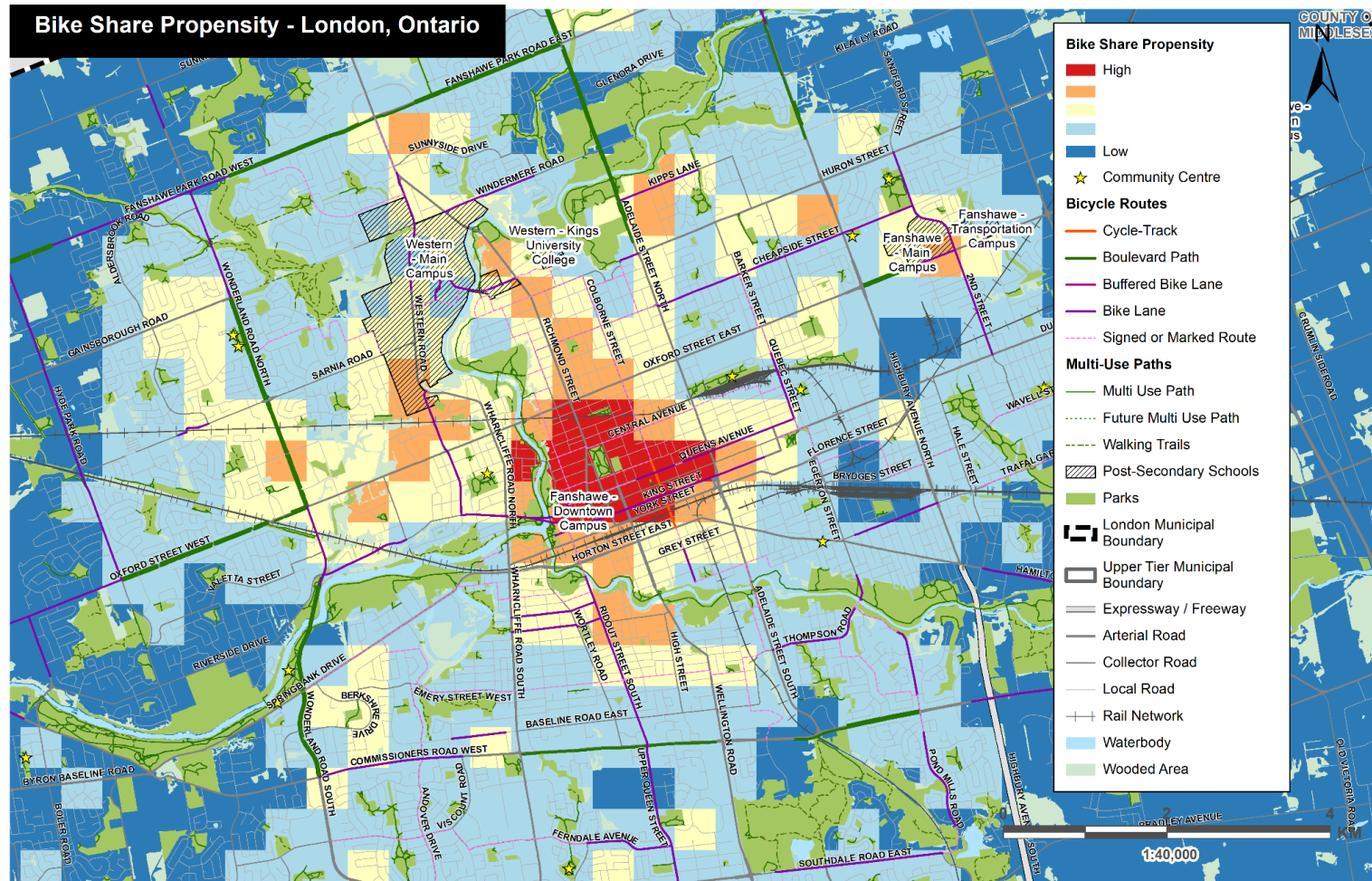
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*Exhibit 2: Results of Bike Share Propensity Analysis for London, Ontario*



Allison Miller, City of London – July 18, 2019

Exhibit 3: Results of Bike Share Propensity Analysis for Downtown London, Ontario





The area of highest bike share propensity is concentrated in Downtown London. Here a dense street grid, multi-family housing, and existing reliance on active modes of transportation contribute to the greatest potential for a bike share system. The other highest scoring areas are located in areas just adjacent to the Downtown core.

### High

- Downtown London
- Old East Village
- Area around Victoria Park and Richmond Row

Moderate-high propensity areas in London generally surround the high scoring areas, although there are some pockets outside of the Downtown core.

### Moderate High

- Richmond Street corridor between Downtown and Masonville
- Old South, notably along south bank of the Thames River
- Western University and University Heights
- West London, near the intersection of Wonderland Rd N. and Oxford Street

The propensity analysis identifies a few challenges that bike share in London may face.

- The city has decentralized development patterns, with several nodes of higher density housing and commercial development. These nodes translate into higher propensity areas but are somewhat isolated from one another. For example, the area near Wonderland Road N. and Oxford Street is an auto-oriented neighbourhood, but high-density housing and a concentration of young adults and zero-car households drive up results. The surrounding land-uses may not be conducive to high rates of cycling.
- Even in the historic core of London, lower-density single family homes are the predominant development type. Few areas feature densities of over 4000 people per square kilometer.

Note that the propensity analysis is just one data point in developing a market analysis for bike share. There are several factors that influence bike share demand that are challenging to measure in a quantitative fashion. These range from the local bicycle culture, to land use, and even topography. While the

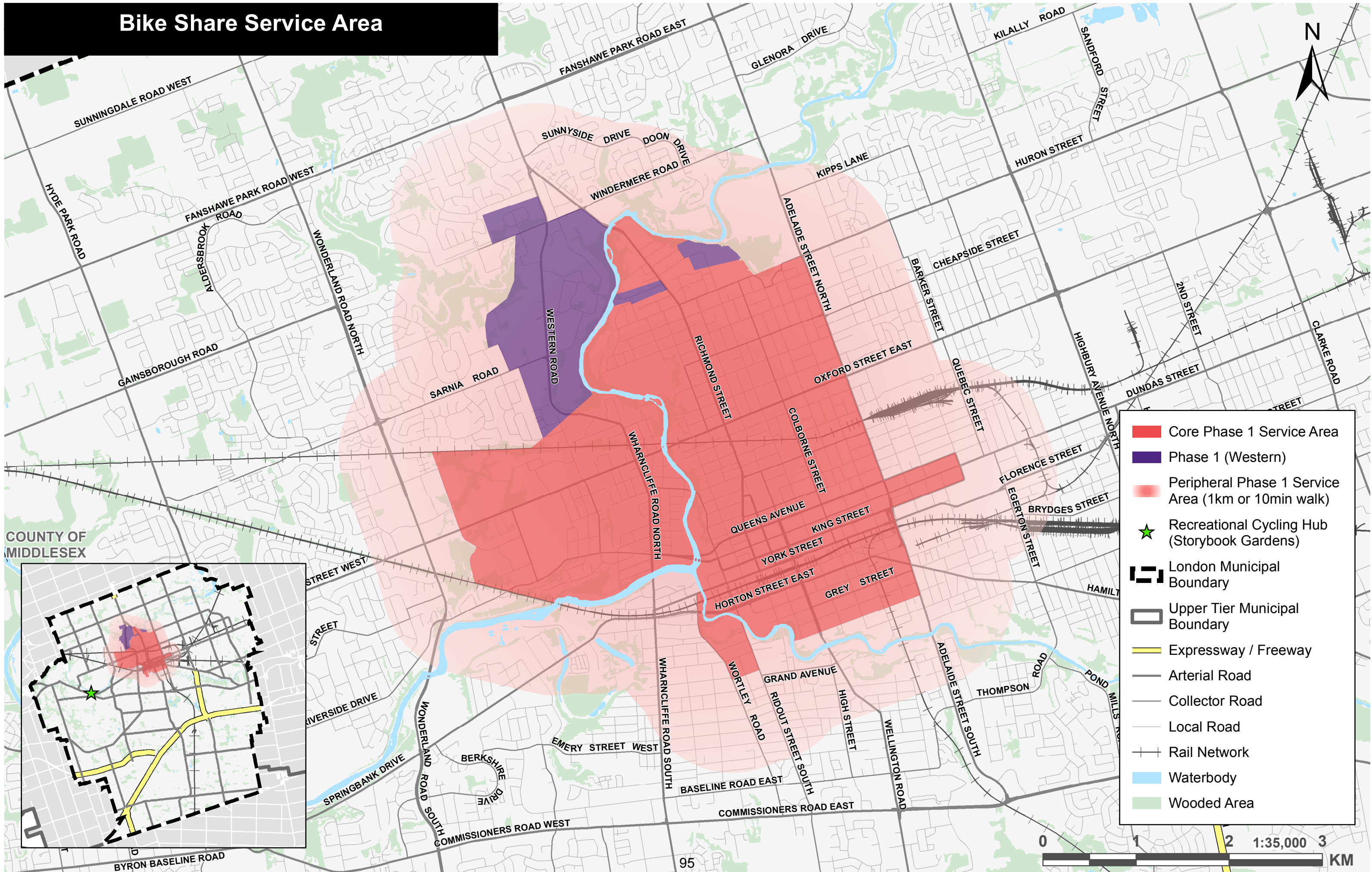


Allison Miller, City of London – July 18, 2019

factors above all correlate to higher bike share ridership, unique variables often determine the busiest bike share locations in a given city. For example, in Washington D.C. the busiest bike share station is at Dupont Circle, a mixed-use neighbourhood that is neither in the heart of the central business district nor the most densely populated residential area in the city. The station succeeds because it includes both a large concentration of jobs and housing which results in all-day demand. The station is also located along a bike route that connects uphill neighbourhoods to the Washington Metro. Many riders use bike share to travel downhill to access transit.

## **Appendix C – Bike Share Service Area**

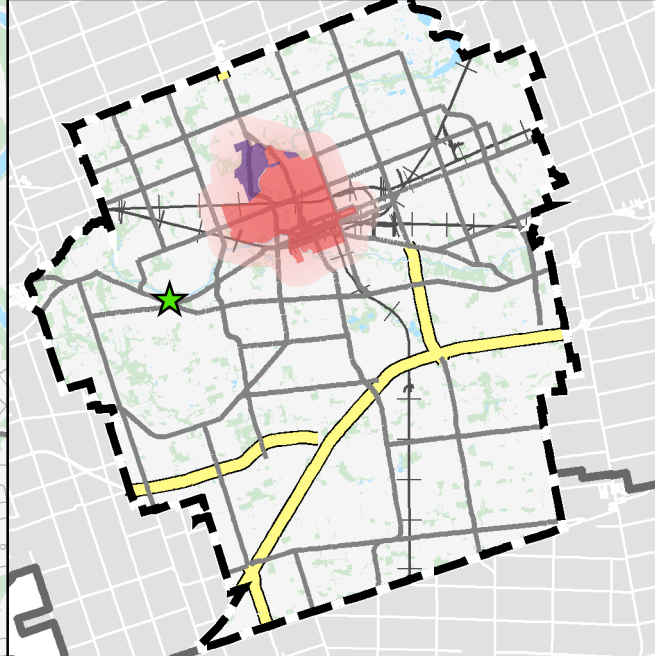
# Bike Share Service Area



- Core Phase 1 Service Area
- Phase 1 (Western)
- Peripheral Phase 1 Service Area (1km or 10min walk)
- Recreational Cycling Hub (Storybook Gardens)
- London Municipal Boundary
- Upper Tier Municipal Boundary
- Expressway / Freeway
- Arterial Road
- Collector Road
- Local Road
- ++ Rail Network
- Waterbody
- Wooded Area



COUNTY OF MIDDLESEX



95

# SECTION E

## Get Involved Contribution Summary (January-March 2019)

**Open**

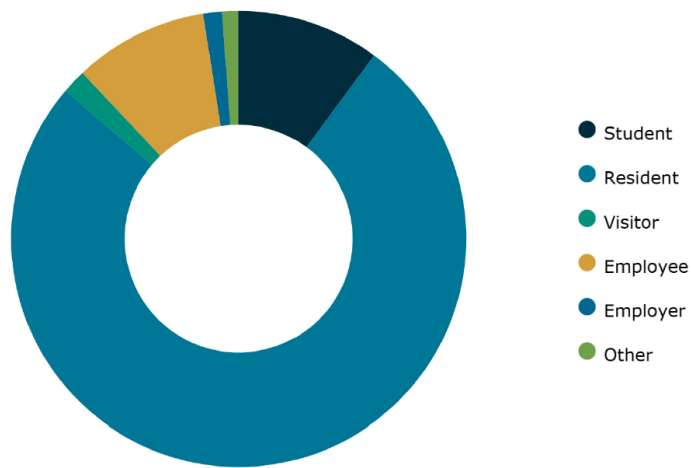
We are Looking for Your Preliminary Feedback  
[Bike Share in London](#)

495 Contributors | 526 Contributions

### Contribution Summary

#### 1. 1. Are you providing your feedback from the perspective of a:

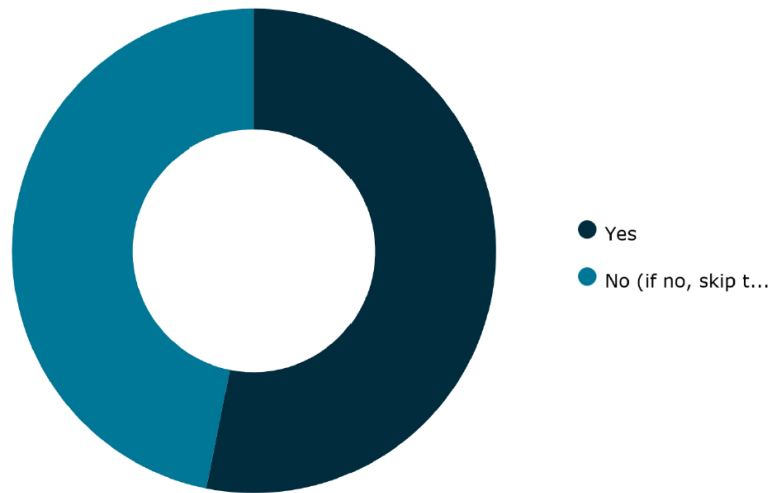
Radio Buttons | Skipped: 3 | Answered: 523 (99.4%)



Answer choices	Percent	Count
Student	10.13%	53
Resident	76.10%	398
Visitor	1.72%	9
Employee	9.56%	50
Employer	1.34%	7
Other	1.15%	6
<b>Total</b>	<b>100.00%</b>	<b>523</b>

## 2. 2. Have you used bike share elsewhere? Required

Radio Buttons | Skipped: 0 | Answered: 526 (100%)



Answer choices	Percent	Count
Yes	53.04%	279
No (if no, skip to question #6)	46.77%	246
<b>Total</b>	<b>100.00%</b>	<b>526</b>

**3. 3. Where? (list locations)**

Short Text | Skipped: 250 | Answered: 276 (52.5%)

**Toronto**

Contribution 276 of 276 | 23 March, 2019

**Toronto, Warsaw, different cities in Europe**

Contribution 275 of 276 | 21 March, 2019

**everywhere**

Contribution 274 of 276 | 17 March, 2019

**Montreal**

Contribution 273 of 276 | 16 March, 2019

**Chicago, San Diego, Philadelphia, Toronto, Michigan, Mackinaw Island**

Contribution 272 of 276 | 13 March, 2019

**Prague, Paris, Amsterdam**

Contribution 271 of 276 | 12 March, 2019

**toronto**

Contribution 270 of 276 | 5 March, 2019

**Montreal, Ottawa, Toronto**

Contribution 269 of 276 | 4 March, 2019

**Proudfoot and wonderland**

Contribution 268 of 276 | 3 March, 2019

**Ottawa**

Contribution 267 of 276 | 3 March, 2019

**Toronto**

Contribution 266 of 276 | 1 March, 2019

**montreal**

Contribution 265 of 276 | 28 February, 2019

<p><b>London, England</b> Contribution 264 of 276   28 February, 2019</p>
<p><b>China</b> Contribution 263 of 276   28 February, 2019</p>
<p><b>Hamilton</b> Contribution 262 of 276   28 February, 2019</p>
<p><b>toronto</b> Contribution 261 of 276   28 February, 2019</p>
<p><b>Toronto</b> Contribution 260 of 276   27 February, 2019</p>
<p><b>Hamilton and Toronto</b> Contribution 259 of 276   27 February, 2019</p>
<p><b>Toronto, Chicago</b> Contribution 258 of 276   27 February, 2019</p>
<p><b>Montreal</b> Contribution 257 of 276   27 February, 2019</p>
<p>Showing 20 latest contributions only. Please see the data results for all contributions to this question.</p>



#### 4. 4. Tell us about your experience

Long Text | Skipped: 268 | Answered: 258 (49%)

Was very convenient

Contribution 258 of 258 | 23 March, 2019

Great way to navigate through the city.

Contribution 257 of 258 | 21 March, 2019

good

Contribution 256 of 258 | 17 March, 2019

easy checking in and out. very affordable comfortable bikes

Contribution 255 of 258 | 16 March, 2019

Each location uses different technology, apps, etc. Some systems designed for 'commuters in the core' with short time periods for rental and high price surges if you go over the allotted time. Others more cater to tourists where they want you to take th...

Contribution 254 of 258 | 13 March, 2019

Easiest to use when theres a one pass for all transportation modes. This makes convenient and easy accessible for everyone. Also renting fee per hour or part of the day should be possible.

Contribution 253 of 258 | 12 March, 2019

Easy to check in and you can leave the bike at another place. Also, there is bicycle infrastructure there. There is not much bicycle infrastructure in London

Contribution 252 of 258 | 5 March, 2019

Such a great way to explore the city, especially when the stations are conveniently located near where you're going. One of my friends in Montreal gave up using his own bike for daily commutes because it was easier to hop on a bikeshare to work than lug h...

Contribution 251 of 258 | 4 March, 2019

I really enjoyed being able to rent and drop off at the next location and not be tied to the bike every day was great

Contribution 250 of 258 | 28 February, 2019

Two different locations, two different days. (1) Near Hyde Park: too few bikes: one empty station, another broken station. Frustrating. (2) Near a big RR station, took it to a different part of London. Easy, simple, convenient.

Contribution 249 of 258 | 28 February, 2019

I loved it! I could go grocery shopping, to work, and all I needed was a pass. Even when I moved to another city I didn't have to worry about transportation of, or fiscal ability to purchase a whole bike, when I wasn't there indefinitely.

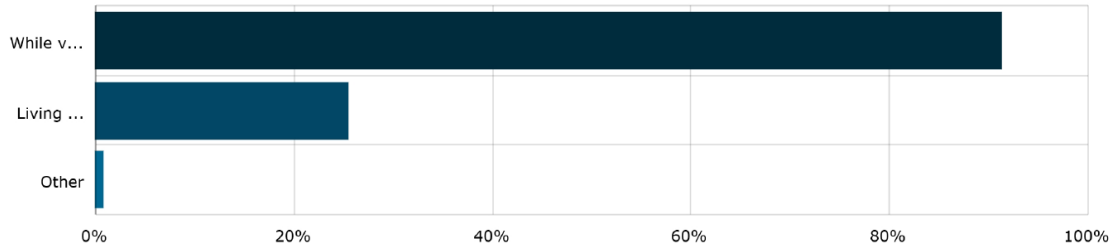
Contribution 248 of 258 | 28 February, 2019



<p><b>Easy, available for use near McMaster I dont remember the cost</b> Contribution 247 of 258   28 February, 2019</p>
<p><b>Everything was great and convenient. I can't tell you how many bikes I've had stolen in London over the years. I'd rather rent.</b> Contribution 246 of 258   28 February, 2019</p>
<p><b>Great experience, was a quick and cost effective way of getting around the city when I needed it.</b> Contribution 245 of 258   27 February, 2019</p>
<p><b>Hamilton's Sobi Bike Share program is incredible. Checking out bikes was done easily through your smartphone. The bike would unlock with a U-lock sort of contraption and you could ride it and lock it up wherever your ride finished. It was very convenient ...</b> Contribution 244 of 258   27 February, 2019</p>
<p><b>Loved it!!</b> Contribution 243 of 258   27 February, 2019</p>
<p><b>Was really easy and cheap. Bikes needed some maintenance but it was easy to swap out because they had lots of stations. Was a really great way to get around the city</b> Contribution 242 of 258   27 February, 2019</p>
<p><b>It was a great way to get around the city as opposed to using the bus.</b> Contribution 241 of 258   27 February, 2019</p>
<p><b>Very convenient and easy to use</b> Contribution 240 of 258   27 February, 2019</p>
<p><b>It was 15+ years ago but very easy to use and free</b> Contribution 239 of 258   27 February, 2019</p>
<p>Showing 20 latest contributions only. Please see the data results for all contributions to this question.</p>

**5. 5. Did you use bike share:**

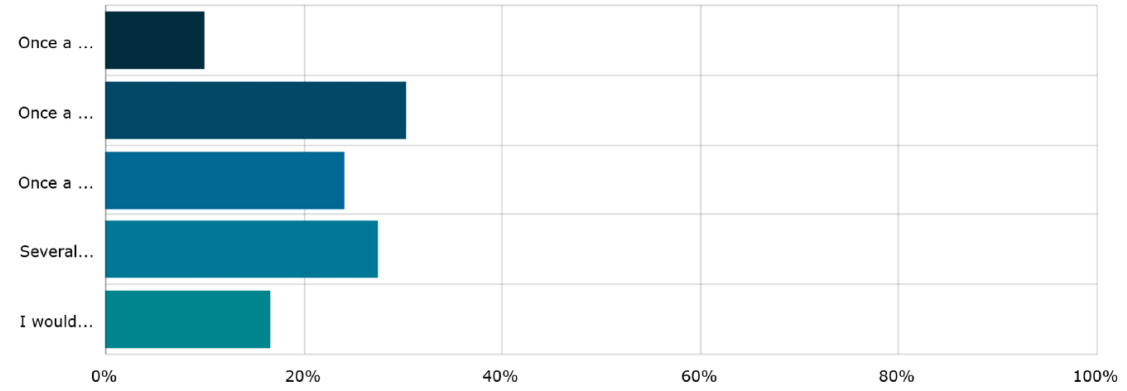
Multiple Checkbox | Skipped: 250 | Answered: 276 (52.5%)



Answer choices	Percent	Count
While visiting another city	91.30%	252
Living in a city with a bike share program	25.36%	70
Other	0.72%	2

**6. 6. How often would you see yourself using bike share in London?**

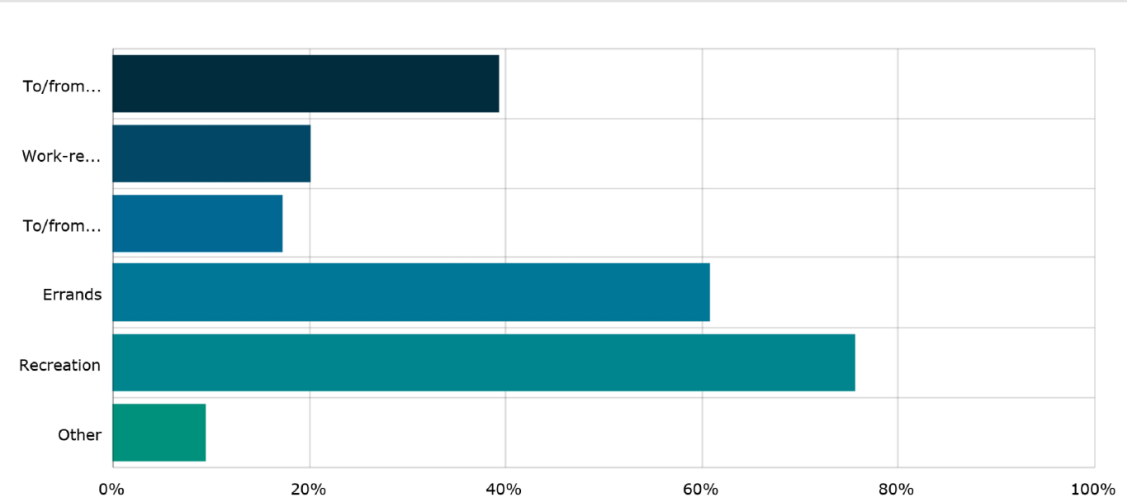
Multiple Checkbox | Skipped: 10 | Answered: 516 (98.1%)



Answer choices	Percent	Count
Once a year	9.88%	51
Once a month	30.23%	156
Once a week	24.03%	124
Several times a week	27.33%	141
I wouldn't use bike share	16.47%	85

