Agenda Including Addeds
Civic Works Committee

14th Meeting of the Civic Works Committee

October 22, 2019, 4:00 PM

Council Chambers

Members

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

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

Transportation Advisory Committee

Report

The 9th Meeting of the Transportation Advisory Committee
September 24, 2019
Committee Room #4

Attendance

PRESENT: D. Foster (Chair), A. Abiola, G. Bikas, D. Doroshenko, B. Gibson, Z. Gorski, T. Kerr, T. Khan, M. Rice and S. Wraight and J. Bunn (Committee Secretary)

ABSENT: P. Moore and M.D. Ross

ALSO PRESENT: J. Bos, G. Dales, M. Elmadhoon, Sgt. S. Harding, P. Kavcic, T. MacDaniel, M. Metcalfe, A. Miller and D. Turner

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 Sidewalks in London

That is BE NOTED that the attached presentation from J. Bos, Technologist II, with respect to Sidewalks in London, was received.

3. Consent

3.1 8th Report of the Transportation Advisory Committee

That it BE NOTED that the 8th Report of the Transportation Advisory Committee, from its meeting held on August 27, 2019, was received.

3.2 Public Meeting Notice - Draft Plan of Subdivision, Official Plan and Zoning By-law Amendments - 3700 Colonel Talbot Road and 3645 Bostwick Road

That it BE NOTED that the Public Meeting Notice, dated September 6, 2019, from N. Pasato, Senior Planner, with respect to the Draft Plan of Subdivision, Official Plan and Zoning By-law Amendments for the properties located at 3700 Colonel Talbot Road and 3645 Bostwick Road, was received.

3.3 2019 TAC Workplan

That it BE NOTED that the 2019 TAC Work Plan and the attached 2019 TAC Work in Progress document were received.

3.4 (ADDED) Notice of Planning Application - Zoning By-law Amendment - 635 Wilton Grove Road

That it BE NOTED that the Notice of Planning Application, dated September 18, 2019, from M. Vivian, Planner I, with respect to a Zoning

By-law Amendment for the property located at 635 Wilton Grove Road, was received.

4. Sub-Committees and Working Groups

None.

5. Items for Discussion

None.

6. Adjournment

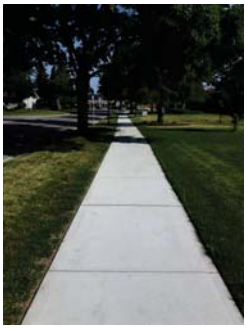
The meeting adjourned at 1:19 PM.

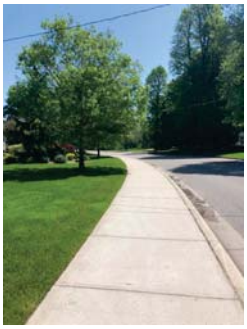
Sidewalks in London

Transportation Advisory Committee
September 24, 2019

John Bos, C.E.T.
Technologist
Transportation Planning and Design division
City of London

Sidewalks in London





Sidewalks in London

- Purpose and Benefits
- Sidewalk Installation Programs
- Requests, Evaluations, and Prioritization
- Design and Installation
- Website

Purpose and Benefits of Sidewalks

Sidewalks - Purpose

- To provide a designated space for residents, especially children and individuals with mobility aids.
- To support and promote the City of London's road safety strategy '**Vision Zero**' by offering safe mobility options for all individuals.
  - Reduce fatalities and serious injuries on streets
- Implementing new sidewalks is part of a **Complete Streets** approach to street design.
  - Streets are designed to meet the needs of a wide range of users

Sidewalks - Benefits

- Make streets welcoming, equitable, safe and accessible for community members of all ages and abilities.
- Relieves congestion.
- Promotes a healthy lifestyle.

Sidewalk Installation Programs

Installation Programs

- New sidewalks are often installed as a component of the following programs:
  - Growth Management Implementation Strategy (GMIS) program
    - road widenings
  - Infrastructure Renewal Program
    - sewer and watermain replacement
  - Arterial and local road rehabilitation projects
    - shave and pave
  - New development
    - subdivisions, site plans
  - New Sidewalk Program

Installation Programs

- Road widenings and new development
  - Install predetermined sidewalks identified through environmental assessments and development agreements
- Arterial and Local Road Rehabilitation projects and Infrastructure Renewal Projects
  - Install sidewalks in response to requests when concurrent road reconstruction is planned
- New Sidewalk Program
  - Install sidewalks in response to requests where there is no road reconstruction planned
- Sidewalks are also replaced and upgraded through several of these programs

Requests, Evaluations, and Prioritization

Requests and Evaluations

How is a potential location for a sidewalk is requested and evaluated?

1) Request is sent to City (councillor, email, phone call, etc.)
2) Request is evaluated using the Priority Rating Form.
3) Request is placed on the New Sidewalk List.

Rating Form

Item	Factors		Rating System	Points	Rating Points
1	Daily Pedestrian Usage		Light (less than 100)	10	
			Heavy (more than 100)	15	
2	Walking Alternatives		Curb & Gutter, <2m SHLD	15	
			>2m SHLD	5	
			Sidewalk one side of collector/local	--	
3	Street Lighting		Yes	--	
			No	5	
4	Roadway Alignment	Horizontal Curvature	Yes	5	
			No	--	
		Vertical Grade	Yes	5	
			No	--	
5	a) Daily Vehicle volume		Less than 2000	5	
			2000 to 5000	10	
			More than 5000	20	
	b) Confirmed speeding problems		Yes	5	
			No	--	
6	Connect sidewalk to existing system		Yes	15	
			No	--	
7	Sidewalk serve school or senior's facility		Yes	20	
			No	--	
8	Close proximity to public transit		Yes	10	
			No	--	
9	Sidewalk serve persons with disabilities		Yes	10	
			No	--	
			Total		

Prioritization

NEW SIDEWALK LIST (Sorted by Rating)

Updated August 30, 2019

PRIORITY	LOCATION	FROM	TO	SIDE	Length m.	Road Class
HIGH	Florence Street	60m east of Oakland Avenue	Highbury Avenue	South	165	A
HIGH	Windermere Road	Windermere on the Mount	Sisters of St. Joseph	South	260	A
HIGH	Buchan Rd	Kipling Ave	Bonaventure Drive		500	L
HIGH	Downing Crescent	North Millbank Intersection	South Millbank Intersection	S/W	705	L
HIGH	Riverside Drive	Sunninghill Avenue	Dunedin Drive	South	535	A
HIGH	Tewkesbury Crescent	Sorrel Road	Perth Avenue	South	500	L
HIGH	Webster Street	Jensen Road	Killaly Road	West	712	C
HIGH	Norman Avenue	Boler Road	Brock Street		335	L
MEDIUM	Burnside Drive	Bow Street	Holgate Road	N/W	870	L
MEDIUM	Cairn Street	Three Valleys Crescent	Burlington Crescent	West	215	L
MEDIUM	Cleveland Avenue	Burlington Street	Cairn Street	South	131	L
MEDIUM	Sunningdale Road E	East of Skyling (Existing)	Villagewalk Boulevard	South	900	A
MEDIUM	Wood, Maurice, & Murdock	Forward Avenue	Riverside Drive	N/W	395	L
MEDIUM	Huron Street	Clarke Road	Oakville Avenue		340	A

Road Class Legend:
A - Arterial Road
C - Collector Road
L - Local Road

- This isn't the complete list
  - There are over 130 current requests
- When two streets score the same, the one that was requested earlier is placed higher on the list within that score

Prioritization

- Prioritization is not always followed according to the order on the list (highest scoring street isn't always constructed first)
- Factors which affect prioritization include:
  - Planned timing of other infrastructure work
  - Construction of adjacent projects
  - Complexity
  - Budget

Prioritization

- Recently the focus has been to construct sidewalks in school areas to promote active school travel.
- The City of London has partnered with Active & Safe Routes to School (ASRTS) to encourage children and families to choose active school travel.
- The New Sidewalk Program has been used to install sidewalks in school areas.

active & safe routes to school
ST. THOMAS · ELGIN · LONDON · MIDDLESEX · OXFORD

Sidewalk Design and Installation

Design and Installation

Factors that dictate sidewalk design include

- Location of street lights
- Location of trees
- Location of utilities (Hydro poles, etc.)
- Driveway grades

Sidewalks can be installed in several different locations to work with these factors

Sidewalk Locations

Standard Location

- 1.5 m wide, set back from the curb 1-3 m
- Preferred option for pedestrian comfort
- Provides a space between the road and the sidewalk
- More space for snow storage

Sidewalk Locations

Curb Faced

- 1.8 m wide, installed directly beside the existing curb
- Used when there are restrictions in the surrounding environment or to reduce impacts to existing conditions

Sidewalk Locations

Extended Curb

- Road is narrowed.
- New curb and 1.8 m wide sidewalk is in the roadway.
- Used where there are too many boulevard conflicts
- May require further parking restrictions

Website

The City has recently updated the sidewalks section of its website.