**7. 7. What would you use bike share for? (Check all that apply)**

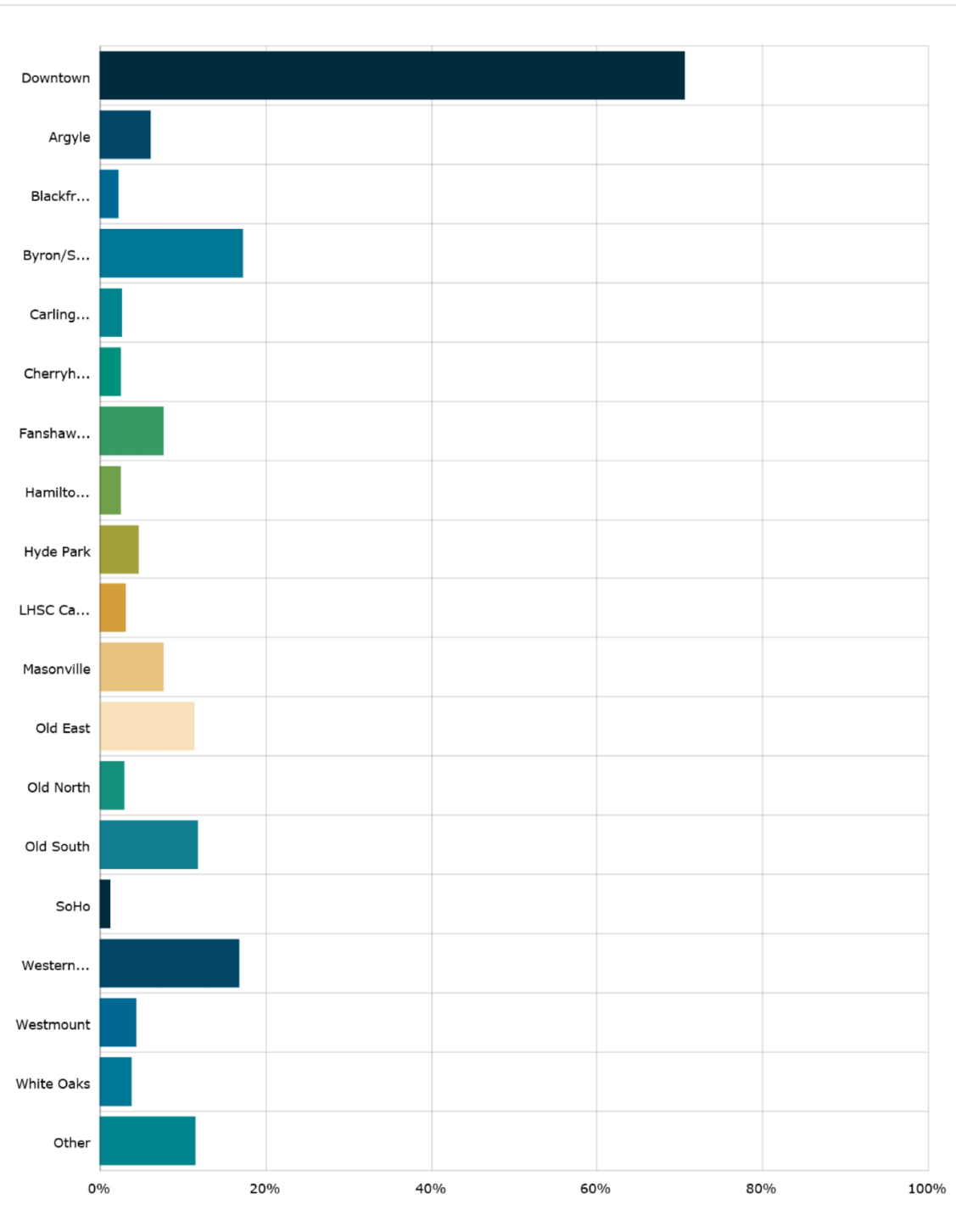
Multiple Checkbox | Skipped: 67 | Answered: 459 (87.3%)



Answer choices	Percent	Count
To/from work	39.22%	180
Work-related trips	20.04%	92
To/from school	17.21%	79
Errands	60.78%	279
Recreation	75.60%	347
Other	9.37%	43

**8. 8. Looking at the list below, which potential service areas would you use bike share in?**

Multiple Checkbox | Skipped: 65 | Answered: 461 (87.6%)



<b>Answer choices</b>	<b>Percent</b>	<b>Count</b>
Downtown	70.50%	325
Argyle	6.07%	28
Blackfriars/Kensington	2.17%	10
Byron/Springbank Park	17.14%	79
Carling/Kipps Lane	2.60%	12
Cherryhill/Proudfoot	2.39%	11
Fanshawe College (main campus)	7.59%	35
Hamilton Road	2.39%	11
Hyde Park	4.56%	21
LHSC Campus	3.04%	14
Masonville	7.59%	35
Old East	11.28%	52
Old North	2.82%	13
Old South	11.71%	54
SoHo	1.08%	5
Western/University Heights	16.70%	77
Westmount	4.34%	20
White Oaks	3.69%	17
Other	11.50%	53

**9. 9. For the Guiding Principles for this project (shown top right), do you:**

Radio Buttons | Skipped: 27 | Answered: 499 (94.9%)



Answer choices	Percent	Count
Agree	74.15%	370
Disagree	9.02%	45
Don't Know	16.83%	84
<b>Total</b>	<b>100.00%</b>	<b>499</b>

**10. 10. Please provide your comments about the Guiding Principles for this project (shown top right).**

Long Text | Skipped: 275 | Answered: 251 (47.7%)

I would love to see our city more bike friendly. I would love to bike safely as a family. Might do well to include family friendly options too. I think it would improve the air quality and health in our city. The plan doesn't mention anything about the...  
Contribution 251 of 251 | 28 March, 2019

As a very comfortable and experienced Cyclist our current infrastructure will not support a bike share program. A few bike lanes will not support this project and until a network of dedicated space that allows true movement through the core and outlying ...  
Contribution 250 of 251 | 19 March, 2019

Financial - agree with. Program should stand on its own merit but don't overstate ridership which is typically done on programs like this. Easy to ramp up program if ridership is good, but sunk costs we are stuck with. Mobility and access is accurate...  
Contribution 249 of 251 | 13 March, 2019

People will steal these bikes or wreck them. This will become very costly  
Contribution 248 of 251 | 9 March, 2019

Bicycle theft needs to be addressed first. This is the cart before the horse.  
Contribution 247 of 251 | 6 March, 2019

The problem in London is that there is not enough bicycle infrastructure here to make the use of bike share viable. For those of us who cycle here, we have our own bikes. For people who visit, this place is not very bicycle friendly. You need to create th...  
Contribution 246 of 251 | 5 March, 2019

Able to rent a bike, to cycle along the TVP and other branches, would be great.  
Contribution 245 of 251 | 4 March, 2019

Bring this to our city quickly. Fossil fuels are killing everyone  
Contribution 244 of 251 | 3 March, 2019

Though I am not familiar with whether the BRT will be completed soon, I agree with the Guiding Principles of the project. When I began this year, I rode my bicycle every day to school and home, as it was convenient and I felt that I was helping to reduce ...  
Contribution 243 of 251 | 1 March, 2019

Most important: you carefully didn't provide simple, clear options for "I don't think that London should have a bike share" or "I don't think that this is a City government priority, at all" or "this should be 100% handled by private industry". The only ...  
Contribution 242 of 251 | 28 February, 2019

I hope it's implemented sooner than the compost! Also dislike that you can't select more than one area of London.  
Contribution 241 of 251 | 28 February, 2019



I wouldnt use it in London as I have my own bike but I think it would be great for the downtown core and our students at western and fanshawe  
Contribution 240 of 251 | 28 February, 2019

I've seen bike sharing in other cities and thought it was a terrific idea.  
Contribution 239 of 251 | 27 February, 2019

We need to find alternative solutions to driving in London. This is an interesting idea!  
Contribution 238 of 251 | 27 February, 2019

I think that the Guiding Principle of 'Community Building' is completely underrated. It's great that you guys have it there though of course! Hamilton's Sobi Bike program was huge in terms of the city's growth over the past 5 years and in London it can on...  
Contribution 237 of 251 | 27 February, 2019

Please bring this program to London. We spend so much money to improve roads for cars. Im reallt tired of living in a city that privileges cars so much over bikes and other forms of non-polluting transportation.  
Contribution 236 of 251 | 27 February, 2019

I cant open the pdf  
Contribution 235 of 251 | 27 February, 2019

Bike lanes will be needed on Oxford St and Richmond St and there needs to be stricter policing of vehicles not respecting bike laws/using bike lanes as turning lanes etc. Also, there's a huge bike theft problem in London. This needs to be considered as we...  
Contribution 234 of 251 | 27 February, 2019

I think there is a piece missing from this one - Leverage the bikeshare system and accompanying cycling usage as a tool to promote livability, and attract or retain residents, businesses and visitors. Should add stronger and more definitive language about...  
Contribution 233 of 251 | 27 February, 2019

Consider using left over bikes from police auctions and refurbishing them. We need to reduce our consumption footprint in this world and not just buy new all the time.  
Contribution 232 of 251 | 27 February, 2019

Showing 20 latest contributions only. Please see the data results for all contributions to this question.



# Memorandum

**To/Attention** Allison Miller, City of London      **Date** July 23, 2019  
**From** Zibby Petch (IBI Group), Vikram Hardatt (IBI Group), Andrew Zalewski (Foursquare ITP)      **Project No** 118299  
**Subject** **Bike Share Background Details and Preliminary Analysis – Executive Summary**

## Overview

The City of London has prepared a business case to launch a public bike share system. This memo provides a summary of the technical work completed throughout the project, including a peer review of existing bike share systems, market share and propensity analysis, stakeholder workshops and online public consultation, and the business case findings and key recommendations.

## Peer Review

The project team conducted a peer review of 10 bike share systems across North America (refer to **Exhibit 1**). The peer review included: 1) examples of Canadian bike share systems; and 2) examples of bike share systems in communities with similar characteristics to London in terms of size, demographics, and land-use patterns.

*Exhibit 1: Bike Share Peer Review Summary*

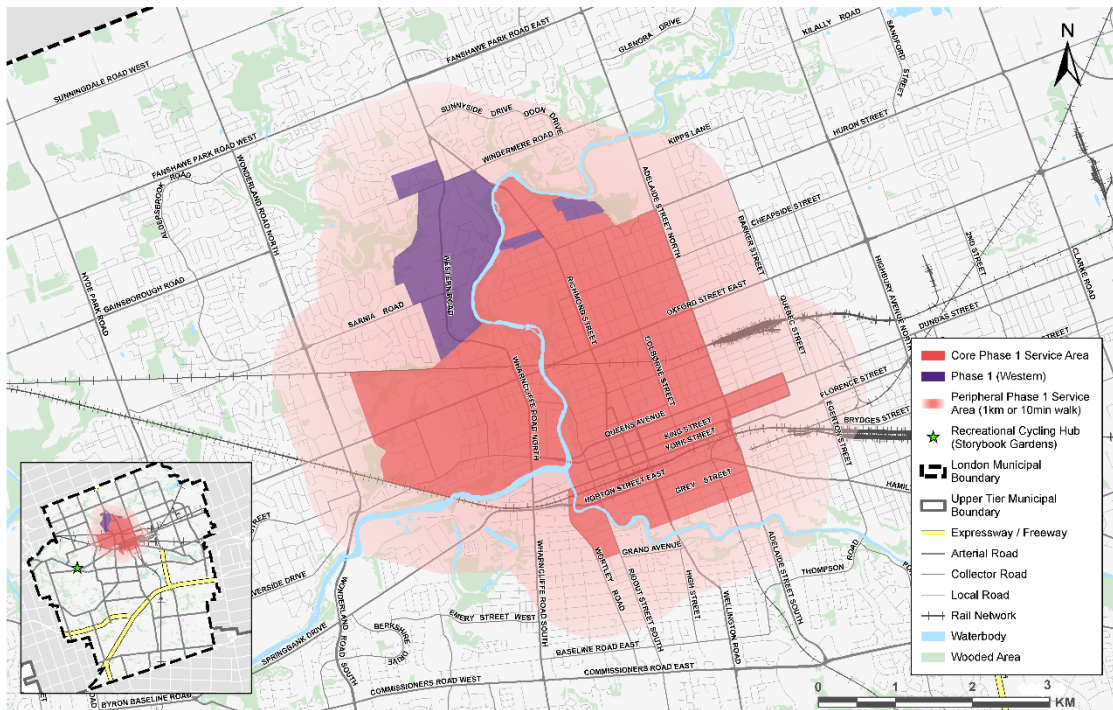
Location	Type of System	Ownership	Operator	Year Launched
Hamilton, ON	Hybrid	Public	Non-profit	2015
Toronto, ON	Docked	Public	Private	2011
Waterloo Region, ON	Dockless	Private	Private	2019
Kingston, ON	Dockless	Private	Private	2019
Calgary, AB	Dockless	Private	Private	2017
Kelowna, BC	Dockless	Private	Private	2018
Victoria, BC	Dockless	Private	Private	2018
Howard County, MD	Docked	Private	Private	2017
Boulder, CO	Docked	Private	Private	2011
Topeka, KS	Hybrid	Public	Public	2015

Peer review system operators and/or City representatives were contacted to review system challenges and successes, operating and capital costs (where available), and notable lessons learned to inform the business case for London.

### Market Share & Propensity Analysis

A market share and propensity analysis was completed to identify the potential initial size of a bike share system in London. Based on public feedback, the location of existing infrastructure, and propensity analysis, Downtown London and surrounding areas show the greatest promise for a successful bike share system. A recommended Core Phase I Service area is shown in **Exhibit 2**.

*Exhibit 2: Preliminary Core Phase I Service Area*



For additional information on the market share and propensity analysis, see Bike Share Preliminary Analysis – Part One, **Section D**.

### Stakeholder Workshops and Public Consultation

The City of London hosted two workshops on April 8<sup>th</sup>, 2019, together with IBI Group and Foursquare ITP, including one for City staff and one for community stakeholders. Both workshops generated feedback about how bike share might impact other City services and the broader community. Overall, each workshop indicated support for the program and some stakeholders indicated they would like to be further engaged to help plan, implement, and support the program.

To coincide with the Business Case development, City staff sought community feedback through the City's Get Involved website. It was promoted at the City's 2019 London Home Show display, via a London Hydro insert, and through social media. Between late January and late March, 526 responses were received. Key results included:

- Of the 98% who answered the question, 82% said they would use bike share in London at least once a month, once a week, or several times a week. 16% indicated they would not use bike share.
- Of the 87% who answered the question, 40% indicated they would use bike share for commuting to/from work, 61% to run errands, and 76% for recreation.
- Of the 88% who answered the question, 71% indicated they would use bike share in the downtown. Other popular potential areas included 17% in Byron/Springbank Park, 17% in Western/University Heights area, 12% in Old South, and 11% in Old East.

## Business Case Analysis

### *Background*

There are a wide range of ways that bike share systems are organized in North America. If the City of London chooses to move forward with bike share, it will need to formulate a business model that best meets local needs. There are four key components to any bike share business model:

- **Program Ownership and Governance:** Ownership refers to both the physical equipment and responsibility for decision-making. Until recently, most North American systems were owned by a municipality or a non-profit. Today, several private firms have started dockless bike share programs that operate without public financial support. Regardless of the ownership model, the City will need dedicated resources to oversee bike share operations and ensure operators comply with local rules and regulations.
- **Program Operations:** Operations and ownership are frequently decoupled from one-another in the bike share industry. While nearly all private and non-profit bike share systems operate their system directly, most publicly-owned systems contract out operations to a third-party vendor in exchange for a fixed-fee or revenue guarantee.
- **Funding Structure:** Bike share programs have limited access to provincial and federal funding. Most systems rely largely on user revenue, sponsorships, private donations, and advertising. Public and non-profit programs frequently require public funding for capital and operating, while private dockless systems operate without public assistance. Private dockless firms (e.g. Lime, DropBike, JUMP) have yet to demonstrate a sustainable business model but are backed by funding from venture capital and ridehailing firms.

- **Technology:** Bike share systems generally utilize three types of docking technologies: a dock-based station system, a dockless system, and a hybrid system. These options are described in more detail in the technical details below. All three docking technologies may utilize conventional or electric-assist bicycles.

### **Technical Details & Scenario Comparison**

Capital costs for the three common docking technologies are shown in **Exhibit 3**. A dockless or hybrid system are the most likely options for London as docked-systems are increasingly uncommon in small and mid-size systems due to their cost and complexity. A dockless system can be easily adapted into a hybrid program by incorporating station infrastructure. The implementation costs will vary considerably for hybrid systems based on the design of stations.

*Exhibit 3: Comparison of Three Common Bike Share Technology Types for a 300 Bicycle System*

	<b>Dock-Based System</b>	<b>Fully Dockless</b>	<b>Hybrid System</b>
Description	Bicycles locked to mechanical docks at designated stations. All stations include a payment kiosk and signage.	Bicycles do not need to be locked to a fixed object. No station infrastructure.	Dockless bicycles combined with simple stations. Stations may vary from a bicycle rack to location with a payment kiosk and signage.
300 Bicycles	\$ 380,000	\$ 670,000	\$ 670,000
60 Hubs/Stations	\$ 2,630,000	\$ 0	\$ 850,000 <sup>1</sup>
<b>Total</b>	<b>\$ 3,010,000</b>	<b>\$ 670,000</b>	<b>\$ 1,520,000</b>
Pros	<ul style="list-style-type: none"> <li>• Least prone to theft</li> <li>• Alleviates concerns over improperly parked bicycles.</li> </ul>	<ul style="list-style-type: none"> <li>• Low capital costs.</li> <li>• Flexible operations – trips can start or end anywhere in a service area</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces likelihood of improperly parked bicycles due to use of stations.</li> <li>• Combines pros of dockless and docked.</li> </ul>
Cons	<ul style="list-style-type: none"> <li>• High capital costs.</li> <li>• More complex to operate due to need to manage dock/bicycle availability.</li> <li>• Trips limited to destinations near stations.</li> </ul>	<ul style="list-style-type: none"> <li>• Many dockless systems struggle with enforcing bike parking regulations; bicycles end up blocking the public right-of-way.</li> <li>• More susceptible to theft and vandalism.</li> </ul>	<ul style="list-style-type: none"> <li>• More expensive than a dockless system</li> <li>• Does not fully eliminate concerns over theft, vandalism, and improperly locked bicycles.</li> </ul>

<sup>1</sup> Assumes that all stations/hubs include bicycle racks and signage. Twenty percent of station would feature a kiosk. Station costs can scale down or up based on the type of station investment. Eliminating kiosks would significantly reduce costs.

	Dock-Based System	Fully Dockless	Hybrid System
	<ul style="list-style-type: none"> <li>Mechanical stations are a point of failure.</li> </ul>		

### Implementation Scenarios

The study team forecasted the costs borne by the City of London under the three most likely operating scenarios: a City-owned bike share program, a fully privately owned and operated program, and a program that is privately operated but includes a public contribution in the form of station infrastructure.

Exhibit 4: Costs to City under three Operating Scenarios for a 300 Bicycle System<sup>2</sup>

	Publicly-Owned	Privately-Owned No public investment	Privately-Owned Public investment in stations
Technology Assumption	Hybrid System	Dockless System	Hybrid System
Annual Ridership	125,000	125,000	125,000
<b>Capital Costs (City Costs)</b>			
Bicycles (300)	\$ 670,000	\$ 0	\$ 0
Stations/hubs (60)	\$ 860,000	\$ 0	\$ 860,000
Total	<b>\$ 1,530,000</b>	<b>\$ 0</b>	<b>\$ 860,000</b>
Annual Capital State of Good Costs <sup>3</sup>	\$ 160,000	\$ 0	\$ 70,000
<b>Annual O&amp;M Costs (City Costs)</b>			
City Administrative staff (1/3 FTE)	\$ 35,000	< \$35,000	< \$35,000
Program Operations	\$ 540,000	\$ 0	\$ 0
Program Marketing and Outreach	\$ 15,000	\$ 0	\$ 0
Total	\$ 590,000	< \$35,000	< \$35,000
<b>Annual Revenue (City Revenue)</b>			
User fees	\$ 280,000	\$ 0	\$ 0
Advertising/Sponsorship	unknown	\$ 0	\$ 0
Total	\$ 280,000	\$ 0	\$ 0
<b>Net Subsidy<sup>4</sup> (City Costs)</b>			
Total	\$ 310,000	< \$35,000	< \$35,000
Operating Subsidy per Rider	\$ 2.48	\$ 0.28	\$ 0.28
<b>Pros and Cons</b>			
Pros	<ul style="list-style-type: none"> <li>Maximizes City control over program</li> </ul>	<ul style="list-style-type: none"> <li>Lowest cost to City</li> </ul>	<ul style="list-style-type: none"> <li>City maintains some control over bicycle deployment.</li> </ul>

<sup>2</sup> All figures are planning-level estimates and subject to change based on underlying assumptions and implementation details.

<sup>3</sup> Assumes City sets aside a fixed annual sum to replace equipment at end of useful life.

<sup>4</sup> City subsidy may be offset by usage fees (i.e. sponsorship, advertisements or grant opportunities)

	Publicly-Owned	Privately-Owned No public investment	Privately-Owned Public investment in stations
	<ul style="list-style-type: none"> <li>Feasible even with weak private-sector interest in operating bike share in London</li> </ul>	<ul style="list-style-type: none"> <li>Absolves City of financial risk associated with funding and operating bikeshare.</li> </ul>	<ul style="list-style-type: none"> <li>Station infrastructure could be used to generate advertising revenue.</li> </ul>
Cons	<ul style="list-style-type: none"> <li>City takes on risk and responsibility for bike share.</li> <li>Most costly scenario for City.</li> </ul>	<ul style="list-style-type: none"> <li>City has little control over program deployment.</li> <li>Lack of stations could result in bikes being improperly parked on sidewalks.</li> </ul>	<ul style="list-style-type: none"> <li>City could be left with redundant station infrastructure if private operator folds.</li> </ul>

See additional information in Bike Share Preliminary Analysis – Part One, **Section G**.

**Key Recommendations & Findings**

Building on the business case, it is recommended that the City of London:

- Implement a Request for Proposals (RFP) process to obtain pricing and a vendor that can implement a bike share system in London based on the following key parameters (assuming 300 bikes are required):
  - all bikes, software and hardware to be provided by the vendor;
  - all operating and maintenance costs to deliver the bike share system to be provided by the vendor;
  - project duration for up to three years with two, one year options at the sole discretion of the City of London;
  - operate in the service areas delineated by the City of London through a licensing agreement;
  - a one-time capital investment into bike sharing parking installations provided by the City of London (racks that are available to bike share users and other London cyclists);
  - work with City staff to develop an equity program for low-income Londoners and an employer membership program; and
  - allow an option whereby the vendor can propose an alternative program and costing arrangement.







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- **Operations:** How are program operations structured? Is the program owner or a third-party responsible for operations?
- **Technology:** What type of bicycles and stations (if applicable) will be used? What method is used by riders to access the bicycles? What kind of technology is used to monitor the program?
- **Funding:** How are the system funding operations and capital costs? What is the program’s funding needs?

This technical memo will outline the various options under each component of the business plan. The study team has chosen to pay special attention to the two most likely models for the City: A publicly owned but privately-operated program and a for-profit system regulated by the City

### **Governance and Ownership Model**

One of the first steps in developing a bike share program is determining a basic governance and ownership structure. When we speak of governance and ownership we specifically refer to two things: (1) who owns the physical infrastructure of bike share and takes on the financial responsibility (and risk) for the program and (2) who ultimately makes decisions about the system, including its size, operating structure, and user costs. The ownership model of programs falls into one of three general categories: **For-Profit** (either fully private or part of a “sole-source” agreement), **Public**, and **Non-Profit**.

### ***For-Profit Bike Share***

A key decision for the City of London will be whether to pursue a **For-Profit-owned** bike share system regulated by the city or one that will be run by a **public** or **non-profit** entity. Until a few years ago, for-profit bike share programs were rare in North America. Nearly all of these older bike share systems required public or private funding to support operations and the private sector was primarily engaged in bike share through the sale of services and equipment to public or non-profit entities. Over the last three years, the bike share market has changed significantly due to an infusion of over \$2 billion in venture-capital funding. Start-ups like Spin, Lime, and Drop Bike, are launching shared bicycle and scooter programs in cities across North America. Parallel to this, established firms in the mobility market like Uber and Lyft have acquired bike share firms (e.g. Social Bikes, the company supplying equipment for SoBi Hamilton) and are looking to bike share as part of a strategy to diversify their businesses into multi-modal mobility providers.

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### *Types of Private-Sector Systems*

There are two methods other cities have approached engaging for-profit bike share firms:

- Setting up a regulatory and licensing framework that permits compliant firms, (possibly more than one) to operate bike share programs.
- Actively solicit a for-profit bike share operator through a sole-source agreement.

Under the first option, London would create the necessary regulatory structure to permit private firms to freely operate within the city. Several cities in North America have followed this model. In cases like Seattle, Dallas, San Francisco, and Washington D.C., multiple competing micro-mobility firms eventually established bike share or scooter share systems in the same market. Competitive bike share markets have seen a great deal of volatility as firms quickly enter and exit the market or change their approach (e.g. shift from bicycles to scooters). London, due to its smaller size and lower density, may struggle to attract a for-profit system without additional incentives.

Other cities have turned to sole-source agreement (sometimes referred to as a concession or franchise) as an alternative method to attract a for-profit bike share system. Under a sole-source, London could competitively solicit proposals from for-profit bike share firms. The winning bid(s) would be granted the right to operate in the public right-of-way, often with certain stipulations tied to the contract such as coverage or level of service requirements. To incentivize respondents, some cities grant the operator the exclusive right to operate bike share in the public right-of-way or include financial incentives like publicly-funded capital investments. Kingston, Ontario has entered into an agreement with Drop Bike that includes a City commitment to improving bicycle infrastructure in exchange for Drop Bike operating the system at no cost to the City. Such partnerships can be a fairly low-risk way of establishing a bike share program.

### *Trade-Offs of For-Profit Ownership*

The opportunity to create a bike share program at little to no cost to the public may seem attractive, but London should be aware of some limitations with the private model. To properly enforce local regulations (or terms in a sole-source agreement) the City will need to invest resources in oversight and enforcement. Other communities have struggled to ensure for-profit firms meet regulatory requirements without proactive monitoring of bike share operations. As mentioned previously, there is a great deal of volatility in the bike share marketplace. It is unclear whether any for-profit bike share firms make a profit and some firms have abruptly left cities or overhauled their business models.

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The firms active in the market today may not be around in a few years due to bankruptcy or consolidation. There are already a few high-profile examples of providers abandoning large numbers of bicycles when they close-up shop; for example, in Dallas the bike share firm Ofo scrapped hundreds of bicycles when it withdrew from the city.

**Public or Non-Profit Programs**

Many bike share systems, including most of the larger programs, are **publicly-owned**. Public ownership is especially common when the program depends on extensive public financial support. Under this model, the public entity purchases the bike share equipment and either directly operates the system or hands over equipment to a private vendor for operations.

**Non-profit** bike share systems function similarly to public programs, except that instead of being directly owned by a public entity, an existing or newly established non-profit organization owns the system and operates it for the public’s benefit. Many early bike share programs in North America, as shown in Exhibit 1 below, were established by non-profits, and non-profits are still prominently represented among new bike share programs. The decision to establish a non-profit vs. a publicly owned system often comes down to local circumstances. Non-profits tend to appear in places where there was a strong non-governmental advocate for bike share. Some cities have pursued a non-profit model to insulate the program from political volatility.

*Trade-Offs of Public or Non-Profit Ownership*

Public and non-profit systems have a number of benefits. The City of London would be able to exert a greater deal of control over operations, the placement of stations, and quality of service if it directly owned the program or had a non-profit control it as an intermediary. In many markets where a private-firm simply would not be sustainable, a subsidized public or non-profit system is the only feasible way to run bike share. The greatest downside is that a public or non-profit system will place greater risk and responsibility on the City to operate bike share. Even independent non-profits may require public bail-outs to operate, and publicly owned systems often result in a long-term public financial commitment.

*Exhibit 1: Ownership Structures among Bike Share Programs*

Model	Description	Example
Public	City, public authority, or regional owner. Operations can be contracted out to a third party.	Toronto Bike Share

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Model	Description	Example
<b>Non-Profit</b>	Existing non-profit or dedicated non-profit program. Similar to public model.	Waterloo (Former Community Access Bike Share); Boulder, CO; Bixi (Montreal)
<b>Private Sole-Source</b>	Private organization owns and operates the program through a sole-source agreement with City.	Divvy (Chicago), Citi Bike (New York), Dropbike (Kingston)
<b>Private Other</b>	Private firm owns and operates bike share. Multiple firms may be active in the same market.	Seattle (Jump, Lime, Spin); Washington D.C. (Hoppr, Jump, Ridecell, Lime, Riide)

## Operating Model

The next component of a bike share system's business plan is the operating model. There are two models for bike share operations: direct operations by the owner or contracted operations by a third-party vendor.

### *Direct Operations*

Several North American bike share systems are directly operated, meaning that the system owner also operates the system. Directly operated systems are most common among non-profit owned systems like SoBi Hamilton, and for-profit systems like Citi Bike in New York or Drop Bike (several cities). If the City pursues a for-profit bike share system, it will likely be directly operated by its owner or a designated intermediary. There are limited instances of a for-profit owner contracting out operations to a third-party. Such arrangements are unusual – for example Spin's operations in Albuquerque are managed by Zagster, another micromobility firm active in the City. This arrangement might become more common as firms seek to cut costs and consolidate operating infrastructure.

### *Vendor Operations*

An alternative is to outsource operations to a third-party vendor. The responsibility of the vendor can vary, but they typically include most of the day-to-day operating functions like maintenance, rebalancing of bicycles, and customer service. The benefit of contracted operations is that system owners with no prior bike share experience can quickly launch a system. Vendors help reduce the risk of rolling out a bike share system by bringing operating expertise to the program. They also typically carry the necessary liability insurance needed to operate a bike share program.

As with many aspects of business models for bike share, not all systems fall neatly within these two operating structures. For example, a system may

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contract out only limited operating functions like maintenance, or it can be directly operated by the system owner and have a bike share vendor support start-up. Many bike share equipment providers can provide the IT platform (websites, apps, payment system) to a system regardless of who operates the program.

**Selecting the Ideal Operating Model**

As bike share is a quickly evolving industry, operating structures continue to evolve as well. The ideal operating model for London will depend on the selected owner of the system. If the City decides to attract an established for-profit operator, London will likely have limited involvement in shaping the operating model. If the City pursues a public or non-profit system, the City and its partners will have to determine its strategy for operating the program.

*Exhibit 2: Direct Operations vs. Contracted Operations*

Model	Pros	Cons	Examples
<b>Directly Operated</b>	<ul style="list-style-type: none"> <li>Provides the system owner greater control over system costs and delivery of bike share to the market.</li> <li>The model can result in the lowest operating costs.</li> </ul>	<ul style="list-style-type: none"> <li>Significantly increases the operational burden of bike share on the system owner.</li> <li>Requires that the operating entity have a degree of bike share expertise.</li> </ul>	Bixi (Montreal) Bixi (Montreal); Citi Bike (New York)
<b>Contracted Operations</b>	<ul style="list-style-type: none"> <li>Reduces the risk borne by the system owner.</li> <li>Allows systems to rely on the expertise of vendors with North American-wide experience.</li> <li>Minimizes owner staffing needs.</li> <li>Insurance requirements and liability can be</li> </ul>	<ul style="list-style-type: none"> <li>Owner removed from daily operations of the bike share system.</li> <li>Vendor costs include profit-margins that can increase costs.</li> </ul>	Toronto Bike Share; Capital Bike Share (Washington, DC)

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	<p>transferred to the vendor.</p>		
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***Operating Vendor Contracting***

In procuring a vendor, the system owner must strike a balance in the request for proposals (RFP) stage between providing lengthy requirements and allowing vendors the flexibility to propose innovations that may ultimately lower costs and streamline operations. As companies continue to innovate, RFP guidelines written today could become out of date in the near future. The following are some guidelines for the procurement process. This list is not intended to be an exhaustive inventory of what an RFP should include but instead highlights some key areas.

***Vendor Responsibilities***

In procuring vendor services, an RFP should require vendors to propose in detail what services they intend to provide, along with relevant qualifications. Some of the required functions a vendor should offer include:

- All functions associated with daily operations, such as field inspections, rebalancing of bicycles, performance tracking, and crisis management.
- Maintenance and support for all equipment.
- Management of back-end systems such as IT and payment platform.
- Development and maintenance of a website.
- Customer support call-center.
- Liability insurance coverage for the program.
- Equipment installation.
- Design and printing of maps, brochures, and marketing material.
- The owner may request that the vendor includes on its team someone with sponsorship development capabilities.

The RFP should permit vendors to suggest additional services beyond the ones listed above. Vendors should also be free to subcontract specific functions. The RFP process is an opportunity to push the technical envelope and explore

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unique solutions for London; once a vendor is selected, the City will have less leverage to negotiate new technical solutions or features.

### *Contract Length*

The ideal contract length depends on the ownership and operating model. Many systems that contract out operations to a third party, choose to utilize contracts with one-year terms but multiple options for renewal. The benefit is that the system owner can switch vendors or renegotiate contract terms fairly easily.

Contracts that require a significant investment by the operator, including sole-source agreements, typically have longer terms. In cases where the vendor is making a major capital investment in the program, they are likely looking for a contract that provides stability; cities have signed agreements of up to nine years as part of sole-source agreements.

### *Service Metrics*

Vendor contracts should include service metrics that contractors are responsible for maintaining. Metrics allow the bike share administrator to ensure vendors are providing the necessary level of service. Generally, stricter metrics result in higher operating costs. Common service metrics include:

- **Rebalancing requirements:** Rebalancing of bicycles to ensure a supply of bicycles is available across the system. For example, Capital Bikeshare sets a service standard that no station may remain full or empty for more than 3 hours between 6 a.m. and midnight. Staff may fill or empty stations late at night in anticipation of rush hour demand. Other systems set less strict standards such as 12 hours. Less stringent rebalancing standards may lower the cost of operations.
- **Fleet Deployment:** A percentage of the system's fleet will be out of service at any one time. Deployment standards provide guidelines for what proportion of the fleet must be in active operations at any one time. Requirements may be reduced in the winter due to lower demand and fleet management strategies.
- **Inspection and Maintenance:** Contracts should stipulate how often bicycles are inspected. Operators should have standards for how often a station is visited each month by field inspectors, as well as how often bicycles are inspected and maintained. Capital Bikeshare requires that bicycles be inspected and maintained at least every 30 days. Maintenance schedules may vary depending on the intensity of use in the program.



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- **Customer Service Standards:** Contracts should stipulate quality of service standards including call centre wait times and customer service satisfaction ratings. Standards may stipulate that telephone operators are available in more than one language.

### *Recommended Reporting Requirements*

London, through its contract or permitting structure, should outline what data bike share operators are required to provide the City. The following is a list of the types of data commonly requested from operators:

- Membership
  - Annual Members (New, Expired, and Renewed)
  - Casual Members
  - Member residency information
- Ridership and Usage
  - Daily ridership (by member type)
  - System-wide or total ridership (by member type)
  - Station-level ridership (origin and termination) (by member type)
  - Ridership by day (preferably with average daily temperatures reported)
  - Trips per bicycle
- Operations and Maintenance
  - Rebalancing activity
  - Instances (and length of time) of full and empty stations
  - Any service disruptions or suspensions
  - Number of bicycles in the fleet and in service
  - Collision summary
  - Bicycle and station repairs

The City will have more latitude to dictate data sharing requirements under an arrangement where it owns the system and contracts out operations to a vendor. In any model where a third-party entity owns and operates bike share, the data sharing requirements typically need to be set as part of the sole-source agreement or operating permit.



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## Technology

Bike share technology is rapidly changing as new companies continue to enter the North American bike share equipment market. Most early adopters of bike share have utilized “station-based” systems, including solar-powered stations with automated docks that secure bicycles. Users can typically track bicycle availability over a smartphone or online, and access bicycles through a payment device<sup>1</sup> or at a station kiosk. These systems have proven successful because of their durability and theft deterring design. One major downside of many dock-based bike share systems is that they are expensive to purchase and install.

An alternative to station-based systems are smart-bike systems that utilize simplified docks or no docks. These systems use “smart bikes” with built-in locking and communication equipment. Smart bike systems benefit from lower capital costs, simplified station site planning and installation, and greater flexibility. These systems have become much more prevalent in the last few years and are increasingly the more common solution for smaller bike share systems.

London should consider a procurement process that is open-ended enough to solicit a variety of technological solutions. The following is a list of recommended features:

- Durable bicycle design that can withstand heavy usage.
- A robust locking mechanism that allows bicycles to be locked at regular bicycle racks.
- Ability to create designated “stations” where trips must end or begin. These stations can be as simple as branded bicycle racks or a virtual perimeter.
- Option to lock up a bicycle during a rental without ending the trip.
- Ability to pair stations with a payment kiosk. Kiosks will make it easier for walk-up customers to access the system and do not have to be located at every station.
- Simple user interface at kiosks, on the web, and on smartphones.
- Easily replaceable parts and components.
- Clear track record of successful use of technologies in other communities.

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<sup>1</sup> Most often riders can access the system through an RFID-enabled membership fob/card but other technologies are available such as system access over the phone or through a NFC enabled device.

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### ***Procurement***

Today most bike share systems are closed proprietary systems that provide little flexibility to incorporate bicycles, IT systems, or other equipment from other vendors. While proprietary systems are unavoidable to some degree in the bike share marketplace, London could encourage in the RFP process technology that allows for future compatibility with third-party equipment. For example, the location of bicycles should be reported through a standardized format (known as GBSF) so that the system is compatible with several trip planning tools.

If London decides to procure its own equipment, the City should also consider decoupling vendor operations from bike share equipment vendor. While equipment and vendor services may be procured together under one contract, the program owner should carefully consider the implications of entering a contract that stipulates that the equipment vendor has an exclusive agreement with a particular operator. In that case, should an operating vendor prove to be performing unsatisfactory, London will have the maximum flexibility to select a new company to operate the system without impacting equipment procurement, maintenance, or operations. However, such a structure that decouples equipment and operations can introduce additional complexities and more administrative management.

### **Fundraising and Revenue Generation**

Bike share programs rely on a diverse range of funding sources to support both capital and operating expenses. A bike share system in London most likely cannot rely solely on user revenue to support operations and capital. Instead, the program will require diverse funding sources that may include private contributions, advertising revenue, sponsorship agreements, and public funds. The following describes how bike share programs generate revenue. If the City pursues a for-profit operator, responsibility for securing funding and revenue will fall solely on the operator. In the case that a public or non-profit system is established, the City may play a larger financial role in supporting the program.

### ***Fee Structure***

Bike Share systems often divide users into two groups:

- Registered Users: Frequent riders of the program who hold a monthly or annual subscription.
- Casual Users: Infrequent riders who either hold a short-term subscription (e.g. day-pass, three-day pass) or pay-per-trip.

Programs tend to take two different approaches to structuring user fees and membership costs across these two groups.

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### *Subscription Based Model*

Many bike share systems in North America utilize a subscription model of pricing, where users purchase memberships that are valid for periods of time ranging from one day to one year. Once a membership is purchased, a user is afforded an unlimited number of trips at no extra cost as long as the trip is below a certain duration, typically between 30 to 60 minutes. Once that timeframe has concluded, riders incur usage overage charges. The benefit of this model is that it encourages a quick turnover of bicycles and ensures that bicycles are available for the largest number of users each day. This pricing structure also benefits regular users, as annual members become familiar with how the system works and are therefore less likely to take long trips that incur additional usage fees. This model leads to a disproportionate amount of revenue being generated by casual users, as their cost per trip tends to be higher due to the initial upfront cost of a short-term pass.

### *Trip or Time-Based Pricing*

A common pricing structure is to charge users a price per trip (either as a flat per trip price or per minute) instead of a subscription. Per-trip pricing may attract users for whom a subscription would not make financial sense. A variation of this model is to allow subscribers a certain allotted number of free riding minutes each day that can be spread over multiple trips, instead of allowing unlimited trips under a certain length; this can be especially attractive if smart bike technology is selected for the program as the user may be able to lock the bicycle somewhere without a station while the “clock is still ticking.” Finally, to better moderate the distribution of bicycles throughout the system, variable pricing could be implemented to encourage riders to take trips against the peak flow or even uphill. Some bike share systems provide credits to users who return bicycles to high demand locations.

### *Exhibit 3: Pricing Structure of Sample Canadian Bike Share Systems*

	SoBi Hamilton	U Bicycle Victoria, BC	Bixi Montreal	Toronto Bike Share	Drop Bike Kingston
<b>Technology Type</b>	Hybrid dockless/ station-based	Dockless	Dock-based	Dock-based	Dockless
<b>Annual Membership</b>	N/A	\$150	\$94; \$59 when combined with OPUS transit pass	\$99	n/a
<b>Short Term Memberships</b>	\$0.09 per minute	\$1 per 30 minutes or \$15 for a day pass	\$2.95 for 30 minutes; \$5.25 for 24-hours. Discounts for	\$15 for 24-hours or \$3.25 for a single trip	\$1 per hour

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	SoBi Hamilton	U Bicycle Victoria, BC	Bixi Montreal	Toronto Bike Share	Drop Bike Kingston
			OPUS card holders		
<b>Other Memberships</b>	\$15 for month	N/A	\$34 for 30-day; 15% discount for Group users	N/A	N/A
<b>No-Fee Period</b>	N/A	30-minutes for day passes, 60 minutes for annual passes	First 60 minutes	30 minutes per day	N/A
<b>Overage Fee Structure</b>	Monthly subscribers pay \$0.09 per minute after first 90 minutes	\$1 per each additional half hour	\$1.80 per first additional 15 minutes; \$3 per every 15 minutes after.	\$4 per additional half hour	N/A

### *Additional Pricing Options*

London may also consider developing special subscription options to target particular user markets:

- **Student Passes:** Western University and Fanshawe College (Downtown Campus) are expected to be one of the main generators of bike share trips in the system. The bike share program could negotiate reduced or complimentary passes for students.
- **Corporate Pass Program:** The program could strive to sell discounted bulk passes to major employers. A strong corporate pass program will ensure a stable source of revenue and potentially grow the user base of bike share riders.
- **Developer / Housing Association Partnerships:** The bike share program could explore partnering with local developers to provide new residents discounted or complimentary passes. Such a program could be billed both as a residential amenity and a way to further promote bike share among residents.
- **Transit Pass Cards:** Some systems have integrated the local transit pass with bike share. Montreal has gone as far as making the service cheaper for users who pay with the local transit card, OPUS.

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### *Public Funding*

There are limited opportunities for public financing of bike share systems in Ontario since the repeal of provincial cap and trade funding. The most common sources of public funding are through local and regional governments. Metrolinx provided capital funding to Toronto Bike Share for system expansion in 2016 and covered initial capital costs for the entire SoBi Hamilton system in 2014. Montreal's BIXI program has a five-year public funding commitment of \$2.9 million per year. Municipalities in Ontario can take advantage of Section 37 of the Planning Act, which establishes a mechanism for developers to contribute funding to offset the impact of additional density. There are proposed changes to Section 37 of the Planning Act to be re-written to provide for a "Community Benefits Charge". However, until the proposed changes are implemented, Section 37 is still in effect.

### *Private Funding*

Private funds can include a range of sources such as advertising, sponsorship agreements, and charitable donations.

### *Title and Presenting Sponsorship*

Exclusive title sponsorship is a valuable, but rare, type of sponsorship revenue source. The sponsorship contract should last for multiple years, capturing the full value of brand exposure at program launch and over time. A title sponsor will likely require a certain degree of branding exclusivity, with stations and bicycles featuring a company logo or color scheme.

A title sponsor may agree to allow other sponsors on a limited basis. For example, in New York City, although Citibank is the overall system sponsor, MasterCard contributes sponsorship funds to be the official payment partner, and station payment consoles all feature the MasterCard logo.

Companies may also be attracted to title sponsorships as a philanthropic investment in their community, or as a means to increase brand exposure in the market. Early bike share systems approached sponsorships from a largely philanthropic perspective and philanthropic giving still represents a key source of funding for many bike share programs.

As mentioned above, however, title sponsorships are rare. A more common and more likely scenario for London is a presenting sponsor. In these systems, branding is already developed, e.g. the distinct brand and logo of BIXI in Montreal. A single sponsor (such as in Vancouver or Boston) or multiple sponsors (such as in Montreal) purchase the right for system-wide logo placement, typically on all bicycle fenders or at all stations, and may negotiate for other sponsorship elements.

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The success of sponsorship agreements across North America suggests that sponsorships are much more lucrative when sold as a marketing and brand exposure tool than simply a philanthropic investment in the community.

London may have to look beyond the largest local employers to find organizations with both the means to support a major sponsorship and enough interest in building brand awareness in the city. London has several example of Title and Presenting Sponsorship agreements, including the BMO Centre London, Western University's TD Stadium, Labatt Park, Budweiser Gardens, and the RBC Convention Centre. These sponsorships consists of consumer brands and financial institutions with a stake in the local market and desire to build and sustain brand awareness.

#### *Exhibit 4: Example Sponsorship Agreements*

Organization	Value	Extent
Toronto Bikeshare and Toronto Dominion	\$750,000 per year for two years <sup>2</sup>	
BIXI (Montreal, QC) (Manulife and several supporting sponsors)	\$2,989,661 in revenue in 2017 <sup>3</sup>	540 stations
Greenville B-Cycle & Greenville Health System (Greenville, SC)	\$60,000 (USD) per year	6 stations
Spartanburg B-Cycle (multiple philanthropic partners)	\$455,000 (USD) in capital support	4 stations

#### *Station or Bicycle Sponsorship*

Station sponsorships are another very common type of sponsorship agreement. With a station sponsorship, an organization may agree to fund the capital costs and/or operating costs of a new bike share location. Some systems, instead of providing station sponsorships, allow organizations to sponsor bicycles.

<sup>2</sup> Agreement expired in 2017

<sup>3</sup> BIXI does not disclose amount coming from Manulife but other sources suggest it represents approximately 3/4s of the programs sponsorship revenue.

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### *Exhibit 5: Example of Station Sponsor Branding at Harvard University*



Source: [news.harvard.edu](http://news.harvard.edu)

### *Advertising*

Advertising revenue varies greatly depending on the city and is subject to the same economics as other sources of on-street advertising. Outdoor advertisers typically price advertising space based on a number of factors such as traffic counts, the visibility of the location, and the demographic profile of the surrounding community. The most valuable ad space for a bike share system is on bike share stations and kiosks, and selling such space may require an exemption or changes to existing off-premise advertising restrictions in the City. While less lucrative, some systems also sell ad space on the bicycles themselves.

### **Business Case Analysis**

As described above in the Background section, factors like cost, organizational structure, liability, and governance structure for bike share will vary based on the business model selected by the City. To help inform decision-making, the study outlines the background details and preliminary analysis to inform a comprehensive business case for bike share in London. This section highlights the capital and operating costs associated with the three most likely implementation scenarios for bike share in London:

- Publicly-owned bike share program utilizing a hybrid dock-less / station style of equipment (similar to Hamilton, ON). City may directly operate the program or contract out operations to a third-party vendor. City would ultimately be responsible for program fundraising.
- Private dockless operator with limited public involvement. City would create a licensing program for bike share and merely provide



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regulatory oversight. All operating and capital costs would be borne by the private firm.

- Private dockless with public funding commitment for infrastructure (i.e. public-private partnership). Similar to the above scenario, a private firm would operate bike share and fund all costs directly related to bike share operations and capital. The City would contribute additional funding to create fixed station locations, including infrastructure like bicycle racks, signage, and payment kiosks.

**Key Assumptions**

The study team made several assumptions on capital and operating costs in order to develop cost estimate. As costs within the bike share industry vary widely based on location and type of equipment, London should be mindful that even minor adjustments (e.g. eliminating payment kiosks) may have a big impact on costs. These costs are based on research conducted by Foursquare ITP and reflect typical costs in other peer bike share programs.

*Capital*

Capital costs are based on conservative cost estimates extrapolated from other North American bike share programs. The study-team assumes urban-grade equipment designed for high-intensity use. The following breaks down the cost assumptions utilized by type of equipment.

*Exhibit 6: Capital Cost Assumptions by Technology Type (Figures rounded to nearest \$10,000)*

	Dockless	Dockless Hybrid	Dock Based
System Size	60 stations and 300 bicycles. Size based on assessment of ideal number of bicycles and stations needed to serve the initial service area identified in the market analysis		
	Conventional self-locking dockless bicycle.		Conventional dock-locking bicycle
Bicycle Costs	\$2,200		\$1,200
Station Assumption	No stations	Simplified stations with an average of 10 spaces for bicycles. 20% of stations include payment kiosks.	Dock-based station with an average of 10 mechanical docks. 100% of stations include kiosks.



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		All stations include signage.	
Station Costs	N/A	\$10,000 per station	\$40,000 per station
Median Lifespan	7 years for bicycles; 11 years for station infrastructure		
Installation costs	N/A	\$4,200 per station <sup>4</sup>	

*Operating*

The study team had to make several key assumptions on operating costs and revenue that will impact the forecasted net-cost of operating the program. Generally, the team relied on conservative assumptions to estimate the cost of the service. Operating costs were derived from 2017 City of Toronto figures and inflated to current year dollars<sup>5</sup>. Operating revenue was based on ridership rates from peer systems and user fees that are comparable to other Canadian bike share systems. London Transit fares were also used as a price-point comparison.

Operating Costs:

- All-year system
- \$150/bicycle monthly operating costs
- No advertising and sponsorship revenue is assumed.

Operating Revenue:

- 75% of trips taken by registered users and 25% by casual users.
- Per trip overage fees of \$2 per casual user and \$0.05 per registered users.
- \$2.50 per trip (casual users) or \$100 per year (registered users)
- 1.5 trips per bicycle during the peak season (May to October). 0.75 trips per bicycle during the off-peak season.

<sup>4</sup> Installation costs include: \$3,200 for base installation costs (100% of station); \$3,500 for installing concrete pad (5% of stations); \$250 for installation of flexible bollards (50% of stations); \$10,000 for station hardwiring (5% of locations); \$2,000 for additional titling and easements for stations on private property (5% of stations)

<sup>5</sup> <https://www.toronto.ca/legdocs/mmis/2019/bu/bgrd/backgroundfile-123927.pdf>

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**Capital Costs by Type of Technology**

The study team prepared capital costs that illustrate the different costs associated with the three common docking technologies. A dockless or hybrid system are the most likely options for London as docked-systems are increasingly uncommon in small and mid-size systems due to their cost and complexity. A dockless system can be easily adapted into a hybrid program by incorporating station infrastructure. The implementation costs will vary considerably for hybrid systems based on the design of stations.