If you are interested in more information, please visit www.london.ca/sidewalks

Questions?

Questions or comments?

2019 TAC Work In Progress (WIP) **(as at Sep 12, 2019)**

WP #	Work Plan Activity Description	Expected Completion	2019 July	Aug	Sep	Oct	Nov	Dec
18.5	Connected and Autonomous Vehicles	Q3-2020						
	Draft for Review by TAC	Q1 - 2020						
18.8	TDM Best Practices - Land Use	Ongoing						
	Research/Document Best Practices	TBD						
18.10	TIMMS Upgrade	Q3-2020						
	Report to Civic Works	Oct 22nd						
18.11	TMA Governace Model	Onging						
18.12	Business Travel Wise Program Expansion	Ongoing						
	TAC Input on Promo Material	Q4-2019						
18.16	City Clerk Advisory Committee Review	Ongoing						
	TAC Consultation with Clerk	Q3/4-2019						
19.3	Highbury Ave South Rehabilitation	2020-2022						
	Wenige Bridge Rehab Design - TAC Input	Q3/4-2019						
19.4	Vision Zero - City Staff & Sean Wraight (LMRSC)	Ongoing						
19.5	London's PTIS - Transit Project Submissions	Ongoing						
19.9	Automated Speed Enforcement	Ongoing						
	TAC Input	Q4-2019						
19.10	Parking Review Working Group	TBD						

City Staff Activity

TAC Activity

Planned Project Completion

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**AMENDMENTS TO THE TRAFFIC AND PARKING BY-LAW**

RECOMMENDATION

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 October 29th, 2019, for the purpose of amending the Traffic and Parking By-law (PS-113).

2019-23 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

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 Parking

Blackacres Boulevard

The subdivision development agreement specifies the construction of parking bays on the south side of Blackacres Boulevard from 40 m east of Dalmagarry Road to 40 m west of Blackacres Boulevard north leg. 'No parking anytime' zones are recommended for the north side of Blackacres Boulevard opposite the parking bays, and the south side of Blackacres Boulevard outside the limits of the parking bays.

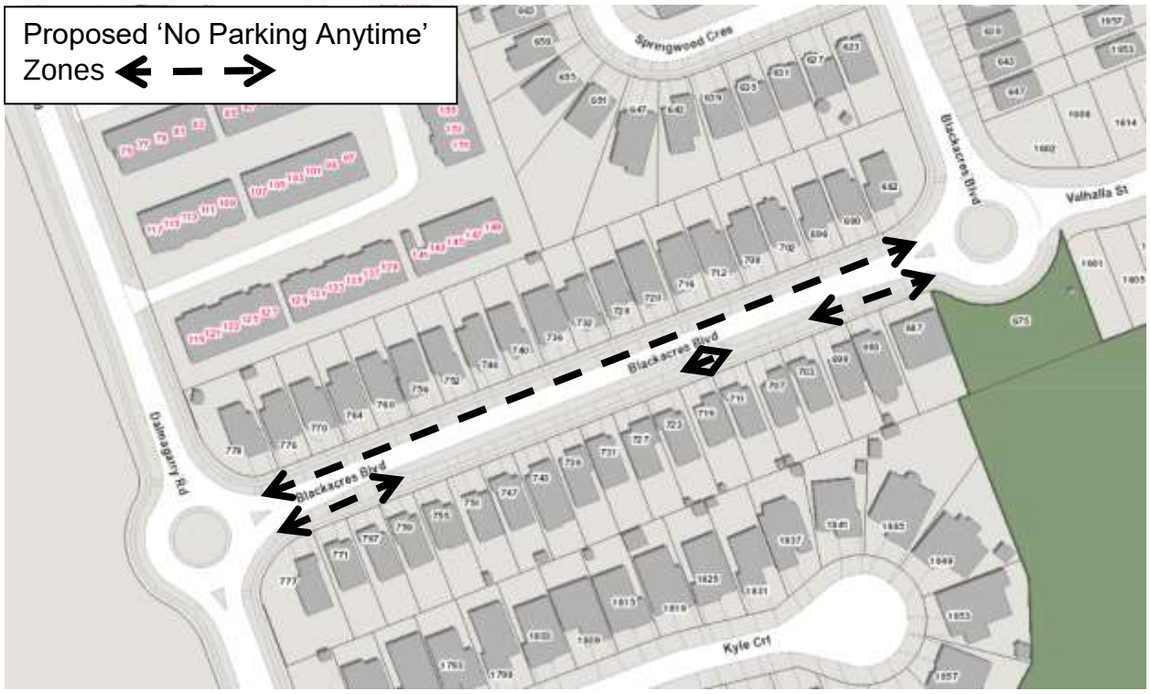


Figure 2: Blackacres Boulevard

Dawn Drive

Staff received a request to implement 'no parking 7:00 a.m. to 3:00 p.m. Monday to Friday, September 1st to June 30th' in front of #221 Dawn Drive so that an accessible bus can pull in front of the property to load and unload a person in a wheelchair.

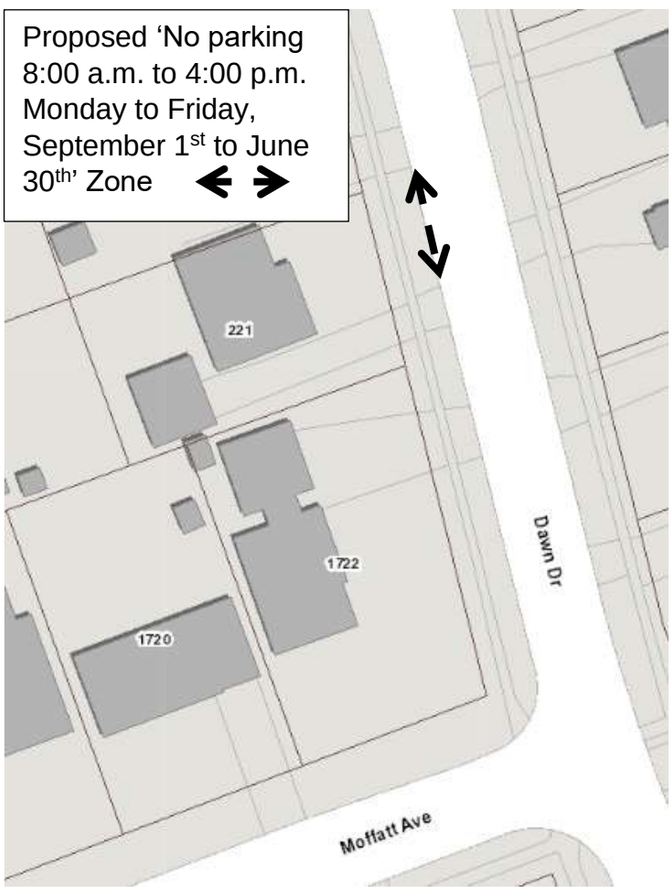


Figure 3: Dawn Drive

Amendments are required to Schedule 2 (No Parking) to address the above changes.

2. Regulatory Signs

To address operational and safety concerns, it is recommended that the following traffic controls be implemented:

Stop Signs

- Agathos Street at Edgevalley Road;
- Drew Street at Edgevalley Road;
- Dylan Street at Edgevalley Road;
- Eagletrace Court at Eagle trace Drive;
- Eagle Trace Drive at Foxwood Avenue;
- Kyle Court at Dalmagarry Road;
- Meadowvale Drive at Bramblewood Street;
- Michael Circle at Michael Circle; and
- Michael Street at Michael Circle.

Yield Signs

- Blackacres Boulevard (west leg) at Blackacres Boulevard (north leg);
- Blackacres Boulevard at Dalmagarry Road;
- Blackacres Boulevard (north leg) at Valhalla Street;
- Clayridge Way at Valhalla Street;
- Coronation Drive at Dalmagarry Road;
- Dalmagarry Road at Blackacres Boulevard;
- Dalmagarry Road at Coronation Drive;
- Drew Street at Agathos Street;
- Dylan Street at Agathos Street;
- Purser Street at Dylan Street; and
- Valhalla Street at Blackacres Boulevard.

An error with respect to Gleneagle Trail in the wording in Schedule 11 (Yield Signs) is being corrected at this time.

Figure 4: Blackacres Boulevard, Clayridge Way, Coronation Drive, Dalmagarry Road, Kyle Court and Valhalla Street

Figure 5: Eagletrace Drive

Figure 6: Agathos Street, Drew Street, Dylan Street and Purser Street

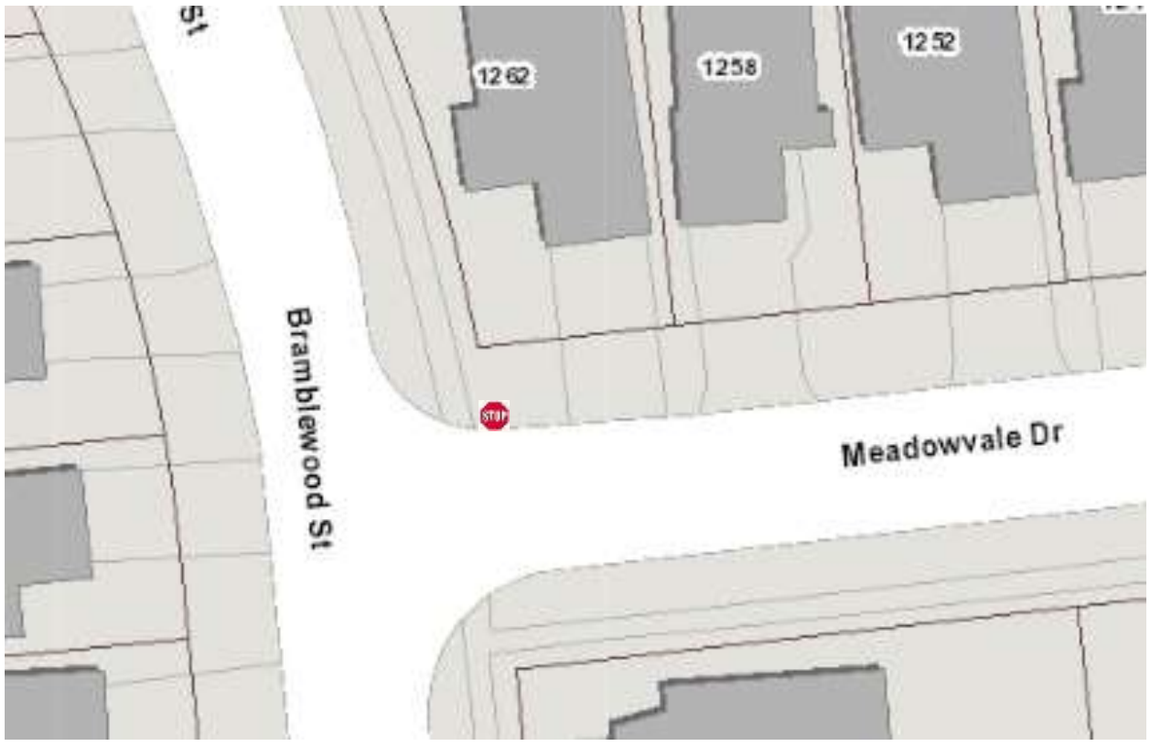


Figure 7: Meadowvale Drive

Figure 8: Michael Circle and Michael Street

Amendments are required to Schedule 10 (Stop Signs), Schedule 11 (Yield Signs) and Schedule 13 (Through Highways) to address the above changes.

3. <u>White Oak Road</u>

An amendment to the speed limit on White Oak Road from 620 m south of Southdale Road East to 100 m south of Exeter Road is recommended to address changes in the roadside environment.

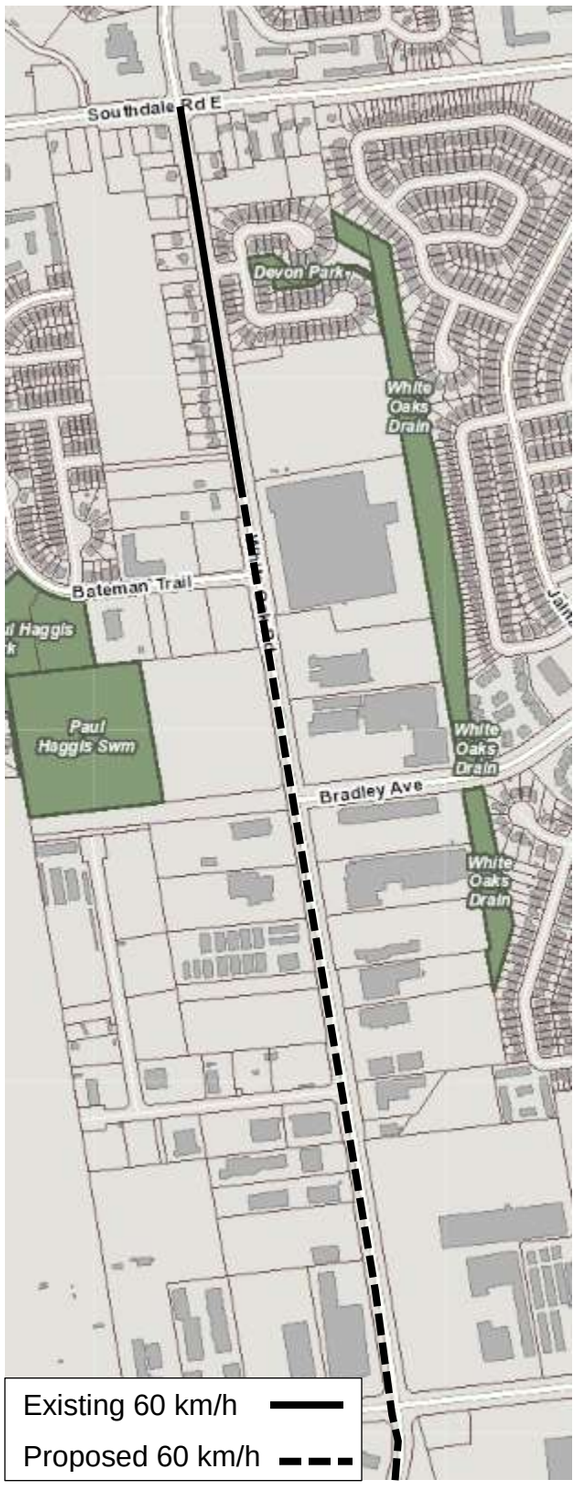


Figure 9: White Oak Road

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

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

\\clfile2\estr$\Shared\Administration\COMMITTEE REPORTS\Civic Works\2019\DRAFT\09-24\CWC - TRAFFIC PARKING BY-LAW AMENDMENTS CWC September 24 2019 Council October 1 2019 Ver 3.docx

October 11, 2019/db

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

cc. 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. <u>No Parking</u>

Schedule 2 (No Parking) of the By-law PS-113 is hereby amended by **adding** the following rows:

Blackacres Boulevard	North	Dalmagarry Road	Blackacres Boulevard (north leg) at Valhalla Street	Anytime
Blackacres Boulevard	South	Dalmagarry Road	A point 64 east of Dalmagarry Road	Anytime
Blackacres Boulevard	South	A point 153 m east of Dalmagarry Road	A point 172 m east of Dalmagarry Road	Anytime
Blackacres Boulevard	South	A point 195 m east of Dalmagarry Road	Blackacres Road (north leg)	Anytime
Dawn Drive	West	A point 48 m north of Moffat Avenue	A point 62 m north of Moffat Avenue	7:00 a.m. to 3:00 p.m. Monday to Friday September 1st to June 30th

2. <u>Stop Signs</u>

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

Eastbound & Westbound	Agathos Street	Edgevalley Road
Westbound	Drew Street	Edgevalley Road
Northbound	Dylan Street	Edgevalley Road
Eastbound	Eagletrace Drive	Eagletrace Court
Westbound	Eagletrace Drive	Foxwood Avenue
Westbound	Kyle Court	Dalmagarry Road
Westbound	Meadowvale Drive	Bramblewood Street
Westbound	Michael Street	Michael Circle

3. <u>Yield Signs</u>

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

Eastbound	Gleneagle Trail	Gleneagle Trail
Southbound	Gleneagle Trail	Gleneagle Trail
Westbound	Meadowvale Drive	Bramblewood Street
Westbound	Meadowvale Drive	Bramblewood Street

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

Westbound	Blackacres Boulevard	Dalmagarry Road
Eastbound	Blackacres Boulevard	Blackacres Boulevard
Southbound	Blackacres Boulevard	Valhalla Street
Eastbound	Clayridge Way	Valhalla Street
Southbound	Clayridge Way	Valhalla Street
Eastbound & Westbound	Coronation Drive	Dalmagarry Road
Northbound & Southbound	Dalmagarry Road	Blackacres Boulevard
Southbound	Dalmagarry Road	Coronation Drive

Southbound	Drew Street	Agathos Street
Southbound	Dylan Street	Agathos Street
Eastbound	Gleneagle Trail	Eagletrace Drive
Southbound	Gleneagle Trail	Eagletrace Drive
Westbound	Kyle Court	Dalmagarry Road
Westbound	Michael Circle	Michael Circle
Eastbound	Purser Street	Dylan Street
Westbound	Valhalla Street	Blackacres Boulevard

4. <u>Through Highways</u>

Schedule 13 (Through Highways) of the PS-113 By-law is hereby amended by deleting the following row:

Blackacres Boulevard	Dalmagarry Road except at the intersection thereof with Freeport Street, Hawthorne Road and Aldersbrook Road	Wonderland Road N

Schedule 13 (Through Highways) of the PS-113 By-law is hereby amended by adding the following row:

Blackacres Boulevard	Valhalla Street except at the intersection thereof with Freeport Street, Hawthorne Road and Aldersbrook Road	Wonderland Road N

5. Higher Speed Limits

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

White Oak Road	Southdale Road E	620 m southerly	60 km/h
White Oak Road	A point 620 m south of Southdale Road E	A point 100 m south of Blakie Road	70 km/h

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

White Oak Road	Southdale Road E	A point 100 m south of Exeter Road	60 km/h
White Oak Road	A point 100 m south of Exeter Road	A point 100 m south of Blakie Road	70 km/h

This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on October 29, 2019

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – October 29, 2019
Second Reading – October 29, 2019
Third Reading – October 29, 2019

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**BASEMENT FLOODING GRANT PROGRAM BY-LAW AMENDMENT**

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the proposed by-law attached as Appendix "A" being "A By-law to amend By-law No. A.-7562-160, being "A by-law to repeal and replace By-law A.-7015-285, being The Grants for Sump Pump, Sewage Ejector and Storm Drain Connection Grant Program By-law" (short title of "Basement Flooding Grant Program By-law"), by deleting Schedule "A" to the by-law and by replacing it with a new Schedule "A" to clarify language and terminology within the by-law and revise the funding upset limits to account for inflation", **BE INTRODUCED** at the Municipal Council Meeting to be held on October 29, 2019.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

October 24, 2017	"Basement Flooding Grant Program By-law Amendment", Civic Works Committee
May 9, 2017	"Basement Flooding Grant Program By-law Update", Civic Works Committee
September 9, 2013	"Grants for Sump Pump, Sewage Ejector and Storm Private Drain Connection By-law – Proposed Amendment", Civic Works Committee
September 13, 2010	"Grants for Sump Pump, Sewage Ejector and Storm Private Drain Connection By-law." Environment and Transportation Committee
August 24, 2009	"Grants for Sump Pump, Sewage Ejector and Storm Private Drain Connection By-law." Environment and Transportation Committee
July 27, 2009	"Grants for Sump Pump, Sewage Ejector and Storm Private Drain Connection By-law.", Environment and Transportation Committee
July 20, 2009	"Grants for Sump Pump, Sewage Ejector and Storm Private Drain Connection By-law.", Environment and Transportation Committee

2019-2023 STRATEGIC PLAN

The following report supports the 2019 – 2023 Strategic Plan through the strategic focus area of Building a Sustainable City including:

- London's infrastructure is built, maintained, and operated to meet the long-term needs of our community; and
- London has a strong and healthy environment.

BACKGROUND

Purpose

This report outlines proposed minor updates to the Basement Flooding Grant Program By-law A.-7562-160. The proposed updates clarify language and terminology within the by-law and revise the funding upset limits to account for inflation. There are no fundamental changes to the program related to eligibility criteria, or the application process.

Context

The goal of the Basement Flooding Grant Program is to reduce the risk of basement flooding to property owners, and at the same time reduce the amount of extraneous flow into the City's sanitary sewage systems. The implementation of the program continues to include public education, as well as education of local plumbing/drainage contractors. Program inquiries and applications are reviewed to ensure the funds allocated through this program are spent effectively.

On October 30, 2017, the Basement Flooding Grant Program By-law A.-7562-160 came into effect and replaced earlier versions of the by-law for the Basement Flooding Grant Program (previously referred to as "Grants for Sump Pump, Sewage Ejector and Storm Private Drain Connection By-law").

DISCUSSION

Attached to this report as Appendix "A", is a proposed by-law to amend By-law A.-7562-160 by deleting Schedule "A" to the by-law and replacing it with a new Schedule "A" that includes the following key edits and updates:

Administrative Updates

The majority of the edits and updates within the proposed by-law are administrative in nature and are intended to improve the by-law structure/format and clarify terminology. Other by-law updates include the following:

- The by-law is proposed to be updated for coverage of backwater valves to be consistent with the Ontario Building Code which permits sanitary backwater valves for semi-detached and single family dwelling units only.

- The by-law is proposed to be amended to further clarify the application process for condominium corporations and non-profit housing co-operatives.

- The proposed by-law provides updated wording to refer to both Building/Plumbing Permits and also Work Approval Permits; the latter is required when constructing a storm lateral within the municipal right-of-way or easement.

- The proposed by-law provides updated text to only include flood protection devices that have been approved through the Ontario Building Code and Canadian Standards Association for funding eligibility.

Adjustment of Upset Limits

The Basement Flooding Grant Program covers 90% of the total eligible costs to certain upset limits. The grant funding upset limits corresponding to 90% coverage have been revisited to consider the construction value of the eligible works, from January 1, 2017 to August 15, 2019. Inflation was considered as new upset limits were established.

The current and proposed upset limit for each eligible grant item are outlined in the tables below.

Residential Homes

Eligible works	Current upset limit	Proposed upset limit
Backwater valve	$1,200	$1,300
Sewage ejector, including associated plumbing modifications	$2,050	$4,600
Sump pit and pump (interior weeping tile disconnection)	$2,475	$2,500
Sump pit and pump (exterior weeping tile disconnection)	$3,125	$3,300
Storm lateral on private property (storm building sewer)	$1,750	$1,850
Storm lateral from City sewer main to dwelling unit (storm private drain connection and storm building sewer)	$7,025	$7,000
Sump pump battery back-up system	$1,100	$1,200
Sump pit and pump to replace private catchbasin (that previously drained to the sanitary system)	$2,475	$3,300

Condominium Corporations, Non-profit housing Co-operatives

Eligible works	Current upset limit	New upset limit
Engineering report	$2,000	$3,000
Sump pump system, backflow prevention systems and certification	$1,500 / unit	$2,000 / unit

The sewage ejector upset limit is proposed to be increased substantially, this is due to the fact that internal plumbing modifications to accommodate the sewage ejector were not previously considered.