*Exhibit 7: Comparison of Three Common Bike Share Technology Types for a 300 Bicycle System*

	<b>Dock-Based System</b>	<b>Fully Dockless</b>	<b>Hybrid System</b>
Description	Bicycles locked to mechanical docks at designated stations. All stations include a payment kiosk and signage.	Bicycles do not need to be locked to a fixed object. No station infrastructure.	Dockless bicycles combined with simple stations. Stations may vary from a bicycle rack to location with a payment kiosk and signage.
300 Bicycles	\$ 380,000	\$ 670,000	\$ 670,000
60 Hubs/Stations	\$ 2,630,000	\$ 0	\$ 850,000 <sup>6</sup>
<b>Total</b>	<b>\$ 3,010,000</b>	<b>\$ 670,000</b>	<b>\$ 1,520,000</b>
Pros	<ul style="list-style-type: none"> <li>Least prone to theft</li> <li>Alleviates concerns over improperly parked bicycles.</li> </ul>	<ul style="list-style-type: none"> <li>Low capital costs.</li> <li>Flexible operations – trips can start or end anywhere in a service area</li> </ul>	<ul style="list-style-type: none"> <li>Reduces likelihood of improperly parked bicycles due to use of stations.</li> <li>Combines pros of dockless and docked.</li> </ul>
Cons	<ul style="list-style-type: none"> <li>High capital costs.</li> <li>More complex to operate due to need to manage dock/bicycle availability.</li> </ul>	<ul style="list-style-type: none"> <li>Many dockless systems struggle with enforcing parking regulations; bicycle end up</li> </ul>	<ul style="list-style-type: none"> <li>More expensive than a dockless system</li> <li>Does not fully eliminate concerns over theft,</li> </ul>

<sup>6</sup> Assumes that all stations/hubs include bicycle racks and signage. Twenty percent of station would feature a kiosk. Station costs can scale down or up based on the type of station investment. Eliminating kiosks would significantly reduce costs.

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	Dock-Based System	Fully Dockless	Hybrid System
	<ul style="list-style-type: none"> <li>• Trips limited to destinations near stations.</li> <li>• Mechanical stations are a point of failure.</li> </ul>	<ul style="list-style-type: none"> <li>• blocking the public right-of-way.</li> <li>• More susceptible to theft and vandalism.</li> </ul>	<ul style="list-style-type: none"> <li>• vandalism, and improperly locked bicycles.</li> </ul>

**Program Costs by Scenario**

The study team prepared estimates for the public-fundraising need associated with three implementation scenarios: a publically owned system, a privately owned and funded system, and a private owned system that include public investments in station infrastructure.

The financial model predicts that a publicly owned program will recuperate just under 50% of its costs from user revenue. The remaining gap in funding could be filled through advertising, sponsorship revenue, or a public subsidy.

Under a privately-owned system, the system owner will be responsible for covering all capital and operating costs. In the case the program runs a deficit, the operator will have to find external funding through sources like private investment and advertising.

The last scenario, a privately-owned program with a public capital contribution, also assumes the private operator is responsible for all program operating costs. The City’s only financial commitment will be through investing in station infrastructure and will represent largely a one-time cost.

Regardless of the operating model, the City should assume some administrative cost associated with bike share. Typical administrative functions include regular inspections to ensure the system is meeting agreed-upon standards, public outreach and engagement, and contract management.

The figures in Exhibit 8 represent anticipated average annual costs, revenue, and ridership across the three scenarios. The City should be prepared for first year operating revenue being 25 to 30 percent lower than these numbers. New systems take time to build-up ridership and membership levels.

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*Exhibit 8: Three Operating Scenarios for a 300 Bicycle System – Costs Borne by the City of London Only*

	Publicly-Owned	Privately-Owned No Public Investment	Privately-Owned Public investment in station infrastructure
Technology Assumption	Hybrid System	Dockless System	Hybrid System
Annual Ridership	125,000	125,000	125,000
<b>Capital Costs (Cost to City of London)</b>			
Bicycles (300)	\$ 670,000	\$ 0	\$ 0
Stations/hubs (60)	\$ 860,000	\$ 0	\$ 860,000
Total	<b>\$ 1,530,000</b>	<b>\$ 0</b>	<b>\$ 860,000</b>
Annual Capital State of Good Costs <sup>7</sup>	\$ 160,000	\$ 0	\$ 70,000
<b>Annual O&amp;M Costs (Cost to City of London)</b>			
City Administrative staff (1/3 FTE)	\$ 35,000	< \$35,000	< \$35,000
Program Operations	\$ 540,000	\$ 0	\$ 0
Program Marketing and Outreach	\$ 15,000	\$ 0	\$ 0
Total	\$ 590,000	< \$35,000	< \$35,000
<b>Annual Revenue (Revenue to City of London)</b>			
User fees	\$ 280,000	N/A	N/A
Advertising/Sponsorship	unknown	N/A	N/A
Total	\$ 280,000	N/A	N/A
<b>Net Subsidy<sup>8</sup></b>			
Total	\$ 310,000	< \$35,000	< \$35,000
Operating Subsidy per Rider	\$ 2.48	\$ 0.28	\$ 0.28
<b>Pros and Cons</b>			
Pros	<ul style="list-style-type: none"> <li>Maximizes City control over program</li> <li>Feasible even with weak private-sector</li> </ul>	<ul style="list-style-type: none"> <li>Lowest cost to City</li> <li>Absolves City of financial risk associated with funding and</li> </ul>	<ul style="list-style-type: none"> <li>City maintains some control over bicycle deployment.</li> <li>Station infrastructure could</li> </ul>

<sup>7</sup> Assumes City sets aside a fixed annual sum to replace equipment at end of useful life.

<sup>8</sup> Subsidy could be covered in part by sponsorship revenue and third-party funding.

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	Publicly-Owned	Privately-Owned No Public Investment	Privately-Owned Public investment in station infrastructure
	interest in operating bike share in London	operating bike share.	be used to generate advertising revenue.
Cons	<ul style="list-style-type: none"> <li>• City takes on risk and responsibility for bike share.</li> <li>• Most costly scenario for City.</li> </ul>	<ul style="list-style-type: none"> <li>• City has little control over program deployment.</li> <li>• Lack of stations could result in bikes being improperly parked on sidewalks.</li> </ul>	<ul style="list-style-type: none"> <li>• City could be left with redundant station infrastructure if private operator folds.</li> </ul>

**Program Risks**

The study team has identified several risk factors that may impact bike share in London. None of these risks are insurmountable and dozens of communities in the US and Canada are able to successfully navigate these issues.

- **Operator Turnover:** The for-profit bike share industry is still in its infancy and it’s unclear whether micromobility operators have a sustainable business model. The City always runs the risk of investing capital funds in a bike share program only to have the operator go bankrupt, exit the local market, or change its business model. The best way to prepare for operator turnover is to future-proof capital investments. For example, Hamilton’s bike share stations also serve the dual purpose of providing bicycle parking, seating, and wayfinding information. The City should focus on investing in assets that serve multiple needs.
- **Investment in Out-Dated Technology:** The bike share/micromobility industry is quickly changing, with electric-assist bicycles and electric scooters becoming increasingly popular. New technologies are providing cities like London more options for how to implement a bike share program, but also make it more challenging to decide how to investment public dollars. There are a few strategies to help “future-proof” public investments in bike share. In the instance where the City owns physical bike share assets like bicycles, it’s advisable to go with a well-established equipment vendor. These firms are more likely to implement improvements over time that are compatible with past

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equipment. The City will also reduce its technological risk by investing in flexible equipment that can be repurposed for other needs - for example, a bike share station design that can accommodate different types of bicycles.

- **Data Sharing and Monitoring:** Regardless of business model, the City should establish standards for data sharing and data privacy that a bike share operator has to meet in order to do business within the City. The City will need reliable data from operators to enforce many potential operating standards, such as bicycle distribution and level-of-service.
- **User Safety:** User safety is a common concern among communities exploring whether to invest in bike share. One question that arose during public engagement around bike share was whether London has suitable bicycle infrastructure to make bike share feasible. While better cycling infrastructure is closely tied to higher bike share ridership, the state of London's bike infrastructure is not necessarily an impediment to a bike share's success. Many communities with bike share programs (notably in the United States) have fewer dedicated bicycling facilities than London. Bike share has an excellent track-record of safety, with only two user fatalities in the last ten years.
- **Right-of-Way Encroachment:** Other cities with dockless bike share have had to contend with bicycles being improperly parked, blocking the sidewalk and posing a hazard to pedestrians, notably people with disabilities. Strong and ongoing enforcement of bicycle parking regulations, as well as providing designated bike share parking, can help reduce encroachment issues.

### **Next Steps**

Developing a bike share program takes time, and this study represents a step in the process. The following outlines some of the next steps needed to move forward with bike share.

- **Achieve Buy-In:** The most critical next step is to achieve buy-in by key stakeholders in the region. Regardless of who owns or operates the systems, the City and major institutions like Western University will be impacted by the program. Work has already begun on this step and will continue until key stakeholders are fully engaged.
- **Determine a Governance and Ownership Structure:** Whether or not London plans to own the bike share system will have a major impact on the program's next steps. A key decision facing the City is whether to pursue for-profit firms to operate bike share within London.

Allison Miller, City of London – July 19, 2019

If so, a regulatory and permitting framework will need to be established.


- **Conduct Public Outreach:** Public engagement is important for a variety of reasons. It provides the community an opportunity to voice whether bike share fits within their mobility needs. Public engagement can also build excitement for bike share and bring additional community partners on board. Finally, public outreach can educate members of the public on bike share and its benefits. Public outreach has already begun and will continue to expand in the near future.
- **Release an RFP:** A formal request from proposals will help the City gauge interest among private bike-share systems to operate a program in London. RFP responses will help the City determine the final shape of bike share, including the level of City involvement and financial commitment in the program.







**IBI GROUP**  
 7th Floor – 55 St. Clair Avenue West  
 Toronto ON M4V 2Y7 Canada  
 tel 416 596 1930 fax 416 596 0644  
 ibigroup.com


## Appendix A – Bike Share Station Typologies

Bike Share Station Typologies	
Landmark – Kiosk Station	
Type of Signage	Solar powered kiosk with instructions and ability to sign up for a bike share membership at the kiosk. Small advertising space available on the bike rack.
Station Size	10 - 25 racks
Estimated cost per station	\$25,000 - \$35,000
Neighbourhood Context	Major transportation hub (e.g. Hamilton West Harbour GO Station, Hamilton GO Centre, Waterfront Trail entrance)
Typical right-of-way location	Adjacent to a multi-use path; within transit station footprint or public space
Surface material	Concrete (preferred); asphalt; grass; paver stones
Example:	 <p>Photo: IBI Group</p>

Allison Miller, City of London – July 19, 2019

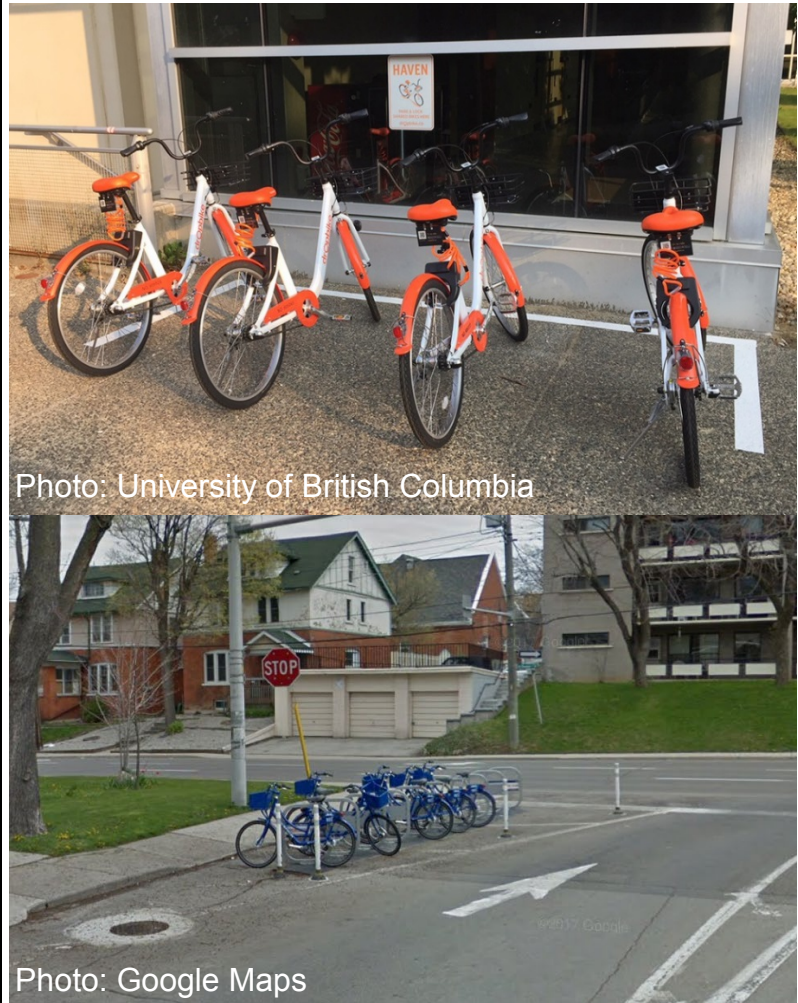
Destination – Large Sign Station	
Type of Signage	Large sign with instructions on how to sign up for a bike share membership and map of other stations nearby. Advertising available on one side of the sign and small advertising space available on the bike rack.
Station Size	10 - 20 racks
Estimated cost per station	\$7,500 - \$12,500
Neighbourhood Context	Major intersections, points of interest
Typical right-of-way location	Within “no stopping zones”; within the furniture zone adjacent to the sidewalk
Surface material	Concrete (preferred); asphalt; paver stones
Example:	 <p>Photo: IBI Group</p>  <p>Photo: IBI Gro</p>

Allison Miller, City of London – July 19, 2019

Neighbourhood – Small Sign Station	
Type of Signage	Small sign with instructions on how to sign up for a bike share membership and a small map of other stations nearby. Advertising available on one side of the sign and small advertising space available on the bike rack.
Station Size	10 - 15 racks
Estimated cost per station	\$6,500 - \$10,000
Neighbourhood Context	Residential areas, residential points of interest (e.g. recreation centre)
Typical right-of-way location	Within the right-of-way in “no stopping zones”; adjacent to the sidewalk; adjacent to multi-use paths.
Surface material	Concrete (preferred); asphalt; grass
Example:	



Allison Miller, City of London – July 19, 2019

Neighbourhood – Small Station (No Sign)	
Type of Signage	No signage explaining how to sign up or map of stations nearby. Small advertising space available on the bike rack. Alternate configuration: Use of paint to mark bike share parking area
Station Size	5 - 10 racks or 0 racks (dockless)
Estimated Cost	\$1,000 - \$5,000
Neighbourhood Context	Residential areas
Typical right-of-way location	Within the right-of-way in “no stopping zones”; adjacent to the sidewalk; adjacent to multi-use paths.
Surface material	Concrete (preferred); asphalt; grass
Example:	 <p>Photo: University of British Columbia</p> <p>Photo: Google Maps</p>

Please add this E - Mail to the added agenda for the upcoming CWC Mtg - August 12 - reference Item 2.5 for Council's consideration ;

**REFERENCE** - City of London - Strategic Initiatives - Good Financial Stewards ?

Although I commend City of London Staff in developing a business case for this Bike Share Initiative , after reviewing this report I find the this Business Case weak and fraught with Financial Risk to taxpayers looking forward on both the Ops Budget & Capital Budget sides.

- I see no risk factor associated with the annual potential revenue claim of up to \$270 K or a credible reference to the **actual** revenue and costs actually experienced from other Canadian cities which have already implemented a similar program ( Hamilton / Ottawa ETC ) vs their go in forecast . I also see zero in this budget to open the for sure Reserve Fund that will be requested if implemented to replace all these Capital Assets frequently or upgrade @ a vendor/ Contractor program change . Many foreign cities are cancelling these programs. ( Middle east huge )

RECO - Absolute **minimum** conditions for Council to impose on City Staff to include in the Request for Proposal if you choose to proceed .

1. Include a decelerating vendor / contractor **capital cost** claw back clause starting @ 100 % in year 1 and reduced to 33 % in year # 3 where the vendor is legally bound to pay that portion of the OUR sunk capital costs if the contract is cancelled for any reason. How else will I as a taxpayer ever recover the \$ 850 M to \$1.5 M Cap costs if this business case is off side and terminated . There is no such a thing as a WRITE OFF in the City of London's Financial Plans . This should include the OPS Costs to dismantle the in fracture on contract cancellation or performance issues.
2. That the RFP include a substantial posted \$\$ Bond by the winning contractor with the City of London to support the winning bid as a deposit for contract compliance issues as this will be the 1st draw warning to avoid the capital cost write-offs noted above .
3. That the winning contractor 100 % support the annual OPS Costs of this program ( OEM ) with no City of London staffing commitment other than bi - annual program review of compliance standards @ KPMG audit . This is THEIR business not mine as a taxpayer . All \$\$ revenue should be granted to the contractor if the above requirements are met.
4. Council should require a full review of the RFP prior to public issue to assure taxpayers are protected and the compliance standards are world class.

I would prefer we DO Nothing on this proposal as a taxpayer ; as we are already facing massive headwinds to avoid the 3.2 % or more tax increase in 2020 and searching for reasonable solutions and I'm already shocked at an unexpected \$1.0 M per year increase in my annual snow removal budget to keep the ever expanding bike lanes open in the winter. I'd like to keep my powder dry to pay for the 2.0 % tax increase when the Green Bin program hits the budget in a year which the majority of Londoners support.

THXS - Chris Butler - 863 Waterloo St - London

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>UPPER THAMES RIVER CONSERVATION AUTHORITY AND CITY OF LONDON FLOOD PROTECTION PROJECTS</b>

<b>RECOMMENDATION</b>
-----------------------

That, on the recommendation of the Managing Director Environmental & Engineering Services and City Engineer, the following action **BE TAKEN** with respect to City of London's contribution to infrastructure:

- a) The Upper Thames River Conservation Authority **BE AUTHORIZED** to carry out the following projects with the City share in the total amount of \$1,989,120, including contingency, excluding HST; noting the requirements of this provincial funding program are unique, in that only conservation authorities can apply, requiring 14.3.a) of the Procurement of Goods and Services Policy:
  - a. West London Dyke Phase 5/6 Reconstruction;
  - b. West London Dyke Phase 5/6 Construction Administration; and
  - c. Fanshawe Dam Phase 6 Paint and Concrete Repairs
- b) The financing for this work **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix 'A', and,
- c) The Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
--

Civic Works Committee – June 18, 2018 – Upper Thames River Conservation Authority and City of London Flood Protection Projects

Civic Works Committee – July 17, 2017 – Water and Erosion Control Infrastructure (WECI) Program: 2017 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee – August 22, 2016 – Water and Erosion Control Infrastructure (WECI) Program: 2016 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee – February 2, 2016 – West London Dyke Master Repair Plan Municipal Class Environmental Assessment Study

Strategic Priorities and Policy Committee – January 28, 2016 – Downtown Infrastructure Planning and Coordination

Council – March 21, 2011 – UTRCA 2010 and 2011 Levies for Remediating Flood/Erosion Control, Dykes and Dam Structures within the City

Finance & Administration Committee – February 2, 2011 – Funding Agreement with UTRCA for Remediating Flood Control Works within the City

<b>2019 – 2023 STRATEGIC PLAN</b>
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This report aligns with the Strategic Plan's "Building a Sustainable City" strategic area of focus by supporting the following expected results:

- Improve London’s resiliency to respond to potential future challenges;
- Build infrastructure to support future development and protect the environment; and
- Maintain or increase current levels of service; manage the infrastructure gap for all assets.

## BACKGROUND

### **Purpose**

This report seeks approval to commit the City’s share of projects eligible for provincial capital funding through the Ministry of Natural Resource and Forestry (MNR) Water and Erosion Control Infrastructure (WECI) program.

### **Context**

The WECI program is a MNR capital cost share program that provides funding for flood or erosion control structures such as dams and dykes. This funding can only be accessed by Conservation Authorities (CAs), but can be used for infrastructure owned by municipalities in cases where the infrastructure is maintained by the CA. Over the past 14 years, in partnership with the UTRCA, approximately \$12,500,000 in WECI funding has been used to repair and reconstruct City-owned infrastructure. The most recent reconstruction of West London Dyke Phase 4, from Carothers Avenue to Blackfriars Bridge, was completed in late 2018 with some landscaping and amenity features in 2019.

## DISCUSSION

### **WECI Program**

WECI funding is provided through a prioritization process that includes existing flood and erosion control infrastructure. Projects are selected for funding by a committee made up of five CA representatives, one MNR representative, and one Conservation Ontario (CO) staff representative. There is one UTRCA staff member on this committee. The committee reviews and scores project submissions and determines the priority list of eligible projects on an annual basis.

The program is a 50/50 cost share with the local municipality or other contributors with flood or erosion control infrastructure needs and must have a Council resolution or legally binding agreement to demonstrate financial commitment.

### **2019 WECI Projects**

The 2019 WECI projects focus on the continuing reconstruction work of the West London Dyke Phases 5 and 6 as well as some ongoing repairs and maintenance at the Fanshawe Dam.

#### *West London Dyke Phases 5 and 6*

The continuation of the West London Dykes Phase 5 and 6 project will extend the reconstructed section of the dyke from the north side of Blackfriars Bridge up to St. Patrick Street (See Appendix ‘B’ – West London Dyke Phasing Map).

The UTRCA conducted an open tender process for this project with a low bid of \$5,190,415, including \$400,000 contingency and excluding HST. The WECI share of this project is \$1,490,000 with a City share of \$1,715,600. This equates to the City funding approximately 33% of the total project cost.

The West London Dyke Phases 5-13 are also funded by the federal government’s Disaster Mitigation and Adaptation Fund (DMAF). The DMAF funding is capped at 40%



of the costs up to a total of \$10,000,000 total over 10 years. The 2019 contribution will be approximately \$2,076,166. See Table 1 for details.

The UTRCA's intent is to have the Construction Administration services be completed by Stantec Consulting Ltd (Stantec) with maximum proposed fees in the amount of \$200,000 including a contingency. Stantec has overseen the detailed design and construction administration services for previous phases of the dyke reconstruction project. These fees are also eligible for DMAF funding, reducing the City's share of fees by \$80,000.

#### *Fanshawe Dam Repairs*

The Fanshawe Dam is owned by the UTRCA. It was constructed between 1950 and 1952 with funding provided by the Federal and Provincial governments and the UTRCA. The purpose of the dam is to assist flood control by regulating the flow of water from the upstream reservoir (Fanshawe Lake) into the downstream Thames River prior to it passing through the City.

The 2019 Phase 6 Paint and Concrete repairs are being completed to ensure this structure continues to protect the City of London from flooding. Following the June 18 CWC report, City funds were committed to this project in the full amount of \$300,000 to facilitate the work beginning earlier in the construction season. A WECl funding contribution of \$150,000 was announced after this report went to committee. This reduces the City's share of costs to \$150,000 as noted in the table below.

Table 1 summarizes the 2019 provincially and federally approved project funding for dykes and dams:

<b>Table 1: 2019 UTRCA Dyke and Dam Project Funding Sources</b>				
<b>Project</b>	<b>Full Project Amount</b>	<b>DMAF Funding</b>	<b>WECl Share</b>	<b>London Share</b>
West London Dyke Phase 5 - 6 Reconstruction <sup>1</sup>	\$5,190,415	\$2,076,166	\$1,490,000	\$1,715,600 <sup>2</sup>
West London Dyke Phase 5 - 6 Construction Administration	\$200,000	\$80,000	-	\$123,520 <sup>2</sup>
Fanshawe Dam Phase 6 Paint and Concrete Repairs	\$300,000	-	\$150,000	\$150,000
<b>Total</b>	<b>\$5,691,415</b>	<b>\$2,156,566</b>	<b>\$1,640,000</b>	<b>\$1,989,120</b>

<sup>1</sup> The City portion is approximately 33% for this project due to additional 40% project funding Disaster Mitigation Adaptation Fund (DMAF) share in the amount of \$2,076,166.

<sup>2</sup> The London Share is calculated by including the non-rebateable HST on the full project amount and then reduced by the provincial and federal funding programs.

#### **Procurement and Invoicing Processes**

The UTRCA will administer both of these projects and submit invoices to the City as work is completed, after subtracting the provincial and federal funding share. The WECl program provides matched funding to CAs for the major reconstruction and maintenance of flood or erosion control structures that are either owned or maintained by CAs. Because of this requirement, the City must use Clause 14.3.a) "statutory or market based monopoly" of its Procurement Policy to engage in this project.

### **CONCLUSIONS**

City staff and UTRCA staff will continue to work together to complete the current program of approved WECl funded projects and endeavour to maximize the City of London's potential to receive future provincial funding for City-owned flood and erosion control infrastructure.