The upset limit for sump pit and pump to replace private catchbasins draining to City's sanitary sewer is proposed to be increased to match the upset limit for exterior weeping tile disconnection.

Based on these proposed changes, the average application (sump pump with exterior weeping tile disconnection, sump pump battery back-up and sanitary backwater valve) is proposed to increase from $5,425.00 to $5,800.00.

These grant upset limits would be revisited at least every three years to account for increases in construction costs and inflation.

CONCLUSIONS

Civic Administration continues to encourage participation in this voluntary grant program. It is anticipated that the recommended by-law amendments will provide improved clarity and simplify the management and administration of the Basement Flooding Grant Program.

SUBMITTED BY:	REVIEWED & CONCURRED BY:
TOM COPELAND, P. ENG. **DIVISION MANAGER** **SEWER ENGINEERING DIVISION**	**SCOTT MATHERS, P. ENG., MPA** **DIRECTOR** **WATER AND WASTEWATER**

RECOMMENDED BY:
KELLY SCHERR, P.ENG., MBA, FEC **MANAGING DIRECTOR** **ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**

October 11, 2019
MAM/mam

Attach: Appendix ‘A’ – Basement Flooding Grant Program Schedule ‘A’

c.c. Marcy McKillop
Kelly Christensen
Debbie Gibson
Drago Macar

APPENDIX "A"

Bill No. ____
2019

By-law No. A.-_____

A By-law to amend By-law No. A.-7562-160, being "A by-law to repeal and replace By-law A.-7015-285, being The Grants for Sump Pump, Sewage Ejector and Storm Drain Connection Grant Program By-law" by deleting Schedule "A" to the By-law and by replacing it with a new Schedule "A" to clarify language and terminology within the By-law and revise the funding upset limits to account for inflation.

WHEREAS section 5(3) of the *Municipal Act, 2001, S.O. 2001*, c.25, as amended, provides that a municipal power shall be exercised by by-law;

AND WHEREAS section 107 of the *Municipal Act, 2001* provides that a municipality may make grants to any person, group or body, including a fund, for any purpose that council considers to be in the interests of the municipality;

AND WHEREAS section 107 of the *Municipal Act, 2001* provides that a municipality's power to make grants includes the power to make a grant by way of loan and to charge interest on the loan;

AND WHEREAS on October 30, 2017 Municipal Council of The Corporation of the City of London passed By-law No. A.-7562-160, being "A by-law to repeal and replace By-law A.-7015-285, being The Grants for Sump Pump, Sewage Ejector and Storm Drain Connection Grant Program By-law, to provide grants to certain Owners of residential semi-detached dwellings, single detached dwellings and duplex dwellings, to Condominium Corporations for units used for residential purposes, and to Non-Profit Housing Co-operatives, to disconnect the Footing Tiles (weeping tiles or foundation drains) from either the sanitary or storm sewer, and install a sump pump system for disposal of Footing Tile water to a suitable outlet other than the sanitary sewer system;

AND WHEREAS it is deemed appropriate to amend By-law No. A.-7562-160 by deleting Schedule "A" to the By-law and by replacing it with a new Schedule "A" to clarify language and terminology within the By-law and revise the funding upset limits to account for inflation;

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

1. By-law No. A.-7562-160, being "A by-law to repeal and replace By-law A.-7015-285, being The Grants for Sump Pump, Sewage Ejector and Storm Drain Connection Grant Program By-law" is hereby amended by deleting Schedule "A" to the By-law and by replacing it with a new Schedule "A", attached Schedule "A" to this by-law.

2. The short title of this by-law is "Basement Flooding Grant Program By-law".

3. That this by-law shall come into force and effect on the day it is passed.

PASSED in Open Council on October 29, 2019.

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – October 29, 2019
Second Reading – October 29, 2019
Third Reading – October 29, 2019

Schedule "A"

City of London Basement Flooding Grant Program Guidelines

Purpose

- To provide a grant to Residential Homeowners, Condominium Corporations for units used for residential purposes, and to non-profit housing co-operatives, with residential buildings built prior to 1985, who may have experienced basement flooding, or who are in an area likely to experience basement flooding, due to sanitary sewer surcharging in their basements, and who subsequently install eligible Approved works to reduce the likelihood of flooding, in particular the discharge of redirected Footing Tile water to a suitable outlet other than the sanitary sewer system, in accordance with this By-law.

- To provide a grant to Residential Homeowners who have experienced significant sump pump surface discharge issues including, but not limited to, surface erosion, icing on City sidewalks and/or streets and who lack suitable discharge alternatives on their Property to comply with the Drainage By-law WM-4 (subject to the discretion of the City Engineer), and who subsequently install eligible Approved works to alleviate these discharge issues (storm Building Sewer and Private Drain Connection to a suitable municipal storm sewer system), in accordance with this By-law.

Definitions

"Approved" means acceptable works meeting Ontario Building Code and Canadian Standards Association product and installation requirements, as well as manufacturer installation requirements.

"Building Sewer" means the private portion of the sanitary or storm service lateral for a private drainage or plumbing system (regulated by the Ontario Building Code) which conducts effluent to a Private Drain Connection.

"City Engineer" means the Managing Director, of Environmental and Engineering Services and City Engineer, or designate.

"Condominium Corporations" means condominium corporations under the *Condominium Act, 1998* for units used for residential purposes.

"Footing Tile" means the building foundation drain or weeping tile for a dwelling.

"Non-Profit Housing Co-operatives" means a non-profit housing co-operative under the *Co-operative Corporations Act.*

"Dwelling Unit" has the same meaning as contained in the City's Zoning By-law.

"Owner" means an Owner in fee simple under the *Land Titles Act*, R.S.O. 1990, c. L.5.

"Private Drain Connection" or "P.D.C." means the public/municipal portion of the sanitary or storm service lateral which joins the private building sewer to a City sewer main and which is upon lands that are either owned by the City or subject to a sewer easement in favour of the City.

"Professional Engineer" or *"Engineer"* means a person who holds an Ontario license or temporary license under the Professional Engineers Act, O. Reg 941/90 and O. Reg 260/08.

"Property" means a separate parcel of land which has been assigned a Property identifier under section 141 of the *Land Titles Act*, R.S.O. 1990, c. L.5.

"Residential Homes" means residential semi-detached dwelling, single detached dwelling and duplex dwelling, as defined in the City's Zoning By-law.

Funding

This Program will be funded in an amount determined by Council at its sole discretion from time to time. Grant commitments will be provided subject to funding availability as determined by Council at its sole discretion from time to time.

A. Eligible Work – Residential Homes

1. For Residential Homes approved through the City's Basement Flooding Grant Program in writing, upon completion of the installation and subject to funding being available in the yearly budget allocation for this purpose, the City may pay to the Owner up to 90% of the demonstrated eligible construction costs established as follows:

   (i) up to a maximum of $2,500.00 for out-of-pocket expenses to disconnect the existing Footing Tiles (when they are connected to the sanitary or storm system inside the basement) and direct to an Approved sump pit and pump (to discharge to a suitable outlet other than the sanitary sewer, in accordance with Drainage By-law WM-4), in the case where Footing Tiles previously drained to the sanitary sewer, or previously drained by gravity to the storm sewer;

   (ii) up to a maximum of $3,300.00 for out-of-pocket expenses to disconnect the existing Footing Tiles (when they are connected to the sanitary or storm Building Sewer outside the basement) and direct to an Approved sump pit and pump (to discharge to a suitable outlet other than the sanitary sewer, in accordance with Drainage By-law WM-4), in the case where Footing Tiles previously drained to the sanitary sewer, or previously drained by gravity to the storm sewer;

   (iii) up to a maximum of $1,200.00 for out-of-pocket expenses when an Approved sump pump battery backup is installed in a Residential Home, in combination with the installation of an Approved sump pit and pump, as part of the grant program works and a current application. (A sump pump battery backup for an existing sump pump is not eligible for funding);