<b>SUBMITTED BY:</b>	<b>REVIEWED AND CONCURRED BY:</b>
<b>SHAWNA CHAMBERS, P.ENG., DPA DIVISION MANAGER, STORMWATER MANAGEMENT</b>	<b>SCOTT MATHERS, P. ENG., MPA DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P. ENG., FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

August 2, 2019

Attach: Appendix 'A' – Source of Financing  
Appendix 'B' – West London Dyke Phasing Map

cc: UTRCA  
Gary McDonald  
Chris McIntosh

APPENDIX 'A'

#19121

Chair and Members  
Civic Works Committee

August 12, 2019  
(Award Contract)

**RE: Upper Thames River Conservation Authority and City of London Flood Protection Projects**  
**West London Dyke Phase 5/6 Reconstruction (Subledger Phase 5 SWM1904A, Phase 6 SWM1905A)**  
**West London Dyke Phase 5/6 Construction Administration (Subledger Phase 5 SWM1904A, Phase 6 SWM1905A)**  
**Fanshawe Dam Phase 6 Paint and Concrete Repairs (Subledger SWM19008)**  
**Capital Project ES2474 - UTRCA - Remediating Flood Control Works within City Limits**  
**Upper Thames River Conservation Authority - \$657,500 (excluding H.S.T.) West London Dyke Phase 5/6 Reconstruction**  
**Upper Thames River Conservation Authority - \$69,750 (excluding H.S.T.) West London Dyke Ph. 5/6 Construction Admin.**  
**Upper Thames River Conservation Authority - \$33,250 (excluding H.S.T.) Fanshawe Dam Ph. 6 Paint and Concrete Repairs**

**FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:**

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services & City Engineer, the detailed source of financing for this project is:

<b>SUMMARY OF ESTIMATED EXPENDITURES</b>	<b>Approved Budget</b>	<b>Revised Budget</b>	<b>Committed to Date</b>	<b>This Submission</b>	<b>Balance for Future Work</b>
Engineering	\$2,754,803	\$2,664,564	\$1,928,346		\$736,218
Construction	8,469,155	8,559,394	6,535,265	2,024,129	0
City Related Expenses	75,000	75,000	48,286		26,714
<b>NET ESTIMATED EXPENDITURES</b>	<b>\$11,298,958</b>	<b>\$11,298,958</b>	<b>\$8,511,897</b>	<b>\$2,024,129</b> 1)	<b>\$762,932</b>

<b>SUMMARY OF FINANCING:</b>					
Capital Sewer Rates	\$1,000,000	\$1,000,000	\$1,000,000		\$0
Debenture By-law No. W.-5610-251	2,750,000	2,750,000		1,987,068	762,932
Drawdown from Sewage Works Reserve Fund	7,497,213	7,497,213	7,460,152	37,061	0
Other Contributions	51,745	51,745	51,745		0
<b>TOTAL FINANCING</b>	<b>\$11,298,958</b>	<b>\$11,298,958</b>	<b>\$8,511,897</b>	<b>\$2,024,129</b>	<b>\$762,932</b>

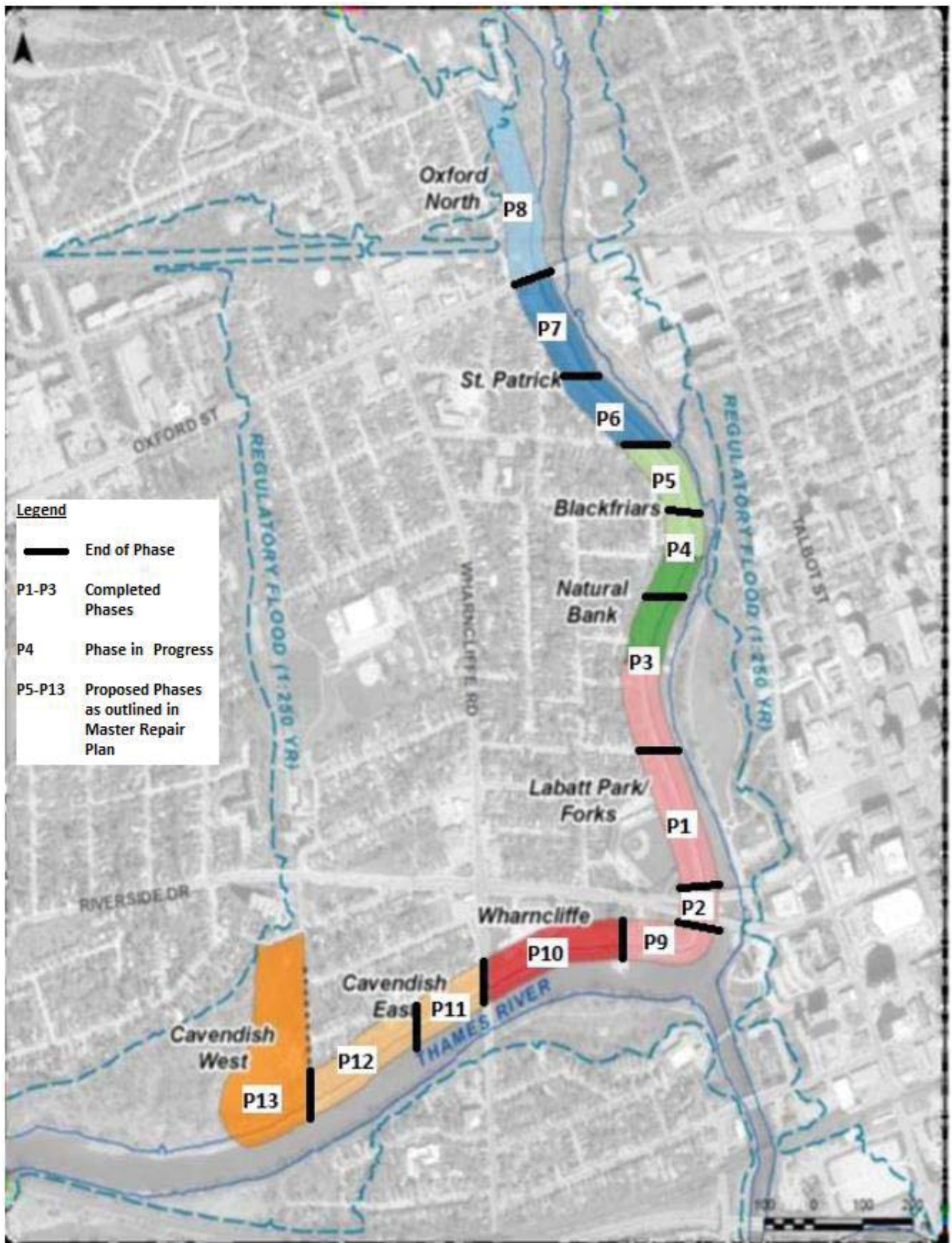
1) **Financial Note:**

	<b>Ph. 5/6 WLD Reconstruct.</b>	<b>Ph. 5/6 WLD Const. Admin.</b>	<b>Ph 6 Fanshawe Dam</b>	<b>Total</b>
Contract Price	\$1,715,600	\$123,520	\$150,000	\$1,989,120
Add: HST @13%	223,028	16,058	19,500	258,586
Total Contract Price Including Taxes	1,938,628	139,578	169,500	2,247,706
Less: HST Rebate	192,833	13,884	16,860	223,577
Net Contract Price	<b>\$1,745,795</b>	<b>\$125,694</b>	<b>\$152,640</b>	<b>\$2,024,129</b>

lp

Jason Davies  
Manager of Financial Planning & Policy

Appendix B - West London Dyke Reconstruction Phase 5 & 6



<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>CONTRACT AWARD: TENDER T19-36 GREENWAY ORGANIC RANKINE CYCLE ENGINE INSTALLATION</b>

<b>RECOMMENDATION</b>
-----------------------

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the award of contract for the installation of the Organic Rankine Cycle Engine system:

- (a) the bid submitted by JMR Electric Ltd. at its tendered price of \$11,039,340.00, excluding HST in response to Tender 19-36, **BE ACCEPTED**; it being noted that the bid submitted by JMR Electric Ltd. was the lowest of four bids received and meets the City's specifications and requirements in all areas;
- (b) the financing for these projects **BE APPROVED** as set out in the Sources of Financing Report attached, hereto, as Appendix 'A';
- (c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- (d) the approval, given herein, **BE CONDITIONAL** upon the Corporation entering into formal contracts relating to this tender; and
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
--

Civic Works Committee, May 14, 2019, Item 2.10 – Greenway Wastewater Treatment Plant Organic Rankine Cycle Equipment Installation Budget Allocation.

Civic Works Committee, July 17, 2018, Item 2.6 – Clean Water and Wastewater Fund Project Budget Adjustments.

Civic Works Committee, June 7, 2017, Item 11 – Clean Water and Wastewater Fund – Purchase of Major Organic Rankine Cycle System Components for Power Generations at the Greenway Wastewater Treatment Plant.

Civic Works Committee, November 29, 2016, Item 11 – Appointment of Consultants – Clean Water and Wastewater Fund Projects.

Civic Works Committee, October 4, 2016, Item 8 – Infrastructure Canada Phase 1 Project Requests – Clean Water and Wastewater Fund Projects.

Civic Works Committee, July 18, 2016, Item 5 – Electricity Generation from Waste Heat at the Greenway Wastewater Treatment Plant-Update.

Civic Works Committee, September 9, 2013, Item 11 – Biosolids Disposal Assessment.

Civic Works Committee, February 25, 2013 – Timeline for major Environmental and Engineering Reports.

Civic Works Committee, May 14, 2012 – Renewable Energy Production from the Greenway Fluidized Bed Incinerator.

## 2019-2023 STRATEGIC PLAN

### Strategic Plan

This project supports the 2019-2023 Strategic Plan through the following: Building a Sustainable City, Build infrastructure to support future development and protect the environment.

### Community Energy Action Plan - Renewable Energy Projects

The reuse of waste heat and bioenergy production are priorities identified in London's 2014-2018 Community Energy Action Plan. In addition, the primary goal of the City's Corporate Energy Conservation and Demand Management Plan is to reduce the corporation's annual energy use by 10% or 30 million equivalent kilowatt-hours (ekWh) per year from 2014 levels by 2020. The Greenway Organic Rankine Cycle initiative is identified as a renewable energy project in the Corporate Energy Conservation and Demand Management Plan and will contribute 12.5% (3.75 million ekWh/year) of the Plan's target energy savings.

## BACKGROUND

### Purpose

The purpose of this report is to seek Council approval for award of a construction contract for the Greenway Wastewater Treatment Plant Organic Rankine Cycle system installation.

### Context

Previous reports to Council have requested and received approval to purchase and tender the installation of technology that can convert waste heat from the Greenway Incinerator into electrical energy.

The purchase of the equipment was previously made under the Clean Water and Wastewater Fund (CWWF), whereby the City received funding from the federal and provincial governments in the amount of 75% of the purchase price. The equipment has arrived in London.

The installation contract was approved for a one time funding of \$4,500,000 through the Federal Gas Tax, and will also be eligible for an incentive of up to \$730,000 from the Independent Electricity System Operator once operational.

## DISCUSSION

As described in previous reports, the operation of the Organic Rankine Cycle engine is expected to generate a savings of \$600,000 per year in electrical costs while reducing grid electrical consumption at Greenway by over 3.75 GWh per year. Previous reports have sought and obtained Council approval to purchase the equipment and to allocate

the funds necessary to install the energy from waste heat package.

### **Tender Process**

In consideration of the specialized nature of the installation contract, a pre-qualification process was undertaken for general contractors, as well as for electrical and mechanical sub-contractors. There were five pre-qualified general contractors that were invited to submit tenders in response to Request for Tender T19-36. These general contractors were required to utilize the services of one of the pre-qualified sub-contractors for the applicable trades.

### **Tender Summaries**

Tenders in response to Request for Tender T19-36 were opened on July 9, 2019. Four (4) general contractors submitted tender prices as listed below, excluding HST.

<b>CONTRACTOR</b>		<b>TENDER PRICE SUBMITTED</b>
1.	JMR Electric Ltd.	\$11,039,340
2.	K&L Construction	\$11,330,100
3.	Stone Town Construction Limited	\$11,832,399
4.	AllTrade Industrial Contractors Inc.	\$14,964,322

The tender estimate just prior to tender opening was \$9,800,000, including \$800,000 in contingency. A portion of the works contemplated under this contract relate to the renewal of capital assets associated with existing incinerator systems; all work can be covered within existing capital accounts. The difference between the pre-tender estimate and final tender price relates mainly to additional complexity and scope and an escalation in equipment costs identified and captured through addenda during the tendering process.



**CONCLUSIONS**

JMR Electric Ltd has demonstrated the ability to complete the required construction works through the pre-qualification process and recently completed projects for the City of London. Award of T19-36 to JMR Electric Ltd. for the installation of the new Organic Rankine Cycle engine and associated works is recommended.

<b>SUBMITTED BY:</b>	<b>CONCURRED BY:</b>
<b>GEORDIE GAULD DIVISION MANAGER WASTEWATER TREATMENT OPERATIONS</b>	<b>SCOTT MATHERS, P. ENG. DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>	

Attach: Appendix 'A' – Sources of Financing

- c.c. John Freeman  
Chris Ginty  
Geordie Gauld  
Alan Dunbar  
Jason Davies  
JMR Electric Ltd.

APPENDIX "A"

#19122  
August 12, 2019  
(Award Contract)

Chair and Members  
Civic Works Committee

RE: T19-36 Greenway Organic Rankine Cycle Engine Installation  
(Subledger FS17GW02)  
Capital Project ES3080 - Greenway Inceinerator Refurbishment  
Capital Project ES5272 - Greenway WWTP Organic Rankine Cycle Equipment  
JMR Electric Ltd. - \$11,039,340.00 (excluding H.S.T.)

**FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:**

Finance & Corporate Services confirms that the cost of this project can be accommodated with the financing available in the Capital Works Budget, and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services and City Engineer, the detailed source of financing for this project is:

<b>SUMMARY OF ESTIMATED EXPENDITURES</b>	<b>Approved Budget</b>	<b>Revised Budget</b>	<b>Committed to Date</b>	<b>This Submission</b>	<b>Balance for Future Work</b>
<b>ES3080 - Greenway Inceinerator Refurbishment</b>					
Engineering	\$1,262,164	\$1,134,864	\$613,323		\$521,541
Construction	5,294,210	5,421,510	4,272,038	1,149,472	0
City Related Expenses	598,657	598,657	598,657		0
Additional Vehicle & Equipment	563,099	563,099	563,099		0
	7,718,130	7,718,130	6,047,117	1,149,472	521,541
<b>ES5272 - Greenway WWTP Organic Rankine Cycle Equipment</b>					
Engineering	1,200,000	1,221,120	915,840	305,280	0
Construction	9,800,000	9,778,880		9,778,880	0
	11,000,000	11,000,000	915,840	10,084,160	0
<b>NET ESTIMATED EXPENDITURES</b>	<b>\$18,718,130</b>	<b>\$18,718,130</b>	<b>\$6,962,957</b>	<b>\$11,233,632</b> 1)	<b>\$521,541</b>
<b>SOURCE OF FINANCING</b>					
<b>ES3080 - Greenway Inceinerator Refurbishment</b>					
Capital Sewer Rates	543,000	543,000	543,000		0
Debtenture By-law No. W.-5990-307	1,812,530	1,812,530	141,517	1,149,472	521,541
Drawdown from Sewage Works Reserve Fund	5,362,600	5,362,600	5,362,600		0
	7,718,130	7,718,130	6,047,117	1,149,472	521,541
<b>ES5272 - Greenway WWTP Organic Rankine Cycle Equipment</b>					
Federal Gas Tax	4,500,000	4,500,000		4,500,000	0
Drawdown from Sewage Works Reserve Fund	5,770,000	5,770,000	915,840	4,854,160	0
Independent Electricity System Operator Grant	730,000	730,000		730,000	0
	11,000,000	11,000,000	915,840	10,084,160	0
<b>TOTAL FINANCING</b>	<b>\$18,718,130</b>	<b>\$18,718,130</b>	<b>\$6,962,957</b>	<b>\$11,233,632</b>	<b>\$521,541</b>
1) <u>Financial Note:</u>					
	<b>ES3080</b>	<b>Engineering ES5272</b>	<b>Construction ES5272</b>	<b>Total</b>	
Contract Price	\$1,129,591	\$300,000	\$9,609,749	\$11,039,340	
Add: HST @13%	146,847	39,000	1,249,267	1,435,114	
Total Contract Price Including Taxes	1,276,438	339,000	10,859,016	12,474,454	
Less: HST Rebate	126,966	33,720	1,080,136	1,240,822	
Net Contract Price	\$1,149,472	\$305,280	\$9,778,880	\$11,233,632	

lp

Jason Davies  
Manager of Financial Planning & Policy

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG, MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>VICTORIA BRIDGE REPLACEMENT GEOTECHNICAL &amp; HYDROGEOLOGICAL ENGINEERING APPOINTMENT OF CONSULTING ENGINEER</b>

<b>RECOMMENDATION</b>
-----------------------

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer the following actions **BE TAKEN** with respect to the appointment of a Consulting Engineer for the Victoria Bridge Replacement Project:

- (a) Golder Associates Ltd. **BE APPOINTED** as a Consulting Engineer for Geotechnical and Hydrogeological Services associated with the Victoria Bridge Replacement Project at an upset amount of \$121,220.00 (excluding HST) in accordance with Section 15.2 (d) of the Procurement of Goods and Services Policy;
- (b) the financing for this assignment **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix A;
- (c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this assignment;
- (d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract with the consultant for the work; and,
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents including agreements, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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- Strategic Priorities and Policy Committee – January 28, 2016 – Downtown Infrastructure Planning and Coordination
- Civic Works Committee – November 1, 2016 – Environmental Assessment Appointment of Consulting Engineer
- Strategic Priorities and Policy Committee – November 21, 2017 – Downtown Infrastructure Construction Project Coordination
- Civic Works Committee – June 19, 2018 – Victoria Bridge Environmental Study Report
- Civic Works Committee – July 23, 2019 - Victoria Bridge Replacement Detailed Design & Tendering Appointment of Consulting Engineer

## COUNCIL'S 2019-2023 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of Building a Sustainable City by building new transportation infrastructure to meet the long term needs of our community.

## BACKGROUND

### Purpose

This report recommends the appointment of a consulting engineer to complete the required geotechnical and hydrogeological engineering services for the Victoria Bridge replacement project.

### Context

The Victoria Bridge (6-BR-19) located on Ridout Street South spans the South Branch of the Thames River, just south of Horton Street. The bridge carries two lanes of traffic on Ridout Street over the South Branch of the Thames River in the northbound and southbound directions and serves as an important link to downtown and Old South/Wortley Village. The Schedule C Class Municipal Environmental Assessment for this bridge was completed in July 2018 and recommended the full replacement of this structure.

On July 30, 2019, the City Council appointed AECOM as the Consulting Engineer for the detailed design and tendering for the Victoria Bridge replacement project. The geotechnical and hydrogeological engineering services is a separate assignment that will provide essential engineering support services for the detailed design. Golder Associates will be working collaboratively with AECOM.

## DISCUSSION

The detailed design for the Victoria Bridge replacement project is very complex and involves multiple engineering fields. The geotechnical and hydrogeological engineering was determined to be one of the most critical components of the detailed design that requires expertise from a specialized consultant and therefore a separate procurement process was initiated to ensure value for money for this specialized service.

### Consulting Assignment

The scope of the geotechnical and hydrogeological assignment consists of the following major components:

- Geotechnical subsurface investigation to support detailed design for the structural and civil components of the new bridge foundations, approaches, temporary pedestrian bridge, retaining walls, pavement and utility relocations;
- Soil sampling and chemical analysis of potentially contaminated soils;

- Preparation of a Geotechnical Investigation and Design Report that will include a detailed description of subsurface conditions, summary of geotechnical analytical results, groundwater conditions, recommendations for excavations and temporary excavation support;
- Groundwater monitoring and sampling to collect subsurface hydrogeological information and determine ground water quality;
- Submitting required applications to the Ministry of the Environment Conservation and Parks; and,
- Preparation of a Hydrogeological Report which will include a summary of existing conditions, testing/sampling results, quantification of dewatering/depressurization requirements, water discharge plan, and detailed impact assessment.

### **Consultant Procurement**

Following the objectives of the Procurement of Goods and Services Policy, to obtain the best value for services through a competitive process, a Request for Proposal (RFP) process was initiated. In accordance with Section 15.2 (d) of the Procurement of Goods and Services Policy, three prequalified consultants that are capable of delivering the required services were invited to submit their proposals. Proposals were received from all three consultants on July 9, 2019. The selection committee evaluated the proposals against an established evaluation criteria which included the experience and qualifications of the consultant team as well as their approach, methodology and schedule to complete the required work.

The evaluation committee determined that the submission from Golder Associates engineering firm provides the best value for the City. Golder Associates has experienced project team members with the required qualifications and expertise. Their proven experience on similar projects combined with a project proposal that demonstrated a thorough understanding of the goals and objectives determined their suitability for this assignment.

<b>CONCLUSION</b>
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Golder Associates has demonstrated an understanding of the requirements for this project. Based on the competitive consultant procurement process, it is recommended that Golder Associates be appointed to undertake the geotechnical and hydrogeological engineering services to provide support to the detailed design for the replacement of the Victoria Bridge in the amount of \$121,220.00 (excluding HST).

There are no anticipated additional annual operating costs to the Environmental and Engineering Services Department associated with this assignment.

<b>PREPARED BY:</b>	<b>REVIEWED &amp; CONCURRED BY:</b>
<b>GARFIELD DALES, P. ENG. DIVISION MANAGER TRANSPORTATION PLANNING &amp; DESIGN</b>	<b>DOUG MACRAE, P. ENG., MPA DIRECTOR ROADS AND TRANSPORTATION</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>	

Attach: Appendix A: Source of Financing

c: Daniel Babcock, Golder Associates Ltd.  
G. McDonald/J. Pucchio, AECOM Canada Ltd.

**APPENDIX 'A'**

**#19112**

Chair and Members  
Civic Works Committee

August 12, 2019  
(Award Contract)

**RE: Geotechnical & Hydrogeological Engineering  
Consulting Services for Victoria Bridge Replacement Detailed Design  
(Subledger BR160001)  
Capital Project TS176318 - Bridges Major Upgrades  
Golder Associates - \$121,220.00 (excluding H.S.T.)**

**FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:**

Finance & Corporate Services confirms that the total cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services & City Engineer, the detailed source of financing for this project is:

<b><u>SUMMARY OF ESTIMATED EXPENDITURES</u></b>	<b><u>Approved Budget</u></b>	<b><u>Revised Budget</u></b>	<b><u>Committed To Date</u></b>	<b><u>This Submission</u></b>	<b><u>Balance for Future Work</u></b>
Engineering	\$530,648	\$670,138	\$546,784	\$123,354	\$0
Construction	3,430,402	3,290,912	385,260		2,905,652
City Related Expenses	20,000	20,000	1,090		18,910
<b>NET ESTIMATED EXPENDITURES</b>	<b><u>\$3,981,050</u></b>	<b><u>\$3,981,050</u></b>	<b><u>\$933,134</u></b>	<b><u>\$123,354</u></b>	<b><u>\$2,924,562</u></b>
<b><u>SUMMARY OF FINANCING:</u></b>					
Capital Levy	\$1,847,120	\$1,847,120	\$933,134	\$123,354	\$790,632
Drawdown from Capital Infrastructure Gap Reserve Fund	133,930	133,930			133,930
Federal Tax	2,000,000	2,000,000			2,000,000
<b>TOTAL FINANCING</b>	<b><u>\$3,981,050</u></b>	<b><u>\$3,981,050</u></b>	<b><u>\$933,134</u></b>	<b><u>\$123,354</u></b>	<b><u>\$2,924,562</u></b>

1) **Financial Note:**

Contract Price	\$121,220
Add: HST @13%	15,759
Total Contract Price Including Taxes	<u>136,979</u>
Less: HST Rebate	13,625
Net Contract Price	<u>\$123,354</u>

lp

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Jason Davies  
Manager of Financial Planning & Policy



<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>CONTRACT PRICE INCREASE: TENDER T18-16 INFRASTRUCTURE RENEWAL PROGRAM CONTRACT 15: MAIN STREET</b>

<b>RECOMMENDATION</b>
-----------------------

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the Main Street Reconstruction project:

- a) the 2018 Main Street Reconstruction (Tender T18-16) contract value with L82 Construction Ltd. **BE INCREASED** by \$400,000 to \$8,633,236.86 (excluding HST) in accordance with Section 20.3 (e) of the Procurement of Goods and Services Policy;
- b) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix 'A';
- c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project; and,
- d) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>2019-23 STRATEGIC PLAN</b>
-------------------------------

The following report supports the Strategic Plan through the strategic focus areas of Building a Sustainable City and Leading in Public Service. The Main Street Infrastructure Renewal Project helps manage the infrastructure gap, improves our water, wastewater and stormwater infrastructure and services and enhances safety for all road users. Renew London is committed to delivering excellent customer service and providing great customer experiences to residents, business and visitors by communicating projects in advance and coordinating all work to help build and deliver efficient infrastructure and minimize delays and inconveniences to the public during construction.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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- Civic Works Committee – April 4, 2018 – Contract Award: Tender No. 18-16 Infrastructure Renewal Project – Contract 15 Main Street

## BACKGROUND

### Purpose

The Main Street Reconstruction contract requires an amendment due to a number of unforeseen conditions. The City's Procurement of Goods and Services Policy requires Council approval for this amendment.

## DISCUSSION

The project team recently became aware that the work to complete the Main Street project would exceed the council approved contract budget by an amount in excess of administrative approval limits.

### Cost Escalation Items

The table and following commentary provides a summary of the major issues that occurred during the contract and contributed to the exceedence of the contract value.

Item	Approximate Value
Revised sewer pipe class	\$77,000
Extension of private drain connections	\$48,000
Asphalt cement	\$97,000
Conflicts with gas mains	\$62,000
Conflicts with telecommunications cables	\$111,000
<b>TOTAL</b>	<b>\$395,000</b>

#### Revised Sewer Pipe Class

The storm sewer pipe class identified in the tender was modified during construction to account for the specific soil properties and depth of pipe. The additional cost for this item was the material cost for the difference in pipe thickness between what was tendered and what was required on site. The adjusted cost was based on standard industry pricing. This upgrade in sewer pipe class will provide better sewer life and service.

#### Extension of Private Drain Connections

A majority of properties that front on to the Main Street project are on septic systems. It is the intention that by providing sanitary service to this area, over time all property owners will decommission their septic systems and connect to the City system. In order to make this connection each individual property owner will be required to excavate down to connect to the Private Drain Connection (PDC) stub that the City installed as part of the Main Street project. During the construction of the project it was decided by the project team to extend a number of PDCs beyond what was accounted for in the contract. The reason for this change was to avoid future damage and disruption to the streetscaping work that was being completed as part of the project. The contract modification to extend the PDCs further will ensure the excavation required to make these future connections will not damage the recently completed streetscape work. This work was paid for using the competitive tender item prices.

### Asphalt Cement

The price the road authority pays for asphalt cement is directly linked to the published price index of the commodity, as set out by the Ministry of Transportation. The cost of asphalt increased dramatically between the time of contract tendering and asphalt paving. This cost increase was unpredictable and is not within the project teams control to mitigate.

### Conflicts with Gasmains

A number of gasmains on this project were not located accurately on the available as-built drawings at the time of tender. Additionally, the depth of some gasmains were much shallower than normal, even after having all services properly located (laterally) on site in advance of any excavation.

### Conflicts with Telecommunications Cables

A significant Rogers fibre optic service was located on site that was not identified during the preparation of the contract drawings. Working around this service required additional efforts by the contractor as well as relocation of other underground services. Some surface features (such as retaining walls) also had to be redesigned and relocated to accommodate.

### **Summary**

The contract requires an additional \$400,000 (excluding HST) to complete. The remaining contract work includes:

- Surface asphalt paving
- Permanent pavement markings
- Landscaping / streetscaping elements
- Boulevard restoration

<b>CONCLUSION</b>
-------------------

It is recommended that the Main Street Reconstruction (Tender T18-16) contract value be amended to a limit of \$8,633,236.86 (excluding HST), in accordance with Section 20.3 (e) of the Procurement of Goods and Services Policy.

<b>SUBMITTED BY:</b>	<b>REVIEWED &amp; CONCURRED BY:</b>
<b>UGO DECANDIDO, P. ENG. DIVISION MANAGER CONSTRUCTION ADMINISTRATION</b>	<b>DOUG MACRAE, P.ENG., MPA DIRECTOR ROADS AND TRANSPORTATION</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>	

W:\2018 Projects\Contract 15 - Main St (IBI)\CONSTRUCTION\Aug-12-2019 - CWC - Contract Price Increase - Main St..docx

Attach: Appendix 'A' – Sources of Financing

Cc: Aaron Rozental, Division Manager, Water Engineering  
Tom Copeland, Division Manager, Wastewater and Drainage Engineering  
Garfield Dales, Division Manager, Transportation Engineering  
Gary McDonald, Budget Analyst, Finance & Corporate Services

APPENDIX "A"

#19124

August 12, 2019

(Construction Contract Increase)

Chair and Members  
Civic Works Committee

**RE: Contract Price Increase: Tender T18-16 Infrastructure Renewal Program**  
**Contract 15: Main Street**  
**(Subledger WS16C00D)**  
**Capital Project ES241418 - Sewer Infrastructure Lifecycle Renewal**  
**Capital Project TS144617 - Road Network Improvements (Main)**  
**Capital Project EW378718 - Main Replacement with Major Roadworks**  
**L82 Construction Ltd. - \$400,000.00 (Excluding H.S.T.)**

**FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:**

Finance & Corporate Services confirms that the cost of this project can be accommodated with the financing available in the Capital Works Budget, and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services and City Engineer, the detailed source of financing for this project is:

	<u>Approved Budget</u>	<u>Revised Budget</u>	<u>Committed to Date</u>	<u>This Submission</u>	<u>Balance for Future Work</u>
<b>SUMMARY OF ESTIMATED EXPENDITURES</b>					
<b>ES241418 - Sewer Infrastructure Lifecycle Renewal</b>					
Engineering	\$1,939,666	\$1,759,460	\$981,731		\$777,729
Engineering (Utilities)	8,420	8,420	8,420		0
Land Acquisition	44,767	44,767	44,767		0
Construction	12,484,427	12,664,633	12,457,043	207,590	0
Construction (PDC Portion)	192,000	192,000	192,000		0
Construction (Bell Contributions)	1,023,538	1,023,538	1,023,538		0
City Related Expenses	114,848	114,848	110,740		4,108
	<u>15,807,666</u>	<u>15,807,666</u>	<u>14,818,239</u>	<u>207,590</u>	<u>781,837</u>
<b>TS144617 - Road Network Improvements (Main)</b>					
Engineering	1,138,135	1,155,924	1,155,924		0
Land Acquisition	155,363	155,363	153,398		1,965
Construction	13,154,201	13,132,015	12,770,988	150,605	210,422
Construction (Dancor)	125,165	125,165	125,165		0
City Related Expenses	18,961	23,358	23,358		0
	<u>14,591,825</u>	<u>14,591,825</u>	<u>14,228,833</u>	<u>150,605</u>	<u>212,387</u>
<b>EW378718 - Main Replacement with Major Roadworks</b>					
Engineering	432,144	432,144	432,144		0
Construction	3,817,856	3,817,856	3,123,921	48,845	645,090
Construction (London Hydro)	136,396	136,396	136,396		0
Construction (Rygar)	21,300	21,300	21,300		0
	<u>4,407,696</u>	<u>4,407,696</u>	<u>3,713,761</u>	<u>48,845</u>	<u>645,090</u>
<b>NET ESTIMATED EXPENDITURES</b>	<b><u>\$34,807,187</u></b>	<b><u>\$34,807,187</u></b>	<b><u>\$32,760,833</u></b>	<b><u>\$407,040</u></b> 1)	<b><u>\$1,639,314</u></b>
<b>SOURCE OF FINANCING</b>					
<b>ES241418 - Sewer Infrastructure Lifecycle Renewal</b>					
Capital Sewer Rates	\$7,093,000	\$7,093,000	\$7,093,000		\$0
Drawdown from Sewage Works Reserve Fund	2,990,708	2,990,708	2,001,281	207,590	781,837
Federal Gas Tax	4,500,000	4,500,000	4,500,000		0
Cash Recovery From Property Owners (PDC Portion)	192,000	192,000	192,000		0
Other Contributions (Utilities)	1,031,958	1,031,958	1,031,958		0
	<u>15,807,666</u>	<u>15,807,666</u>	<u>14,818,239</u>	<u>207,590</u>	<u>781,837</u>
<b>TS144617 - Road Network Improvements (Main)</b>					
Capital Levy	4,562,384	4,562,384	4,562,384		0
Debenture By-law No. W.-5617-63	2,227,179	2,227,179	1,864,187	150,605	212,387
Federal Gas Tax	7,677,097	7,677,097	7,677,097		0
Other Contributions (Dancor)	125,165	125,165	125,165		0
	<u>14,591,825</u>	<u>14,591,825</u>	<u>14,228,833</u>	<u>150,605</u>	<u>212,387</u>
<b>EW378718 - Main Replacement with Major Roadworks</b>					
Capital Water Rates	3,110,000	3,110,000	3,110,000		0
Drawdown from New Capital Water R.F.	1,140,000	1,140,000	446,065	48,845	645,090
Other Contributions (London Hydro)	136,396	136,396	136,396		0
Other Contributions (Rygar Apt. Development)	21,300	21,300	21,300		0
	<u>4,407,696</u>	<u>4,407,696</u>	<u>3,713,761</u>	<u>48,845</u>	<u>645,090</u>
<b>TOTAL FINANCING</b>	<b><u>\$34,807,187</u></b>	<b><u>\$34,807,187</u></b>	<b><u>\$32,760,833</u></b>	<b><u>\$407,040</u></b>	<b><u>\$1,639,314</u></b>
1) <b>Financial Note:</b>	<b><u>ES241418</u></b>	<b><u>TS144617</u></b>	<b><u>EW378718</u></b>	<b><u>Total</u></b>	
Contract Price	\$204,000	\$148,000	\$48,000	\$400,000	
Add: HST @13%	26,520	19,240	6,240	52,000	
Total Contract Price Including Taxes	230,520	167,240	54,240	452,000	
Less: HST Rebate	22,930	16,635	5,395	44,960	
Net Contract Price	<u>\$207,590</u>	<u>\$150,605</u>	<u>\$48,845</u>	<u>\$407,040</u>	

lp

Jason Davies  
Manager of Financial Planning & Policy

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 12, 2019</b>
<b>FROM:</b>	<b>GEORGE KOTSIFAS, P. ENG. MANAGING DIRECTOR, DEVELOPMENT &amp; COMPLIANCE SERVICES &amp; CHIEF BUILDING OFFICIAL</b>
<b>SUBJECT:</b>	<b>FORMER PUC PARKING LOT 12 199 RIDOUT STREET NORTH</b>

<b>RECOMMENDATION</b>
-----------------------

That, on the recommendation of the Managing Director, Development & Compliance Services & Chief Building Official, the following actions **BE TAKEN** with respect to a lighting design and construction project for the former Public Utilities Commission Parking Lot known as City Lot 12 located at 199 Ridout Street N.:

- a) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix A;
- b) the Civic Administration **BE DIRECTED** to commence project management activities to implement the project;
- c) the Civic Administration **BE AUTHORIZED** to undertake all administrative acts necessary in connection with this project in accordance with the Procurement of Goods and Services Policy;

<b>BACKGROUND</b>
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The City of London (City) owns and manages the former PUC parking lot located at 199 Ridout Street North. Earlier in 2019, the condition of the entire lighting system was brought to the City's attention by the City's electrical contractor.

It was determined that a full system design and replacement along with new hydro poles is required to be completed in 2019 as there are safety concerns regarding the existing system and the existing level and quality of lighting. This raised some concerns about public safety in a public parking lot.

Total design and construction cost are estimated to be \$400,000 to be charged to a capital account with funds transferred from the Parking Facilities Reserve Fund.

<b>PREPARED BY:</b>	<b>RECOMMENDED BY:</b>
<b>ANNETTE DROST MANAGER MUNICIPAL LAW ENFORCEMENT SERVICES</b>	<b>OREST KATOLYK, MLEO ( c ) CHIEF MUNICIPAL LAW ENFORCEMENT OFFICER</b>
<b>REVIEWED &amp; CONCURRED BY:</b>	
<b>GEORGE KOTSIFAS, P.ENG. MANAGING DIRECTOR, DEVELOPMENT &amp; COMPLIANCE SERVICES &amp; CHIEF BUILDING OFFICIAL</b>	

Attach: Appendix A – Source of Financing

**APPENDIX 'A'**

Chair and Members  
Civic Works Committee

**#19116**  
August 12, 2019  
(Establish Budget)

**RE: Former PUC Parking Lot - 199 Ridout Street North  
(Subledger RD190015)  
Capital Project TS4213 - PUC Parking Lot 12**

**FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:**

Finance & Corporate Services confirms that the cost of this project, although not included in the Capital Budget, can be accommodated with a drawdown from the Parking Facilities Reserve Fund and that, subject to the adoption of the recommendations of the Managing Director, Development And Compliance Services and Chief Building Official, the detailed source of financing for this project would be:

<b><u>ESTIMATED EXPENDITURES</u></b>	<b><u>Approved Budget</u></b>	<b><u>This Submission</u></b>	<b><u>Revised Budget</u></b>
Engineering	\$0	\$30,000	\$30,000
Construction	0	370,000	370,000
<b>NET ESTIMATED EXPENDITURES</b>	<b><u>\$0</u></b>	<b><u>\$400,000</u></b> 1)	<b><u>\$400,000</u></b>
 <b><u>SOURCE OF FINANCING:</u></b>			
Drawdown from Parking Facilities R.F.	0	400,000	400,000
<b>TOTAL FINANCING</b>	<b><u>\$0</u></b>	<b><u>\$400,000</u></b>	<b><u>\$400,000</u></b>

1) The funding requirement is available as a drawdown from the Parking Facilities Reserve Fund. At the end of 2018, \$2.2M was deposited into the reserve fund from the former PUC for maintenance and rehabilitation of the PUC Parking lot (Lot 12). With the inclusion of this project, the balance of funds earmarked for the PUC parking lot will be \$1.8M.

lp

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Kyle Murray  
Director of Financial Planning & Business Support





2018 Annual Report



450 Highbury Avenue N.,  
 London, Ontario, N5W 5L2  
 Telephone: 519-451-1340  
 Fax: 519-451-4411

July 12, 2019

To His Worship Mayor Ed Holder  
 and Members of Municipal Council

**Re: 2018 London Transit Commission Annual Report**

On behalf of all London Transit employees and the Commission, I am pleased to submit LTC's 2018 Annual Report for Council's review and consideration. The report summarizes the Commission's 2018 performance against the strategic outcomes set out in the 2015-2018 Business Plan, both in terms of developing as an organization and building a valued and trusted mobility choice for Londoners. The table below sets out the performance against the outcomes for the 2018 fiscal year.

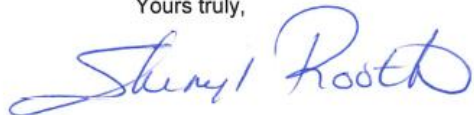
Strategic Outcome	Grade	Comments
An integrated, affordable and valued mobility choice	Good	Implementation of the 5 year service plan is anticipated to address the majority of service concerns relating to both service quality and levels of service provided.
Demonstrated fiscal accountability	Excellent	Overall effective cost management including a flat-line of both City of London investment and rider investment (fares).
Being open, transparent and understood	Good	Allocation of additional resources to corporate communications including the launch of corporate social media accounts in 2018 formed the basis for continued improvement going forward.
Effective utilization of infrastructure	Excellent	Assets are considered to be 'very good – fit for the future'.
An engaged, diverse and respectful workplace	Good	Continued focus on the Mental Health Strategy in 2018 set the stage to roll-out custom resiliency training to all employees in 2019.

Highlights of the successes achieved in 2018 include:

- total ridership growing to 24.029 million rides, up approximately 3.5% over 2017 ridership levels
- continuation of the Voice of the Customer survey program, providing valuable insight from LTC customers with respect to their priorities for transit services
- launch of a new corporate website and social media accounts, as well as the new Infoweb service, which provides real-time service information to riders
- increased investment in the area of Corporate Communications to provide for better stakeholder engagement
- continued focus on the Commission's Mental Health Strategy

I extend my gratitude to London Transit employees for their dedication and commitment as well as Municipal Council and the civic administration for their continued support, and I look forward to continued success going forward as we work to implement the 2019-2022 Business Plan and making public transit a more reliable option for more Londoners going forward.

Yours truly,

A handwritten signature in blue ink that reads "Sheryl Rooth". The signature is written in a cursive style with a large, prominent "R" at the end.

Sheryl Rooth  
Chair

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## THE LONDON TRANSIT COMMISSION

### COMMISSION - CURRENT

<b>SHERYL ROOTH</b>	<b>CHAIR</b>
<b>PHIL SQUIRE</b>	<b>VICE CHAIR</b>
<b>JESSE HELMER</b>	<b>COMMISSIONER</b>
<b>TANYA PARK</b>	<b>COMMISSIONER</b>
<b>TARIQ KHAN</b>	<b>COMMISSIONER</b>

### SENIOR MANAGEMENT - CURRENT

<b>KELLY PALECZNY</b>	<b>GENERAL MANAGER</b>
<b>MIKE GREGOR</b>	<b>DIRECTOR OF FINANCE</b>
<b>SHAWN WILSON</b>	<b>DIRECTOR OF OPERATIONS</b>
<b>KATIE BURNS</b>	<b>DIRECTOR OF PLANNING</b>
<b>CRAIG MORNEAU</b>	<b>DIRECTOR OF FLEET &amp; FACILITIES</b>
<b>JOANNE GALLOWAY</b>	<b>DIRECTOR OF HUMAN RESOURCES</b>

## EXECUTIVE SUMMARY

London Transit's vision in the 2015-2018 Business Plan is to be *the valued and trusted mobility choice for Londoners*. The vision is supported by the mission statement which is *moving Londoners – progressively, reliably and affordably*.

The vision and mission are supported by five linked and, in certain respects, competing strategic outcomes, namely:

- An integrated, affordable and valued mobility choice
- Demonstrated fiscal accountability
- Being open, transparent and understood
- Effective utilization of infrastructure
- An engaged, diverse and respectful workplace

Consistent with the Business Planning Process, each year an Annual Report is completed and shared publicly. The report provides an overview of how the LTC performed against each of the strategic outcomes identified in the Business Plan.

Yearly, each of the Strategic Outcomes is graded by administration based on the following scale.

Grade	Criteria
Excellent	All initiatives set out in the Business Plan under the objective have been successfully achieved
Good	Progress toward completion of all initiatives under the objective is consistent with expectations in the Business Plan
Satisfactory	Progress toward completion of all initiatives under the objective is slower than expectations in the Business Plan
Needs Improvement	Significant focus needs to be directed at the initiatives under the objective

The table below sets out the performance against the outcomes for the 2018 fiscal year.

Strategic Outcome	Grade	Comments
An integrated, affordable and valued mobility choice	Good	Implementation of the 5 year service plan is anticipated to address the majority of service concerns relating to both service quality and levels of service provided.
Demonstrated fiscal accountability	Excellent	Overall effective cost management including a flat-line of both City of London investment and rider investment (fares).
Being open, transparent and understood	Good	Allocation of additional resources to corporate communications including the launch of corporate social media accounts in 2018 formed the basis for continued improvement going forward.
Effective utilization of infrastructure	Excellent	Assets are considered to be 'very good – fit for the future'.
An engaged, diverse and respectful workplace	Good	Continued focus on the Mental Health Strategy in 2018 set the stage to roll-out custom resiliency training to all employees in 2019.

The grades of 'good' in the areas of 'an integrated, affordable and valued mobility choice', 'being open transparent and understood', and 'an engaged, diverse and respectful workplace' highlights the areas of focus going forward.

With respect to 'an integrated, affordable and valued mobility choice', combined ridership on London's conventional and specialized transit services increased in 2018 to 24.029 million rides, up approximately 3.5% over 2017 ridership levels, exceeding budget expectations. Revenue service hours were increased by a total of 31,000 hours on the services. With respect to the conventional service, the increase in hours was targeted primarily at service quality improvements versus service into new areas. The increase in hours on the specialized service is directly tied to increased ridership given the ongoing and unmet demand for the service.

The objective of 'being open, transparent and understood', which received a 'good' score, will also be the focus of work programs going forward. 2018 saw the continuation of the Voice of the Customer program, which provides insight into how LTC customers perceive their conventional transit service as well as what their priorities are for the service going forward. In 2018, the Voice of the Customer program was expanded to include the specialized service. The information gathered from these surveys, as well as other customer feedback received will continue to be utilized going forward as more initiatives are undertaken to address the shortfalls identified by LTC customers. 2018 saw the introduction of a new corporate website and social media accounts, as well as the new Infoweb service, which provides real-time service information to riders. The improved website, social media accounts and Infoweb service together provide significant enhancements to the manner in which service information is communicated with customers. Additionally, 2018 saw the investment of resources into the area of Corporate Communications with the establishment of a Manager of Corporate Communications position as well as a Communications Specialist position.

The objective of 'an engaged, diverse and respectful workplace' also received a grade of 'good' with the understanding that the creation and maintenance of an engaged, diverse and respectful workplace is a work in progress and something that will never be considered complete given the ongoing and constant changes faced by a growing organization. Primary areas of focus in 2018 on this objective included a continued focus on the implementation of the various initiatives outlined in the Mental Health Strategy, the Workplace Violence Prevention Program with the Operator Shield pilot program as well as enhancing employee support programs and implementation and further diversity initiatives.

## AN INTEGRATED, AFFORDABLE AND VALUED MOBILITY CHOICE

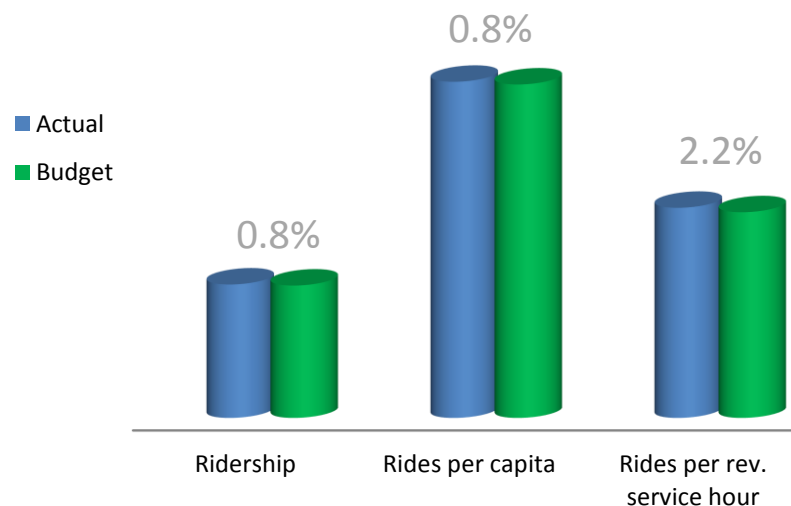
The strategic objective calls for the continued development and delivery of accessible public transit services that are integrated with other modes of transportation dynamic in nature and considered a valued investment to all stakeholders. The following table sets out an assessment of the 2018 performance against key elements of this strategy, noting the measures used to determine the grading include ridership change and total ridership, service hour change and total service hour investment, customer satisfaction rating, and investment share allocation, all of which are commented on in greater detail following the table below.

Key Elements	Grade
Reviewing the transit service to ensure it meets the needs of a growing, competing and changing market (includes service design, routing, frequency and accessibility)	Excellent
Delivering the service consistent with defined schedules and standards	Good
Developing and implementing proven technology in support of an effective, efficient and evolving transit service	Good
Progressing in the development and delivery of integrated, accessible public transit services	Needs Improvement

### Conventional Transit Services

As noted in the following chart which compares actual 2018 ridership and related measures to 2018 budget, expectations were consistent with budget targets in all three key efficiency measures.

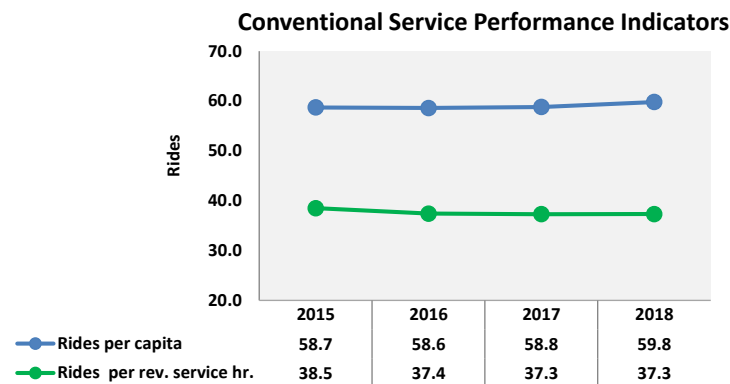
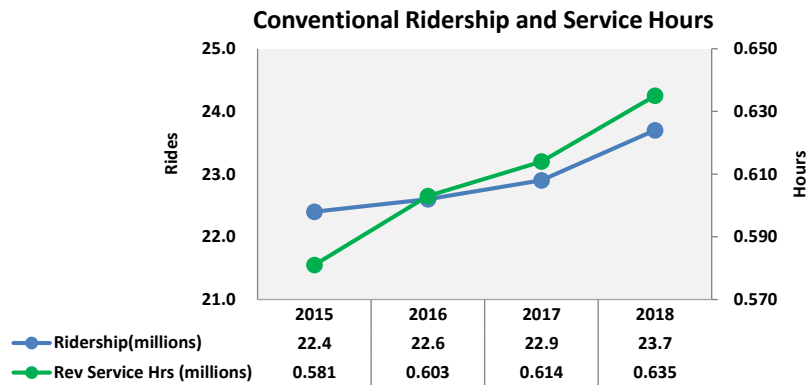
2018 Ridership Performance Actual vs. Budget





The 'rides per revenue service hour' measure can be viewed from two perspectives, in that the higher it is, the more efficiently the service is operating (i.e. buses are full), and the lower it is, the more quality the service is from a customer perspective, in that the buses will be less crowded and customers will, more often, be able to get a seat. This measure is one that requires a delicate balance in order to ensure efficiency and offer quality at the same time.

The ridership and service hour performance over the period of 2015-2018 is set out in the following chart. Over the period of 2012-2014, ridership growth was occurring at an average rate of approximately 1.9% per year, but declined by 5.9% in 2015. Over the period of this Business Plan (2015-2018) conventional transit ridership grew by 5.8%, while service hours over the period have increased by approximately 9.2%. The disparity between the two measures was planned, noting the majority of the service improvements in the 5 year service plan were directed at service quality issues, in an effort to maintain existing riders versus attracting new ones. As indicated earlier in the report, the positive for 2018 with respect to these measures, is that ridership has continued to grow, and the ongoing increases in service hours has had positive impacts on service quality issues including overcrowding.



As noted in the above charts, 'rides per capita'<sup>1</sup>, has shown a slight improvement beginning in 2017 and carrying through 2018, demonstrating that transit ridership is growing at a faster rate than the population in London. The 'rides per revenue service hour'<sup>2</sup> declined marginally in 2016 and has since then remained relatively consistent.

<sup>1</sup>Rides per capita: total rides divided by population – provides for comparison of ridership levels across municipalities of varying populations

<sup>2</sup>Rides per revenue service hour: total rides divided by total hours vehicles are providing service – measures the efficiency of the system

London Transit also measures service performance by comparison to a peer group of Ontario transit systems (with bus operations only and with populations greater than 100,000). The following table sets out a comparison of 2017 key service performance indicators for LTC versus the identified Ontario group average. The 2018 data for LTC is also shown, noting the 2018 group data will not be published until the fall of 2019. The comparison information is compiled and published by the Canadian Urban Transit Association (CUTA).