   (iv) up to a maximum of $3,300.00 or out-of-pocket expenses to disconnect private catchbasins or drains on, or adjacent to, a driveway or garage that drain storm runoff from a reverse grade driveway, and direct to an Approved sump pit and pump (to discharge to a suitable outlet other than the sanitary sewer, in accordance with Drainage By-law WM-4), where the private catchbasins or drains were previously connected to the City's sanitary sewer;

   (v) up to a maximum of $1,300.00 for out-of-pocket expenses when an Approved backwater valve is installed in a semi-detached or single detached dwelling (in accordance with the Ontario Building Code) in

combination with the installation of an Approved sump pit and sump pump, and provided that the backwater valve is serving only one dwelling unit; the installation of a backwater valve is recommended with Footing Tile disconnection for either (i) or (ii) and is subject to the City Engineer's discretion;

(vi) up to a maximum of $1,300.00 for out-of-pocket expenses when an Approved backwater valve is installed in a semi-detached or single detached dwelling (in accordance with the Ontario Building Code) that does not have Footing Tiles due to age of construction, but is located in an area where sanitary sewer surcharging presents a potential risk, subject to the City Engineer's discretion, and provided that the backwater valve is serving only one Dwelling Unit. If Footing Tiles do not exist, or are not connected to the sanitary main drain or Building Sewer, the licensed plumber/drainage contractor must verify this in writing based on a camera/video inspection;

(vii) up to a maximum of $1,300.00 for out-of-pocket expenses when an Approved backwater valve is installed in a semi-detached or single detached dwelling (in accordance with the Ontario Building Code) that is located in an area where sanitary sewer surcharging presents a potential risk, subject to the City Engineer's discretion, and provided that the backwater valve is serving only one Dwelling Unit. The Footing Tiles must have an appropriate outlet, other than the sanitary sewer, in accordance with Drainage By-law WM-4;

(viii) up to a maximum of $4,600.00 for out-of-pocket expenses incurred when, in lieu of an Approved backwater valve being installed with the sump pit and pump, an Approved sewage ejector and holding tank is installed along with interior plumbing modifications to accommodate for the discharge of effluent from basement plumbing fixtures to the sanitary sewer system;

(ix) up to a maximum of $7,000.00 for out-of-pocket expenses for the construction of a storm lateral, which includes a storm Private Drain Connection (P.D.C.) (within the City road allowance or within a City easement) and a storm Building Sewer on private property, to convey the Owner's pumped Footing Tile water from the dwelling unit to the municipal storm sewer;

(x) Up to a maximum of $1,850.00 for out-of-pocket expenses to construct a storm Building Sewer on private Property from the Dwelling Unit and extending it to an existing storm P.D.C. within the City road allowance or within a City easement to convey Owner's pumped footing tile water to the municipal storm sewer; and

(xi) the works of either items (ix) or (x) are possible provided that there is a suitable municipal storm sewer outlet available for the Owner's Property, subject to the discretion of the City Engineer.

2. The demonstrated eligible construction costs include the fees to obtain a Building/Plumbing Permit for the eligible works and/or a Work Approval Permit, and efforts to coordinate inspection(s) identified in the permit, to achieve completed, Approved works that pass inspection(s) in full.

3. The City assumes no liability whatsoever relating to the work undertaken by the Owner.

4. The Owner must execute an appropriate liability release document (Page 2 of the Basement Flooding Grant Program application form), approved by the City's Risk Management Division and the City Solicitor's Office.

5. Eligibility for this grant will be based on a demonstrable need for such work, as determined solely by the City Engineer.

6. Also available for Residential Homeowners, upon completion of the installation of the eligible works and subject to grant funding being available in the yearly budget allocation for this purpose, the City will loan to the applicant Owner the remainder of the demonstrated eligible construction costs established as above. This loan is to be paid back to the City in ten equal annual instalments, including interest, in accordance with the annual 10-year financing rate for local improvements.

7. Remediation or renovation works required by the homeowner in relation to these works are not eligible for grant or loan funding.

B. <u>Eligible Work – Condominium Corporations, and Non-Profit Housing Co-operatives</u>

1. For Condominium Corporations, and Non-Profit Housing Co-operatives approved through the Basement Flooding Grant Program in writing upon completion of the installation and subject to funding being available in the yearly budget allocation for this purpose, the City may pay to a Condominium Corporation, or Non-Profit Housing Co-operative up to 90% of the demonstrated cost established as follows:

    (i) up to a maximum of $3,000.00 for out-of-pocket expenses for an Engineering Report, which is subject to the City Engineer's approval, and the consulting engineer's written confirmation that works have been completed in accordance with the final Engineering Report; and

    (ii) up to a maximum of $2,000.00 per impacted unit (Condominium Corporation or Non-Profit Housing Co-operatives), where eligible works are proposed and installed, or for units that will directly benefit from these eligible works for out-of-pocket expenses including Approved sump pit and sump pump systems, and Approved sanitary backflow prevention systems.

2. Any grants provided to Condominium Corporations or Non-Profit Housing Co-operatives will be payable only if the entirety of the eligible works in the final Engineering Report are implemented.

3. Any grants provided to the Condominium Corporations or Non-Profit Housing Co-operatives which have existing Footing Tile connections to the City's sanitary sewer will be approved only if those Footing Tiles are disconnected (and discharged to a suitable outlet other than the sanitary sewer, in accordance with Drainage By-law WM-4). Any units which would continue to have footing tiles connected to the City's sanitary sewers are not eligible for grant funding.

4. The demonstrated eligible construction costs include the fees to obtain a Building/Plumbing Permit for the eligible works and or a Work Approval Permit, and efforts to coordinate inspection(s), identified in the permit, to achieve completed, Approved works that pass inspection(s) in full.

5. The City assumes no liability whatsoever relating to the work undertaken by the Condominium Corporation, or Non-Profit Housing Co-operative.

6. The Condominium Corporation, or Non-Profit Housing Co-operative must execute an appropriate liability release document, approved by the City's Risk Management Division and the City Solicitor's Office. The individual unit Owners must also sign a separate liability release document.

7. Eligibility for this grant will be based on a demonstrable need for such work, at the sole discretion of the City Engineer.

C. Eligibility for Grant

1. The applicant(s) for the grant must meet the following criteria in order to qualify for the Program:

   (i) must be the Owner(s) of the Residential home, a Condominium Corporation, or a Non-Profit Housing Co-operative;
   (ii) has not commenced any construction works they are applying for grant funding for prior to grant approval; and
   (iii) the Owner(s), Condominium Corporation, or Non-Profit Housing Co-operative must meet all conditions of this Program.

2. Approval of all grant applications is also subject to availability of funding at any given time, as determined solely by Council.

3. Non-residential properties, including but not limited to, institutional, industrial, and commercial properties are not eligible for this Program.

D. Eligibility for Loan

1. The residential applicant(s) must meet the following criteria in order to qualify for the loan

   (i) must be the Owner(s) of the Residential home and must have been approved in writing for a grant through this By-law and have expressed an interest in a loan;
   (ii) all property taxes must be paid in full at the time of application and throughout the loan process; and
   (iii) all registered owner(s) must complete and sign the Loan Agreement.

2. Approval of all loan applications is also subject to availability of funding at any given time, as determined solely by Council.

3. Condominium Corporation and Non-Profit Housing Co-operatives are not eligible for a loan.

E. Grant and Loan Details

1. Grants and loans will not be available to cover any other associated ineligible costs including, but not limited to, restoration, renovation, landscaping costs etc.

2. The maximum amount of each grant and loan will be determined in each case by the City Engineer, based on the City Engineer's determination of the reasonable

cost and scope of the proposed work. Grant and loan applications will be processed in chronological order based on the date of receipt of applications, at the discretion of the City Engineer.

3. Grant approvals will be valid for six (residential) or nine (condominium corporations and non-profit housing co-operatives) months and will expire if the work is not completed within that time period (unless extended at the City Engineer's discretion).