**Conventional Transit Services – Summary Performance Comparison**

Description Service Performance	2017 Peer Average	2017 LTC	Ranking	2018 LTC
Ridership (millions)	12.7	22.9	3 <sup>rd</sup>	23.7
Rides per capita	34.5	58.9	1 <sup>st</sup>	59.8
Rides per service hour	24.7	37.3	1 <sup>st</sup>	37.3
Service hours per capita	1.4	1.6	6 <sup>th</sup>	1.6

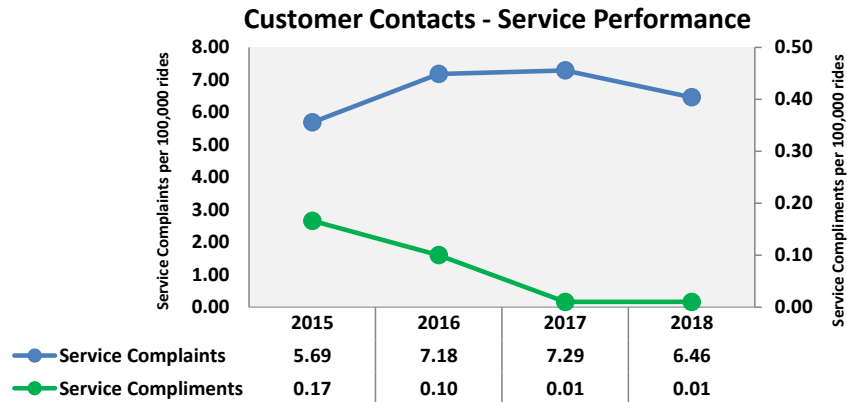
Note: Peer group includes 16 Ontario transit systems in municipalities with a population greater than 100,000. (York Region, Mississauga, Durham Region, Brampton, Hamilton, Waterloo Region, London, Windsor, Oakville, Burlington, St. Catharines, Sudbury, Barrie, Guelph, Thunder Bay and Kingston).

As noted, while 6<sup>th</sup> in terms of population, ‘rides per capita’ and ‘rides per service hour’ ranks London first respectively overall in comparison to the peer group, both by a significant margin over the group average. While the overall rankings place London high in comparison to the peer group, there needs to be a continued focus on the balance between “service efficiency” and “service quality” measures. Going forward the next five year service plan (2020-2024) has established a trigger for assessing additional service on a route to better balance service efficiency and service quality, including passenger comfort standards.

London’s historic and current ridership growth to service growth ratio has helped keep London near the top of the peer group, however London’s standing has dropped from second to third in 2018, falling behind Brampton and Mississauga who have invested significantly in rapid and local transit service improvements and are seeing significant ridership returns on the investment. In the 2017 rankings, York Region and Hamilton sit only slightly below LTC in terms of ridership, however this is anticipated to shift in 2018 given the ongoing service improvements to both their rapid and local services, moving LTC into fourth or fifth overall.

Service quality is also measured through feedback from the customer, which beginning in 2016, includes the addition of the feedback received through the Voice of Customer surveys. Historically customer contacts were relied upon as the only measure of customer satisfaction, however given that customers of any service are far more likely to contact the provider with a complaint when they have had a poor experience versus calling to provide a compliment when they have had a good experience, the Voice of the Customer program was launched to gain a better understanding of the customer’s perspectives. Data from contacts has primarily been relied upon to provide insight into the areas of service delivery that customers were not satisfied with.

The following chart illustrates that service performance complaints increased in both 2016 and 2017, but then declined in 2018.

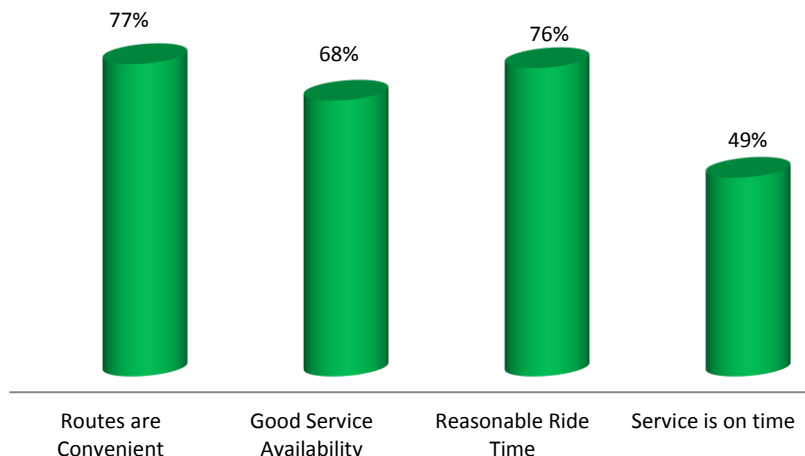


Service performance contacts are broken down into a number of categories to better identify the underlying issues and mitigation strategies going forward. The top category of complaints over the four year period has remained “late schedule”. While significant resources were applied to service changes over this period to address a service that was operating at or exceeding capacity, the number has remained relatively consistent. The customer’s level of frustration with service reliability is echoed in the Voice of the Customer results, noting that the perception of the bus running on time has dropped from 59% in the 2016 survey to 49% in the 2018 survey. Service disruptions resulting from the lengthy and expansive construction projects in 2018 are thought to have had significant influence on this measure.

The second highest category over the period is “missed passenger”, either “drove by” or “not at stop”. “Missed passenger drive by” and “missed passenger not at stop” are differentiated by the customer providing information as to whether or not they were at the physical stop at the time of the bus passing. Given the continued high number of complaints relating to missed passenger-not at stop, a key topic for a customer education in 2019 is to include commentary in on-board communications referencing the requirement for Operators to, for safety purposes, continue in motion once they have begun to pull away from a stop.

The chart below sets out the responses from LTC customers who participated in the 2018 Voice of Customer survey on issues with respect to service. In each case the measure indicates the percentage of customers indicating they ‘agreed’ or ‘strongly agreed’ with the statement.

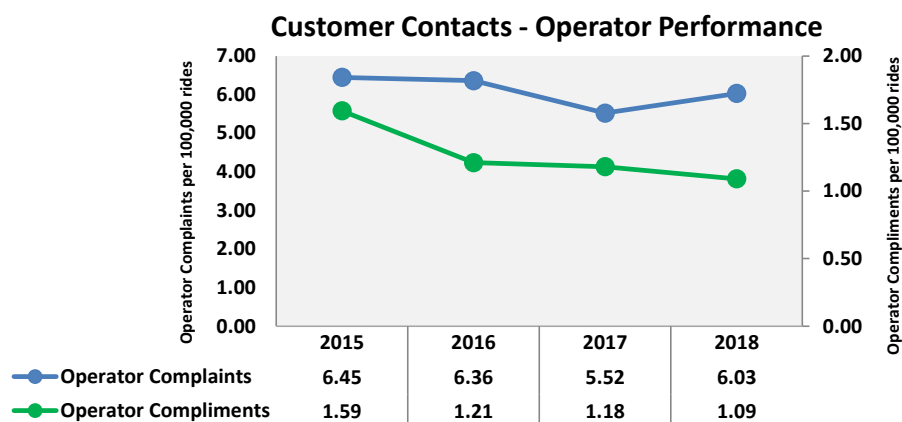
### Voice of the Customer – Satisfaction with Conventional Service Aspects



The two areas of concern highlighted by customers are service availability on the weekends and on-time reliability of the service, both of which were also highlighted by customers who participated in the surveys feeding into the 5 Year Service Plan, in which many of the planned service changes deal with matching service levels to ridership demands (on-time reliability and reduced overcrowding) and weekend service improvements. As indicated earlier, the on-time performance of the service in 2018 was significantly impacted by the number and extent of construction projects that were ongoing from April through December.

The Voice of the Customer results also indicate that customers are generally satisfied with the convenience of the service and the ride time required to complete their trip.

The other major area of analysis regarding service quality is Operator performance, which is assessed in terms of both complaints and compliments. Performance results from the customer contact system for 2015 to 2018 are set out in the following chart.



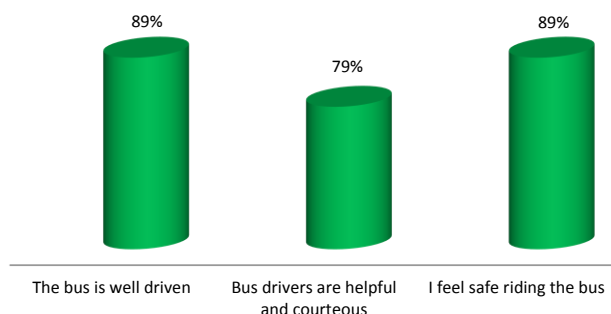
As indicated in the table, in total, complaints in 2018 increased slightly over 2017, back to levels consistent with 2016; however, over the period, the number of complaints per 100,000 riders has decreased by approximately 7%.

Operator performance contacts are also broken down into a number of categories to better identify the underlying issues and mitigation strategies going forward. Driving related Operator complaints increased to the highest level over the four year period in 2018, with the highest number of complaints relating to “unsafe manner”. The increase in “unsafe manner” complaints in 2018 can be largely attributed to complaints received about buses travelling on detour (as the result of numerous construction projects) on streets that typically don’t see bus traffic. The types of complaints received in this area include speed, braking, merging, and turning, all of which the complainant has perceived were conducted in an unsafe manner. The size of a standard bus, coupled with the noise at acceleration being louder than a typical vehicle, often lead to the assumption that the bus is speeding, however, in the majority of the complaints of this nature that have been investigated, it is found that the bus is travelling well within posted speed limits.

Complaints relating to driving are taken seriously, with particular attention paid to those categories which could result in a motor vehicle accident or injury to passengers (speeding, unsafe manner, drive through red light, not stopping at stop sign). 2018 saw a continued focus on defensive driver training, and management follow-up on driving complaints, specifically those related to unsafe behavior. Focus will continue in 2019, as will the scheduling of Operators with a high number of driving-related complaints for accelerated defensive driving training.

Voice of the Customer also gathered data specific to the perceived Operator performance, which is set out in the graph below, noting the measures indicate the percentage of customers who indicated they 'agreed' or 'strongly agreed' with the statement.

### Voice of the Customer – Satisfaction with Operator Performance



The data gathered from the Voice of the Customer surveys indicate a high level of satisfaction with respect to Operators performance. These results support the earlier commentary that customers are much more likely to initiate a customer contact when they are dissatisfied than to provide a compliment. The results also confirm that Operators continued to perform well while in service notwithstanding the significant impacts that construction projects had on service throughout the majority of 2018 as well as the service changes that were implemented in September 2018. Communication efforts in 2019 will reinforce the messaging that LTC Operators are doing the best they can in difficult circumstances, and that customers should direct any concerns they have to customer service versus the Operator.

#### Specialized Transit Services

The following table provides a comparison of ridership and service hours actual to budget performance for 2018. As noted, ridership results and actual service hours provided fell short of targets. The ridership shortfall was directly related to the efficiency of the service not meeting budget expectations (average rides per hour). This unfavourable performance was due, in part to the ongoing implementation of the new scheduling software, which has thus far been unable to produce schedules to meet budgeted efficiency targets.

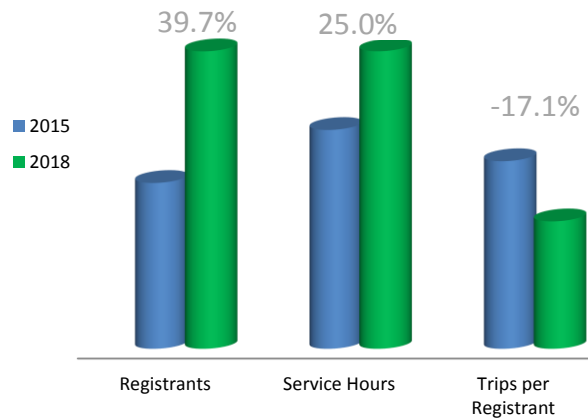
**2018 Ridership and Service Hours Actual to Budget Performance**

Description	Actual	Budget	Amount Better (Worse)	Percent Better (Worse)
Eligible passenger trips	293,227	316,200	(22,973)	(7.3)%
Attendant trips	36,166	36,200	(34)	(0.1)%
<b>Total ridership</b>	<b>329,393</b>	<b>352,400</b>	<b>(23,007)</b>	<b>(6.5)%</b>
Service hours	134,800	138,100	(3,300)	(2.4)%
Registrants	9,332	9,300	32	0.3%
Total trips/registrant	35.4	37.7	(2.3)	(6.1)%
Non-accommodated trips/registrant	1.3	1.2	(0.1)	(8.3)%

Non-accommodated trip – trip request that cannot be accommodated within 30 min of requested pick up time

The specialized transit service has also experienced an imbalance in registrant growth over service hour growth since 2015, which is depicted in the following chart.

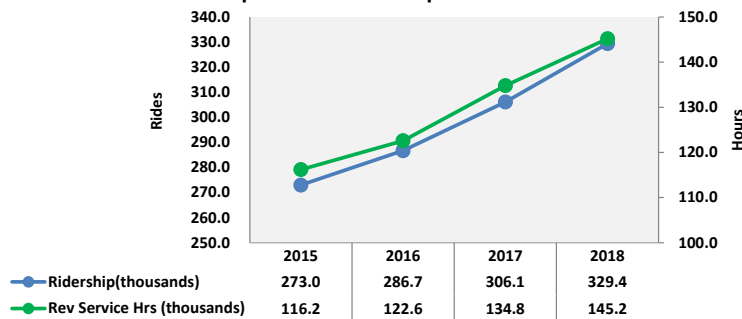
### Registrant to Service Hour Growth 2015 vs. 2018



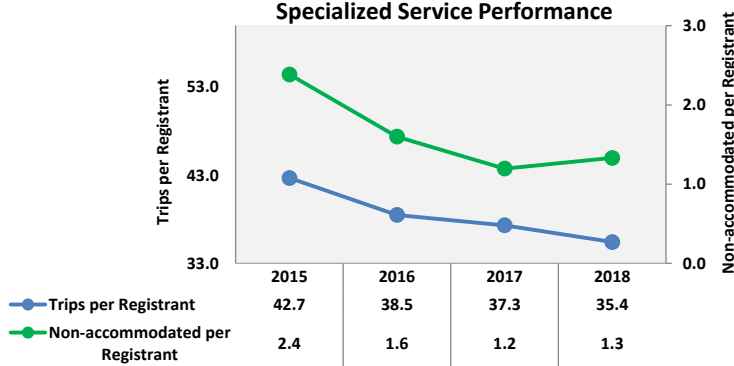
Ridership levels are more closely tied to service levels on the specialized services given the capacity limitations on the vehicles (i.e. maximum six mobility devices and 10 seated passengers, no standees), and as such the relationship between the two is linear. The move to larger vehicles in 2014 (max capacity 16 versus historic 10), affords the opportunity to provide a greater number of trips within the same hours, increasing overall service efficiency.

The following charts set out a comparison of ‘total ridership’, ‘service hours’ and the corresponding relationship of ‘trips per registrant’ and ‘non-accommodated trips per registrant’ for 2015 to 2018. The steady decline in total trips per registrant over the period is tied to the steady growth in registrants that is anticipated to continue.

Specialized Ridership and Service Hours

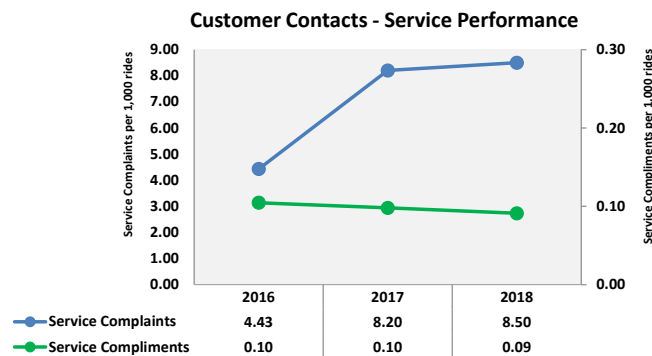


Specialized Service Performance



A positive trend which was maintained in 2018 relates to the decline/flat lining of the non-accommodated rates per registrant, which indicates that more trip requests were able to be accommodated.

As referenced in the chart below, service complaints have grown over the period of 2016 to 2018 (in both absolute numbers and on a per 1,000 eligible passenger trips basis) on a marginal basis. In 2016, several new categories were added to provide for better clarity with respect to the various types of contacts, as such, 2015 data is not provided given it is not comparable to the remaining years. Service performance complaints measured both in terms of total contacts as well as per 1,000 riders have been trending upward since 2016.



Service performance contacts are broken down into a number of categories to better identify the underlying issues and mitigation strategies going forward. The top category of complaints over the period has remained “service received”, which includes issues such as length of trip, drop off locations, pick up locations, as well as other complaints that may encompass more than one of the categories listed in the table above. The increase in contacts in this category for 2018 was directly attributable to the construction projects in the downtown core that extended from April through December. While contractors made efforts to ensure specialized vehicles could access drop off locations in the core, the ability to do so was inconsistent which resulted in customers having to be dropped or picked up at alternative locations.

The second highest category over the period is “no show”. On the specialized service, a driver waits at a pickup location until five minutes past the time that was booked with the customer. Once five minutes has passed, the driver confirms with the trip assigner that it is ok to leave. This policy is in place in order to mitigate the negative impacts that customers running extremely late, or those that have decided not to travel but have not cancelled their trip can have on the on-time reliability of the service. A feature of the new scheduling system, launched in mid-2018, is the ability to have the scheduling system send an automatic reminder to customers of trips they have booked.

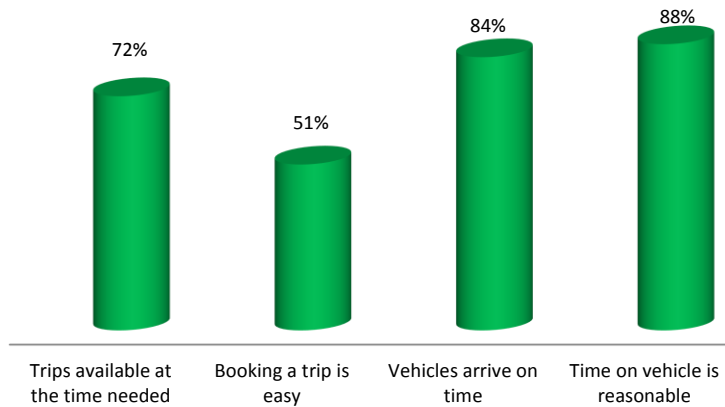
As indicated earlier in this report, the Voice of the Customer program was extended to include the specialized service in 2018. Results from the initial specialized survey indicate that overall, customers of the specialized service are very satisfied with the service received in general, with the exception being the ease of booking a trip. This has been a long-standing issue with the specialized service, stemming from the disparity between the amount of available service and the demand for same. Given this disparity, customers begin calling as soon as the booking lines open in an effort to secure their required trips, which results in an overload to the booking lines, and extended wait times to get through. While efforts to mitigate this wait have been undertaken, including the expansion of booking lines and the number of booking agents



scheduled in the morning, this issue will only ever be fully mitigated in the event that trip availability exceeds or meets demand on a regular basis.

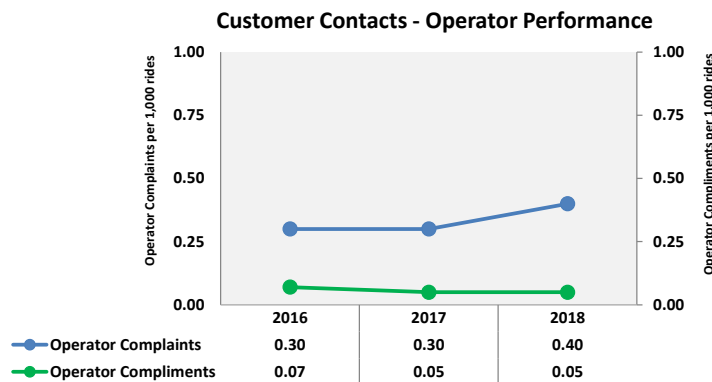
The chart below sets out the customer perceptions from the first Voice of the Customer survey for the specialized service, which are consistent with the above commentary.

Voice of the Customer – Satisfaction with Service Availability & Delivery



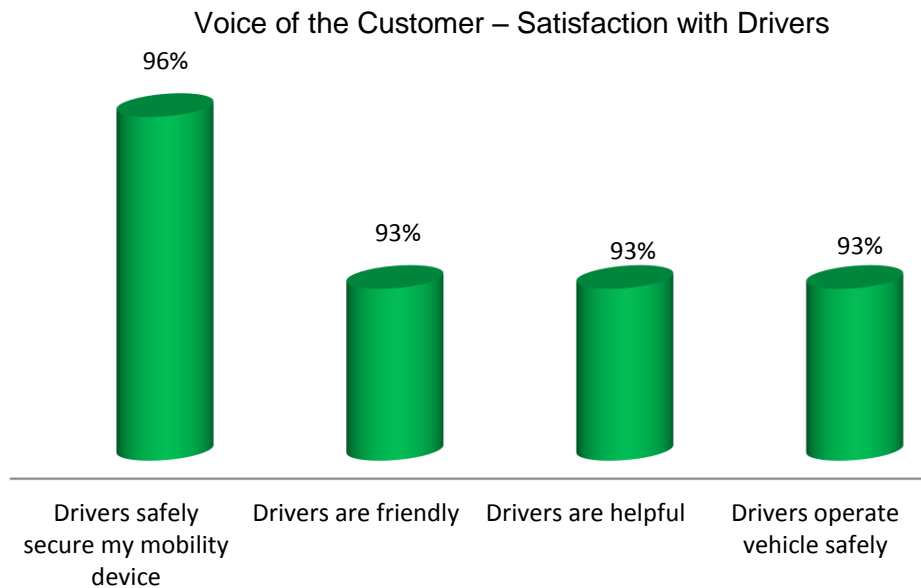
As indicated in the chart, while customers expressed dissatisfaction with trip availability and booking, they are very satisfied with the reliability of the service as well as the travel time.

Contacts with respect to Operator performance are also maintained in the contact database for specialized service. Given this service is provided via a third party contract, contacts regarding Operators that require investigation are forwarded to the third party for review and follow up.



As the chart above indicates, the complaints and compliments with respect to Operators have remained relatively consistent over the period, with slight increase in complaints in 2018. This increase is also directly tied to the construction in the core, noting the decision on whether to attempt to reach a drop off location is left to the discretion of the Operator. Given the status of the construction zone changed frequently, passengers who could not be dropped off at their preferred location expressed concern that the Operator did not try to get them to their stop.

The Voice of the Customer survey also asked customers for commentary on the Operators of the specialized service. The chart below depicts the very high levels of satisfaction with Operators, both with respect to safety as well as friendliness and helpfulness.



As with conventional transit, specialized transit performance results are assessed from a service perspective in comparison to all other Ontario specialized transit systems. The following table sets out a comparison of key service performance indicators for LTC in 2017 versus the identified Ontario group average, as well as 2018 performance for LTC.

**Specialized Transit Services – Summary Performance Comparison**

Description	2017		
	Ontario Avg.	LTC	LTC
<b>Service Performance</b>			
Service hours per capita	0.2	0.4	0.4
Total trips per capita	0.79	0.81	0.84
Total trips per service hour	2.8	2.3	2.3
Trips per eligible registrant	44.6	37.3	35.4

Average includes all specialized services operating in Ontario

Service performance indicators are, for the most part, consistent with the Ontario average, with the exception being trips taken per eligible registrant. London’s performance is at 85% of the group average. This may be due in part to the Off-Peak Pass program utilized in London, which allows registrants of the specialized service to travel free on the accessible conventional service during off peak hours. Many specialized customers make use of this pass, predominantly in the months when weather isn’t an issue from an accessibility perspective.

## DEMONSTRATED FISCAL ACCOUNTABILITY

The strategy calls for prudent fiscal and operational management, supporting sustainability, competitive positioning, affordability and valued return on investment. The investment return includes social, economic and environmental returns. The following table sets out an assessment of 2018 performance against key elements of this strategy, noting the measures used to determine the grading include cost per service hour, investment share allocation (operating) and operating investment by function, compared to both previous year and budget as well as with LTC's peer group.

Key Elements	Grade
Providing a high quality and economically sustainable transportation service	Good
Ensuring decisions regarding investment (operating and capital) are evidenced-based, and are consistent with the goals and objectives of the organization and services	Excellent
Establishing a sustainable financial strategy, one that reflects the unique dynamics (characteristics) of each investment source	Excellent
Fostering an environment of continuous improvement that is, doing the right things at the right time in the most effective and efficient manner	Excellent
Optimizing investment and utilization of existing and new technologies supporting the effective and efficient delivery and management of the service	Good

### 2018 Operating Budget Program

The 2018 operating budget program for conventional and specialized transit services totalled approximately \$78.984 million with a break-even operating performance.

The major factors contributing to the break-even budget performance included:

- Overall unfavourable revenue performance relating to:
  - deferral of fare increase included in the budget
  - higher than budgeted Provincial Gas Tax contributions
 which were offset by the net favourable expenditure performance relating to:
  - higher than expected fuel costs
  - higher than expected contract costs for the specialized service relating to contract change requirements as the result of the increase in minimum wage
  - lower than expected building maintenance costs primarily relating to the opportunities created with the federal funding program for infrastructure renewal

As noted in the following chart, the actual source of 2018 operating investment varied only slightly from budget. City investment levels have, for the most part, been flat-lined over the course of the last four years, given the economic climate and related constraints on public investment.

**2018 Operating Budget Source of Investment  
Conventional and Specialized Transit Systems**

Description	2018 Actual	2018 Budget
Transportation revenue	42.0%	44.7%
Operating revenue and reserve transfers	3.4%	3.0%
Provincial gas tax	14.8%	12.7%
City of London	39.8%	39.6%
	100.0%	100.0%

The discrepancy in the transportation revenue and Provincial gas tax are related to the deferral of a planned fare increase in 2018.