4. The Basement Flooding Grant Program application procedure is outlined in Appendix "A".

Appendix "A"

A. Application Procedure - Residential

1. The applicant Owner(s), will be required to complete an application form provided by the City Engineer. In addition to the completed application form, the applicant Owner(s), must provide:

   a. A minimum of 3 quotes for the work from licensed plumbing/drainage Contractors, not a 3rd party representative, for costs above $10,000.00, to the City Engineer's satisfaction and subject to the City Engineer's discretion;
   b. A minimum of 2 quotes for the work from licensed plumbing/drainage Contractors, not a 3rd party representative, for costs between $5,000.00 and $10,000.00, to the City Engineer's satisfaction and subject to the City Engineer's discretion;
   c. One quote for the work from a licensed plumbing/drainage Contractor, not a 3rd party representative, for costs below $5,000.00, to the City Engineer's satisfaction and subject to the City Engineer's discretion;
   d. The quotes must detail what work is to be done, and separate out costs for each portion of construction work, i.e. total cost of labour and materials to install backwater valve, total cost of labour and materials to install P.D.C., etc.;

   At the discretion of the City Engineer, any work that is started or completed prior to the grant application approval may be deemed ineligible under this Program, at the discretion of the City Engineer.

2. The City reviews the application and supporting documentation and decides whether to approve the grant amount and loan, and determines the approximate grant and loan amounts. The City advises the applicant in writing of its decision. Final grant and loan amounts are established based on the final paid invoice submitted once the work has been completed.

3. The Applicant or Contractor obtains any necessary permits, including a Building/Plumbing Permit from the City's Building Division and/or Work Approval Permit (7th Floor, City Hall, 300 Dufferin Avenue, London, 519-661-4555) prior to work commencing. Failure to obtain appropriate permits prior to work commencing will result in cancellation of any previously approved grant and loan amounts.

4. The Contractor must co-ordinate work with the City. The Contractor is responsible to obtain all utility locates for the work for both private Property and City Property.

5. The Contractor or the applicant must arrange for an inspection by the City with respect to the Building/Plumbing Permit and/or Work Approval Permit. Permits that have not had an inspection by the City will result in the cancellation of any previously approved grant and loan amounts.

6. Within six months of receiving grant approval, the Owner(s) must submit to the City the final invoice from the Contractor setting out the amount due and paid for the work. Any Owner submitting a final invoice six months after the grant approval will be ineligible for payment of the grant and loan (subject to the discretion of the City Engineer). The City will not provide a grant or loan for an amount greater than the grant or loan amount set out in paragraph 2 above, even where the final invoice is greater than the grant amount. The Owner(s) must also resubmit the grant application form with the liability release section signed by all Owners.

7. Where there is a request to do so and subject to the discretion of the City Engineer, the City may advance 100% of the grant and loan amounts as set out in item (2) above to the qualified and licensed plumbing contractor who completes the construction works for the applicant Owner(s) upon receipt of a final invoice for the completed construction works, confirmation of the homeowner's eligibility for a loan, and confirmation that the applicable permit(s) have been issued and passed in full.

B. <u>Application Procedure – Condominium Corporations, Non-Profit Housing Co-operatives</u>

1. Screening of potential eligibility for the Basement Flooding Grant Program is reviewed by the City Engineer for a particular Condominium Corporation and Non-Profit Housing Co-operative.

2. At the sole discretion of the City Engineer, the Condominium Corporation or Non-Profit Housing Co-operative is provided with an application for the Basement Flooding Grant Program – Condos and Housing Co-ops if they meet the screening criteria for potential eligibility.

3. The Condominium Corporation or Non-Profit Housing Co-operative may then elect to proceed with the program by retaining a Consulting Engineer to complete an engineering report (to be sealed by a Professional Engineer). The grant program covers a maximum of $3,000.00 for the completion of the engineering report (draft and final).

4. The engineering report must specifically address the basement flooding risks and recommend preventative measures to reduce the likelihood of basement flooding. The report must clearly identify the selected units where eligible works are proposed such as weeping tile disconnection and redirection to a sump pit and sump pump, sump pump battery back-up and sanitary backwater valve. The report must also clearly identify ongoing maintenance requirements.

5. The draft engineering report is provided to the City for review of completeness related to basement flooding risk and proposed recommended preventative measures. The City provides report comments to the Consulting Engineering firm.

6. The Consulting Engineering firm updates and finalizes the report by addressing each of the comments provided by the City. The final engineering report must be sealed by a Professional Engineer and provided to the City.

7. The Consulting Engineering firm and/or Condominium Corporation or Housing Co-operative is responsible to collect multiple quotations from licensed plumbers/drainage contractors for the eligible works outlined in the final engineering report, including applicable permits. The quotes must detail what work is to be done and for which specific units, and separate out costs for each portion of work, in accordance with this By-law.

   At the discretion of the City Engineer, any work that is started or completed prior to the grant application approval may be deemed ineligible under this Program, at the discretion of the City Engineer.

8. City reviews the quotations and provides grant approval in writing to the Condominium Corporation or Non-Profit Housing Co-operative regarding the overall grant coverage and coverage per unit (based on participating units).

9. The Condominium Corporation or Non-Profit Housing Co-operative may then choose to proceed with the installation/construction of the eligible works outlined in the final engineering report, with costs directed to the licensed plumber/drainage contractor by the Condominium Corporation, Non-Profit Housing Co-operative or by the individual unit owners.

10. The applicant or Contractor obtains any necessary permits, including a Building/Plumbing Permit and/or Work Approval Permit from the City's Building Division (7th Floor, City Hall, 300 Dufferin Avenue, London, 519-661-4555) prior to work commencing. Failure to obtain appropriate permits prior to work commencing will result in cancellation of any previously approved grant and loan amounts.

11. The Contractor must co-ordinate work with the City. The Contractor is responsible to obtain all utility locates for the work for both private Property and City Property.

12. The Contractor or the applicant must arrange for an inspection by the City with respect to the Building/Plumbing Permit and/or Work Approval Permit. Permits that have not had an inspection by the City will result in the cancellation of any previously approved grant and loan amounts.

13. Certification of the completed works is required based on the recommendation outlined in the sealed final Engineering Report. Certification of the completed works must be provided in writing by the Professional Engineer, who sealed the final Engineering Report.

14. Within nine months of receiving grant approval, the Condominium Corporation, or Non-Profit Housing Co-operative or individual unit owners must submit to the City the final invoice from the Contractor setting out the amount due and paid for the work. Condominium Corporations and Non-Profit Housing Co-operatives must also submit to the City the final invoice from the consulting engineering firm setting out the amount due and paid for the Engineer's Report(s) and confirmation that the works were completed in accordance with the report. Any Owner, Condominium Corporation, or Non-Profit Housing Co-Operative submitting a final invoice nine months after the grant approval will be ineligible for payment of the grant and loan (subject to the discretion of the City Engineer). The City will not provide a grant for an amount greater than the grant or loan amount set out in item (8) above, even where the final invoice is greater than the grant amount. The Condominium Corporation, or Non-Profit Housing Co-operative must also submit the grant application form (page 2) with the liability release section signed by all Owners or representatives able to bind the Condominium Corporation or non-profit housing co-operative. The individual Owners must also sign a separate liability release document.

15. Subject to approval of the submission, The City will issue a cheque for the grant either to the Condominium Corporation, or Non-Profit Housing Co-operative or individual unit owners.

C. Not Retroactive

The Program will not be retroactive to apply to works started before the commencement of the Program.

D. Discontinuation of Program

The terms of the Program are subject to change. Council may periodically review the Program Guidelines to determine if the Program should continue, be modified, or cease to issue any new grants. The City may discontinue the Program at any time, without notice.

E. City Not Liable

In order to qualify for a grant and loan, the residential home Owner, Condominium Corporation, or Non-Profit Housing Co-operative agrees that the City shall not be liable for any damages to the Owner's Property or Property for which the Condominium Corporation, or Non-Profit Housing Co-operative is responsible as a result of any of these installations.