Financial performance is compared to the Commission’s peer group in the same manner as service performance for the respective services. In terms of conventional services in comparison to the peer group, London’s performance is at or near the top in all key financial performance indicators, as noted in the following table.

**Conventional Transit Services – Summary Performance Comparison**

Description Service Performance	2017 Peer Average	2017 LTC	Ranking Out of 16	2018 LTC
<b>Financial Performance</b>				
Operating cost per ride	\$3.18	\$1.42	16 <sup>th</sup> (lowest)	\$1.47
Municipal cost per ride	\$2.95	\$1.08	16 <sup>th</sup> (lowest)	\$1.05
<b>Total Operating Cost Sharing</b>				
Municipality	52.6%	37.2%	16 <sup>th</sup> (lowest)	37.2%
Passenger & Operating	40.6%	51.8%	2 <sup>nd</sup>	51.8%
Provincial gas tax	6.8%	11.0%	2 <sup>nd</sup>	11.0%

Note: Peer group includes 16 Ontario transit systems in municipalities with a population greater than 100,000. (York Region, Mississauga, Durham Region, Brampton, Hamilton, Waterloo Region, London, Windsor, Oakville, Burlington, St. Catharines, Sudbury, Barrie, Guelph, Thunder Bay and Kingston).

As noted, LTC’s municipal operating investment is well below the peer group average, ranked 16<sup>th</sup> (last) of the 16 transit systems comprising the peer group. Consistent with the peer group comparison of service efficiency measures, financial performance measures must also maintain an appropriate balance. In order for the transit service in London to grow to meet the expectations of the public at large and those set out in the 2030 Transportation Master Plan (TMP), the municipality will need to increase the level of investment to be consistent with other jurisdictions.

When increased investment is viewed in light of the operating cost per trip measure, what becomes evident is that the return on the investment from the City’s perspective is significantly higher than that being experienced by other jurisdictions. London Transit continues to be a very good investment and with growth investment, will continue to increase the economic, environmental and social returns to the City and its residents.

The same favourable financial performance applies to specialized transit services, as indicated in the following table, noting for both services, the operating and municipal costs per trip are significantly lower than the peer group average. As with conventional transit, municipal investment in specialized transit is also well below the Ontario average.

**Specialized Transit Services – Summary Performance Comparison  
Ontario Specialized Systems**

Description Service Performance	2017 Peer Average	2017 LTC	2018 LTC
<b>Financial Performance</b>			
Operating cost per ride	\$31.78	\$22.33	\$25.81
Municipal cost per ride	\$28.68	\$16.54	\$15.83
<b>Total Operating Cost Sharing</b>			
Municipality	90.2%	74.1%	61.3%
Passenger & Operating	7.0%	7.9%	6.6%
Provincial gas tax	2.8%	18.1%	32.1%

The charts below set out the investment share of the various funding sources for both the conventional and specialized services for 2018. As indicated earlier in this report, the Provincial Gas Tax share for both services was at the highest in history for both services in 2018. This is due in large part to the compounding effect of the multiple fare increase deferrals over the period of 2016-2018, as well as the full impact of the increased contract costs for the specialized service in 2018 being fully funded by gas tax. This high level of reliance on Provincial Gas tax is not sustainable going forward, resulting in the requirement for increased contribution from the City of London, transit riders (through fare increases) or a combination of both.

**2018 Percent Share of Source Investment  
Conventional and Specialized Transit Services**



Operating cost per ride \$2.97  
Municipal investment per ride \$1.09

Operating cost per ride \$25.81  
Municipal investment per ride \$15.83

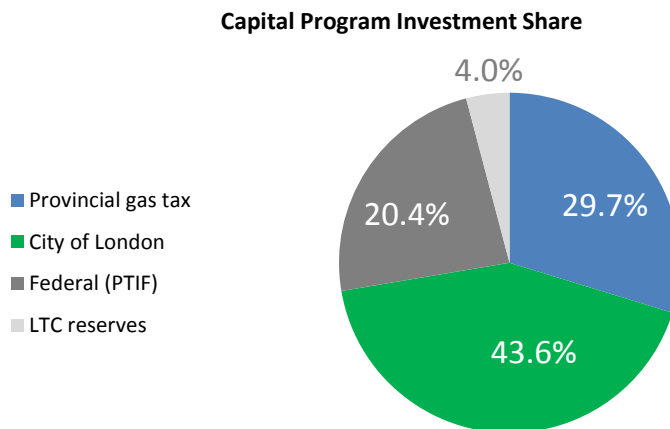
## 2018 Capital Budget Program

The 2018 capital investment program totalled approximately \$14.8 million, funding a number of projects including:

- bus replacement: a \$4.5 million project providing replacements for eight buses was completed in 2018. The bus replacement program is critical to supporting fleet reliability and lowering fleet maintenance costs by moving to an average fleet age of six years.
- bus expansion: a \$2.3 million project completed in 2018 provided for the expansion of the fleet by four buses.
- In 2017, Federal funding under the Public Transit Infrastructure Fund (PTIF) program was made available to fund up to 50% of infrastructure renewal and/or expansion projects relating to public transit. In April 2017 the Commission approved a budget of \$24.5 million relating to the total cost of 31 projects, noting \$12.2 million would be covered by the PTIF program. The remaining 50% funding was covered, for the most part with Provincial Gas Tax, with the exception of a few smaller projects that were funded from the Capital Program Reserve.

A total of \$6.9 million was spent on various projects in 2018 including the upgrade of the Automatic Vehicle Location/Communication system, replacement of engines and transmissions in older buses, seating retrofits in bus fleet to improve accessibility, shelter replacements and facility upgrades/repairs to both the Highbury and Wonderland facilities.

All of the capital programs operated within budget. Capital investment in 2018 was shared as follows.



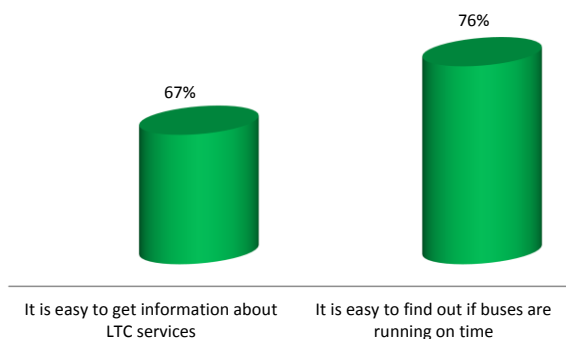
## BEING OPEN, TRANSPARENT AND UNDERSTOOD

The strategy calls for all stakeholder communications to be conducted in an open, transparent, timely and inclusive manner supporting common knowledge and understanding. The following table sets out an assessment of 2018 performance against key elements of this strategy, noting the measures used to determine the grading include the number of communication tools employed, the frequency of use of the communications tools, and stakeholder satisfaction ratings.

Key Elements	Grade
Developing informed relationships with all stakeholders both internal and external to LTC	Good
Employing a consistent communication brand supporting clear, concise and timely communication	Good
Investing in and effectively utilizing a variety of communication forms and technology to build and sustain informed relationships	Good
Building a respectful working relationship with local and national media	Good

As indicated earlier in the report, the launch of the Voice of the Customer program has provided valuable insight into the LTC's customers view and perspectives of their public transit system. The following graphs illustrate LTC customer responses relating to their perception of availability of information and responses provided through customer service representatives, noting the measures indicate the percentage of customers who indicated they 'agreed' or 'strongly agreed' with the statement.

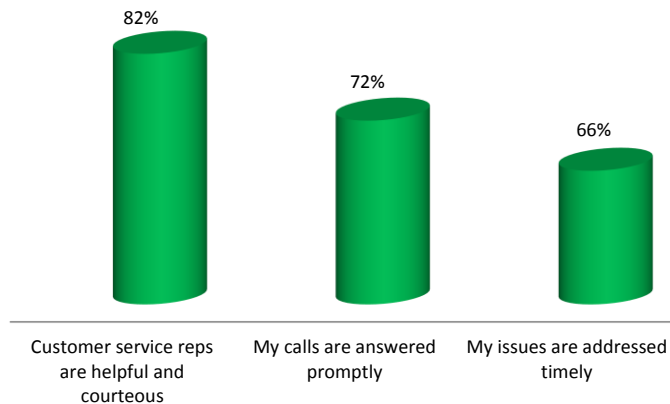
### Voice of the Customer – Availability of Information



As the table indicates only 67% of LTC customers surveyed believe it is easy to find information about LTC services. In early 2018, the new LTC website and upgraded real-time bus information was launched which was anticipated to make it easier for customers to find service information. At the same time, corporate Twitter and Facebook accounts were launched, with the Twitter account being utilized to provide real-time service updates including detour information to followers.



## Voice of the Customer – Customer Service Received



The responses illustrated in the above indicate that while LTC customers have a high level of satisfaction when they have made contact with a customer service representative, they are somewhat less satisfied with their ability to get their issue addressed in a timely manner. The majority of the contacts to customer service relate to service received (e.g. late service, overcrowding, missed transfer, operator conduct etc.), all of which require investigation and, in many cases, investment in service to address the issues. In 2018, there were a substantial number of contacts that were the direct result of ongoing construction projects that transit service was either navigating through or detouring around, all of which spanned the better part of 2018. While every effort is made to address customer concerns as quickly as possible, given the nature of the majority of the concerns in 2018 required service changes or construction projects to be completed, it is understandable that customers felt concerns were not addressed quickly enough.

2018 also saw an enhanced effort to reach transit customers where they are every day. During a number of significant changes to schedules or operating conditions (e.g. removal of buses from Dundas, September service changes), LTC staff attended the downtown core and key transit terminals to answer questions and provide guidance to transit riders. In addition, during the consultation period for the 2019 Service Plan, LTC staff held several pop up consultations at bus stops in areas that would be affected by the changes, providing riders the opportunity to share their perspectives while they waited for their bus. Both of these initiatives were very well received and will be continued and expanded upon going forward.

LTC also recognizes the importance of internal communications, keeping employees informed and thanking them for their efforts. There are a number of mechanisms in place for internal employee communications including payroll inserts, an employee newsletter, internal communications screens, and internal bulletin boards, direct communication (verbal and written) all of which are utilized throughout the year. In 2018, the internal newsletter was expanded to include not only corporate messaging but human interest stories featuring LTC employees making an impact in their community or sharing points of interest – a welcomed addition to the publication. Such stories will continue to be featured in future editions of the newsletter.

## EFFECTIVE UTILIZATION OF INFRASTRUCTURE

The strategy calls for acquisition and maintenance of required infrastructure supporting service reliability, noting infrastructure includes fleet, facility, technology and other fixed assets. The following table sets out an assessment of 2018 performance against key elements of this strategy, noting the measures used to determine the grading include average fleet age, nature and extent of technology employed, and capital investment in new infrastructure.

Key Elements	Grade
Linking asset planning and service planning	Excellent
Effectively utilizing proven technology to meet business/service needs (e.g. smart bus technology to assist with the delivery of quality customer service)	Good
Completing evidence based assessments on the acquisition and maintenance of critical infrastructure	Excellent
Continuous review and improvement of systems, processes and procedures supporting effective use of all assets	Excellent

The reliable accessible infrastructure strategy addresses the maintenance, retention, and acquisition of equipment, facilities, and fleet. Specific programs and policy direction associated with the strategy are reflected in the Commission's Asset Management Plan. The programs' investment totals \$179.2 million, \$109.6 million of which is in rolling stock. The following table sets out the assessment of LTC assets as at December 31, 2018.

Assets	Grade
Facility – 450 Highbury	Satisfactory – adequate for now
Facility – 3508 Wonderland	Very good – fit for the future
Rolling stock	Very good – fit for the future
Shelters, stops and pads	Very good – fit for the future
Fare and data collection systems	Good – adequate for now
AVL/radio system (smart bus)	Very good – fit for the future
Shop equipment and tools	Very good – fit for the future
Smart card system	Very good – fit for the future
All other infrastructure	Very good – fit for the future

The assigned assessment ratings were assessed on infrastructure needs associated with current service growth plans and an ongoing commitment to investing, as a priority, in a state of good repair both in terms of capital investment and maintaining and development of proactive preventative maintenance programs for buses including, ancillary system versus reactive and establishing full service agreements covering both maintenance and upgrades for technology (system) based infrastructure.

Strict adherence to the strategy over the past 10 years has resulted in the elimination of the infrastructure deficit. This table will be updated subsequent to the completion of the various projects being undertaken as part of the Public Transit Investment Fund (PTIF), the majority of which were targeted to infrastructure renewal, noting that 'shelters, stops and pads', which is identified as 'adequate for now', have all been replaced as part of this funding program.

The confirmation of the Public Transit Infrastructure Funding program projects as submitted by LTC in early 2017 provided the opportunity to address a number of fleet and infrastructure renewal projects, noting completion of the projects would not have been possible without the funding received annually through the Provincial Gas Tax for Transit Program, which for the most part will fund the remaining 50% of the identified projects.

The Facility Needs Assessment completed in 2018 indicated that, given current service growth plans, additional facility capacity will be required within the next 10 years. The assessment concluded that the most cost-effective path forward is to demolish the 450 Highbury Avenue North facility in stages and rebuild a larger, purpose-built facility onsite. While the need for increased capacity and improved operational efficiencies is not considered imminent, funding sources should be identified for this project in the Commission's 10 year Capital Budget for the years 2020-2029.

## AN ENGAGED, DIVERSE AND RESPECTFUL WORKPLACE

The strategy calls for the development of a results-oriented organization attracting, developing and retaining exceptional individuals creating an engaged, diverse and respectful workplace. The following table sets out an assessment of 2018 performance against key elements of this strategy, noting the measures used to determine the grading include training and development hours, employee turnover rate and employee satisfaction ratings.

Key Elements	Grade
Developing a culture that is inclusive, collaborative, respects individual dignity, promotes accountability and open communication	Good
Developing a learning organization supporting employees being successful in their roles, that recognizes performance and develops human resource capacity to ensure business continuity	Good
Developing a qualified and diverse workforce, reflective of community demographics	Good
Creating a safe work environment and encouraging employee health and wellness	Good
Effectively using technology to support employees in their roles	Good

The overall rating of the strategy is defined as good, noting 2018 saw:

- the continued roll-out of upgraded training programs (driver certification, diversity, human rights, customer service, and others) for all front line operations employees and management personnel
- recognition of the need to develop and implement a corporate Mental Health Strategy, pieces rolled out in 2018 included:
  - “Understanding and Supporting Mental Health in the Workplace” training program delivered to all management staff in 2017, and to the ATU Local 741 Executive and LTC Peer Supports in early 2018
  - development of a custom training program on the topic of “Mental Health Resiliency” (i.e. tips and strategies to manage mental health) tailored to address issues consistent with those experienced by the London Transit employee group. As done so in the past, this transit-specific approach will aid in the transfer of knowledge from the classroom to on-the-job situations. The curriculum focuses on the following:
    - mental health and wellbeing introduction, “the continuum of mental health”
    - self-awareness /understanding your mental health/self-assessment of level of mental health
    - recognizing stressors
    - resiliency
    - who do you call when it’s not OK

- assignment for the development and deployment of continuous communication strategies/awareness campaigns regarding mental health awareness and resources to the LTC Wellness Committee
- rolled out the Fitness for Duty policy, which took effect January 1, 2019. Key elements of the policy include:
  - responsibilities of all parties, the employer, supervisors and employees
  - commitment to support employees with substance use disorders
  - education on impacts of substance use
  - strategies for the assessment of potential impairment
  - definition/designation of safety-sensitive positions
  - testing criteria when there is reasonable cause, post-incident and return to work (post-incident)
- continued participation by employees representing LTC in London's Pride Parade
- continued development of performance-based management
- expanded outreach for future LTC employees through participation in a number of local job fairs
- Continued work on LTC's Workplace Violence Prevention Program including:
  - the undertaking of a pilot program to assess Operator barriers in an effort to enhance the safety of the work environment for operators
  - a review of the effectiveness of the Workplace Violence Prevention Program, including training, banning, and communications to determine program effectiveness. Highlights of the review noted the following:
    - the number of incidents has remained stable despite increases in Operator complement, service hours, and ridership
    - Operators have demonstrated an increased ability to defuse potentially difficult situations
- ongoing review and change to the organization's structure, reflecting the performance review management program principle of ensuring the most efficient and effective use of resources

The planning and development of the organization is considered an ongoing initiative. Prior to being filled, vacant positions are reviewed and assessed to ensure the resources are required and/or whether there is opportunity to re-invest the resources elsewhere in the organization where they may be more needed.

## LOOKING FORWARD - TRANSFORMATIONAL INITIATIVES

Overarching theme of the 2015-2018 Business Plan was “Driving Change”, intended to relay the underlying priorities of the Plan which were to begin the long-awaited investment in transit services in preparation for the implementation of bus rapid transit corridors and the associated improvements to the current system. Another of the key objectives was to improve all aspects of the customer experience when interacting with London Transit. A number of initiatives were implemented over the period, many of which are discussed earlier in this report, in an effort to meet this objective.

The theme of the 2019-2022 Business Plan is “Maintaining the Momentum” intended to relay the underlying objectives of the Plan, which are to continue with initiatives tied to improving service for both conventional and specialized customers, and in conjunction improve the overall customer experience. The following provides a brief overview of what are considered the key initiatives that LTC will play a role in and/or lead going forward.

### *Financial Plan Update*

The formal updating and approval of a new financial plan will take place as part of the next multi-year budget process, scheduled for mid-2019. The updating will include the review and update as appropriate of the Commission’s Fare Pricing and Media Policy, and amended strategy relating to management and direction of LTC reserves and reserve funds as well as the investment levels required from the City in order to continue to grow the service in response to the needs of Londoners.

### *Migration to Bus Rapid Transit Strategy*

Development and implementation of any BRT corridors approved by Municipal Council will be a multi-year undertaking. Subsequent to approval of funding from all partners, work will begin on completing the required detailed assessments in an effort to begin the required construction. In addition, should the implementation of BRT corridors be approved, a branding exercise will be undertaken early in the Business Plan period in order to provide an identity to the new service and begin to build brand awareness and excitement.

### *Diverse and Supportive Workplace*

2018 saw the continuation of LTC’s Mental Health Strategy which addresses the need for increased attention to the promotion of mental health and resiliency for all employees as well as the prevention of mental illness wherever possible. The strategy focuses on changing LTC’s culture, building capacity, and to measure, report and continuously improve. Over the course of this business plan, a custom training program will be delivered to all LTC employees to help build individual resiliency in the face of life challenges. Other measures to be taken toward a more supportive and inclusive workplace include a review of policies and procedures against the strategy and an overall assessment of employee engagement.

### *Increased Marketing and Awareness*

The last five year service plan had, as key objectives, to improve the conventional service with a focus on routes experiencing overcrowding and schedule adherence issues as well as to simplify the network, all intended to result in an improved customer experience. The significant investment in service over the past four years and continuing in 2019 have resulted in a more reliable and easier to navigate transit system; however the 2018 Voice of the Customer survey results indicate a different customer perspective. Focus over the next four years will be to begin marketing the LTC conventional service with a focus on the value it brings to the community at large. It is expected this effort will include use of corporate social media as well as on-board and shelter posters and may also include advertising on the outside of buses subject to availability.

### *Ridership Growth Initiatives*

The Ridership Growth Strategy which was completed in early 2019 includes a number of initiatives with the potential to increase ridership. These initiatives will be prioritized and included in each of the annual work programs over the four year period.

### *Organizational Structure Review*

The previous Business Planning period 2015-2018 saw significant investment in on-road service for both the conventional and specialized services. While improving the service on the road remains a priority, it is imperative that the appropriate level of resources is in place to manage and support this growth. A focus early on in this plan will be a review of the administrative and management structure and related resources currently in place to determine whether this needs to be adjusted in order to support both past and planned growth.

### *Service Integration*

With the implementation of the new specialized service scheduling software complete, a focus in the next business plan horizon will be opportunities for better integration between the conventional and specialized services, and will require a review of a number of the policies and practices currently in place for the specialized service.

### *Smart Card System*

The beginning of 2019 saw the roll-out of the stored value component of the smart card system. Currently smart cards can be revalued at both LTC locations as well as eight City of London locations. The key initiatives remaining with this implementation will be to secure agreements with third party vendors to provide for revaluing of smart cards in their locations in an effort to ensure community-wide access, noting the option to revalue online also exists.



### *Annual service plans*

Annual service plans will continue to be a major focus over the life of the business plan, building on the improvements over the past four years. Identifying and addressing priorities will continue to be a critical component to both the maintenance and growth of ridership, as will consideration of alternative methods of delivering public transit in difficult to serve areas of the city.

### *Corporate Communications*

Continuing to strive for open and transparent stakeholder relationships will be a focus in this business planning period. 2018 saw the roll-out of corporate social media accounts which provided a mechanism to reach a specific demographic; however it is recognized that in order to effectively reach all demographics, additional methods and strategies around communications will need to be explored and implemented. Focus during this business planning period will be assessing and implementing new and different ways of engagement both externally (customers and stakeholders) as well as internally (with employees).

### *Corporate Training Programs*

London operates in a dynamic, complex and competitive environment. Developing as a learning organization supporting employees being successful in their roles is essential to ensuring business continuity and growth. Enhanced focus will be directed at ensuring new Operators (our largest employment group) have the necessary tools and abilities to perform their jobs in an exceptional manner.

### *Process Review Management Initiative*

The Process Review Management (PRM) process has been essential to rebuilding efforts over successive Business Plan periods. The process ensures systems and processes remain current, dynamic and effective in meeting their objectives. Initial systems/processes subject to PRM include the specialized service area relating to the newly implemented scheduling software, the finance area relating to final smart card roll-out, and the assessment of spare fleet ratio and whether it requires adjustment given changes in bus technology.

**DEFERRED MATTERS**

**CIVIC WORKS COMMITTEE  
(as of August 2, 2019)**

Item No.	File No.	Subject	Request Date	Requested/ Expected Reply Date	Person Responsible	Status
1.	75.	<p><b><u>Options for Increased Recycling in the Downtown Core</u></b>            That, on the recommendation of the Director, Environment, Fleet and Solid Waste, the following actions be taken with respect to the options for increased recycling in the Downtown core:</p> <p>b) the Civic Administration BE DIRECTED to report back to the Civic Works Committee in May 2017 with respect to:</p> <ul style="list-style-type: none"> <li>i) the outcome of the discussions with Downtown London, the London Downtown Business Association and the Old East Village Business Improvement Area;</li> <li>ii) potential funding opportunities as part of upcoming provincial legislation and regulations, service fees, direct business contributions, that could be used to lower recycling program costs in the Downtown core;</li> <li>iii) the future role of municipal governments with respect to recycling services in Downtown and Business Areas; and,</li> <li>iv) the recommended approach for increasing recycling in the Downtown area.</li> </ul>	Dec 12/16	3rd Quarter 2019	K. Scherr J. Stanford	
2.	76.	<p><b><u>Rapid Transit Corridor Traffic Flow</u></b>            That the Civic Administration BE DIRECTED to report back on the feasibility of implementing specific pick-up and drop-off times for services, such as deliveries and curbside pick-up of recycling and waste collection to local businesses in the downtown area and in particular, along the proposed rapid transit corridors.</p>	Dec 12/16	2nd Quarter 2019	K. Scherr J. Ramsay	

3.	78.	<p><b><u>Garbage and Recycling Collection and Next Steps</u></b>  That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste, the following actions be taken with respect to the garbage and recycling collection and next steps:  b) the Civic Administration BE DIRECTED to report back to Civic Works Committee by December 2017 with:</p> <ul style="list-style-type: none"> <li>i) <del>a Business Case including a detailed feasibility study of options and potential next steps to change the City's fleet of garbage packers from diesel to compressed natural gas (CNG); and,</del></li> <li>ii) an Options Report for the introduction of a semi or fully automated garbage collection system including considerations for customers and operational impacts.</li> </ul>	Jan 10/17	3rd Quarter 2019	K. Scherr J. Stanford	2 <sup>nd</sup> Quarter 2019
4.	93.	<p><b><u>Public Notification Policy for Construction Projects</u></b>  That the Civic Administration BE DIRECTED to amend the "Public Notification Policy for Construction Projects" to provide for a notification process that would ensure that property owners would be given at least one week's written notice of the City of London's intent to undertake maintenance activities on the City boulevard adjacent to their property; it being noted that a communication from Councillor V. Ridley was received with respect to this matter.</p>	Nov 21/17	3rd Quarter 2019	U. DeCandido	

5.	94.	<p><b><u>Report on Private Works Impacting the Transportation Network</u></b></p> <p>b) report back to the Civic Works Committee, by the end of March 2018, on:</p> <ul style="list-style-type: none"> <li>i) ways to improve communication with affected business, organizations and residents about the timing, duration and impacts of permits for approved works, including unexpected developments;</li> <li>ii) ways to improve the scheduling and coordination of private and public projects affecting roadways and sidewalks that carry significant pedestrian, cyclist, transit and auto traffic;</li> <li>iii) resources required to implement these improvements; and</li> <li>iv) any other improvements identified through the review resources required to implement these improvements; and</li> </ul>	Dec 4/17	3rd Quarter 2018	G. Kotsifas	George to provide new date
6.	105	<p><b><u>Environmental Assessment</u></b></p> <p>That the Managing Director, Environmental and Engineering Services &amp; City Engineer BE REQUESTED to report on the outstanding items that are not addressed during the Environmental Assessment response be followed up through the detailed design phase in its report to the Civic Works Committee.</p>	July 25, 2018	2nd Quarter 2019	S. Mathers P. Yeoman	