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON TUESDAY, OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**APPOINTMENT OF CONSULTING ENGINEER DESIGN AND CONSTRUCTION ADMINISTRATION SERVICES POTTERSBURG PUMPING STATION CONSTRUCTION**

RECOMMENDATION

That, on the recommendation of the Managing Director of Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the assignment of consulting services for the design and construction administration of the new Pottersburg Transfer Pumping Station:

a) AECOM Canada Ltd. **BE APPOINTED** Consulting Engineers in the amount of $480,303.25, including 15% contingency, excluding HST, based upon the Fee Guideline for Professional Engineering Services, recommended by the Ontario Society of Professional Engineers; and in accordance with Section 15.2 (d) of the City of London's Procurement of Goods and Services Policy;

b) the financing for the project **BE APPROVED** in accordance with 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 approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract; and,

e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Civic Works Committee, October 22, 2019 – East London Sanitary Servicing Study – Municipal Class Environmental Assessment: Issuance of Addendum

Civic Works Committee, August 13, 2018 – Appointment of Consulting Engineer – Vauxhall Wastewater Treatment Plant – Class EA for Capacity Upgrades

Civic Works Committee, August 13, 2018 – East London Sanitary Servicing Study – Municipal Class Environmental Assessment: Notice of Completion

Civic Works Committee, July 17, 2017 – Appointment of Consulting Engineer – Design and Construction Administration Services - Pottersburg-Vauxhall Wastewater Treatment Plants Interconnection Project

Civic Works Committee, November 3, 2015 – Appointment of Consultant – Master Plan/Municipal Class EA for the Pottersburg-Vauxhall Interconnect

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.

BACKGROUND

Purpose

The purpose of this report is to seek approval to award AECOM Canada Ltd. (AECOM) a contract for consulting services for design and construction administration of the Pottersburg Transfer Pumping Station upgrades.

Context

The construction of a transfer pumping station at Pottersburg Wastewater Treatment Plant will enable the transfer of flows to Vauxhall Wastewater Treatment Plant through the new Pottersburg-Vauxhall Interconnection. This aligns with the strategies identified in the East London Sanitary Servicing Study and the Pottersburg-Vauxhall Interconnect Class Environmental Assessments.

DISCUSSION

The Vauxhall Wastewater Treatment Plant (WWTP) services a sewershed that is mostly built-out, while the Pottersburg WWTP sewershed has a significant capacity for growth. However, Vauxhall WWTP has been demonstrated to have both available capacity and a potential for relatively inexpensive capacity increases, while Pottersburg WWTP experiences challenges that limit its ability to provide the full rated treatment capacity identified.

The East London Sanitary Servicing Study identified a short-term strategy to transfer flows from Pottersburg to Vauxhall via a new forcemain connection between the two plants. This would enable growth to continue in the Pottersburg sewershed, while also reducing the likelihood of wastewater overflows and bypasses at Pottersburg WWTP. The forcemain construction project is mostly complete, so the construction of a pumping station will enable this flow transfer to occur immediately upon commissioning.

As a result, a Request for Proposals was issued for a Consulting Engineer to provide detailed design and contract administration services for a transfer pumping station at Pottersburg WWTP

Procurement Process

A Request for Proposal (RFP): RFP 19-40 was issued by the City. RFP 19-40 was conducted through the Purchasing Division and was confirmed to be compliant with CETA and CFTA requirements. There were nine package takers, although only two consulting firms ultimately submitted proposals:

- AECOM Canada Ltd.; and
- CH2MHill Canada Ltd (Jacobs).

The submissions were reviewed by staff from Wastewater Treatment Operations and Purchasing and Supply to ensure compliance with the City's Procurement of Goods and Services Policy. Both proposals met the City's requirements for submission acceptance, and were evaluated via a weighted scoring system by the review team. The proposal from AECOM scored the highest based on this scoring system.

AECOM has extensive experience with pumping station design and contract administration, including many projects within the City of London and for the Wastewater Treatment Operations division specifically. AECOM's fees were the lowest of the proposals received and within the budget for the project. The City's project team has confidence in AECOM's ability to ensure that the City ultimately receives high quality infrastructure that meets present and future needs.

Project Schedule and Budget Implications

The design portion of this project is expected to be complete by Fall of 2020, with tendering to follow. Construction is expected to be complete by the end of 2021. This project is a growth-funded project, identified in the 2019 One Water Development Charge Update Study as DC19-WW0005 – Pottersburg/Vauxhall Transfer PSs.

CONCLUSIONS

AECOM received the highest score through the RFP selection process for design and construction administration services related to the Pottersburg Transfer Pumping Station construction. AECOM has a history of successful project delivery with the City and has specific experience at this facility through multiple previous projects. AECOM also demonstrated a good understanding of the project in their Proposal, and the project team is expected to provide good results for the City. It is recommended that Stantec be awarded this assignment.

Acknowledgements

This report was prepared with the assistance of Kirby Oudekerk, P.Eng. in the Wastewater Treatment Operations Division.

PREPARED BY:	REVIEWED BY:
GEORDIE GAULD **DIVISION MANAGER** **WASTEWATER TREATMENT OPERATIONS**	**SCOTT MATHERS, MPA, P.ENG.** **DIRECTOR** **WATER, WASTEWATER & TREATMENT**

RECOMMENDED BY:
KELLY SCHERR, P.ENG., MBA, FEC **MANAGING DIRECTOR** **ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**

Attachment: Appendix “A” Sources of Financing

cc: John Freeman, Purchasing and Supply
Alan Dunbar, FP&P
Jason Davies, FP&P
Matt Feldberg, Development Finance
Chris Ginty, Procurement Officer
Neil Awde, P.Eng., AECOM Canada Ltd.

APPENDIX 'A'

#19143

Chair and Members
Civic Works Committee

October 22, 2019
(Appoint Consulting Engineer)

RE: Design and Construction Administration Services - Pottersburg Pumping Station Construction (Subledger FS190005)
Capital Project ES5133 - Pottersburg / Vauxhall Transfer Pumping Stations
AECOM Canada Ltd. - $480,303.25 (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 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:

SUMMARY OF ESTIMATED EXPENDITURES		Approved Budget	This Submission		Balance for Future Work
Engineering		$500,000	$488,757		$11,243
Construction		4,500,000			4,500,000
NET ESTIMATED EXPENDITURES		**$5,000,000**	**$488,757**	**1)**	**$4,511,243**
SUMMARY OF FINANCING:					
Drawdown from Sewage Works Reserve Fund		$500,000	$48,876		$451,124
Debenture Quota (Serviced through City Services -Sewers Reserve Fund (Development Charges))	2&3)	4,500,000	439,881		4,060,119
TOTAL FINANCING		**$5,000,000**	**$488,757**		**$4,511,243**

1) **Financial Note:**

Contract Price	$480,303
Add: HST @13%	62,440
Total Contract Price Including Taxes	542,743
Less: HST Rebate	53,986
Net Contract Price	$488,757

2) Development charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2019.

Note to City Clerk:

3) Administration hereby certifies that the estimated amounts payable in respect of this project does not exceed the annual financial debt and obligation limit for the Municipality of Municipal Affairs in accordance with the provisions of Ontario Regulation 403/02 made under the Municipal Act, and accordingly the City Clerk is hereby requested to prepare and introduce the necessary authorizing by-laws.

An authorizing by-law should be drafted to secure debenture financing for project ES5133 - Pottersburg/ Vauxhall Transfer Pumping Stations for the net amount to be debentured of $4,500,000.

Jason Davies
Manager of Financial Planning & Policy

JG

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON TUESDAY, OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**APPOINTMENT OF CONSULTING ENGINEER DESIGN AND CONSTRUCTION ADMINISTRATION SERVICES POTTERSBURG PUMPING STATION CONSTRUCTION**

RECOMMENDATION

That, on the recommendation of the Managing Director of Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the assignment of consulting services for the design and construction administration of the new Pottersburg Transfer Pumping Station:

a) AECOM Canada Ltd. **BE APPOINTED** Consulting Engineers in the amount of $480,303.25, including 15% contingency, excluding HST, based upon the Fee Guideline for Professional Engineering Services, recommended by the Ontario Society of Professional Engineers; and in accordance with Section 15.2 (d) of the City of London's Procurement of Goods and Services Policy;

b) the financing for the project **BE APPROVED** in accordance with 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 approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract; and,

e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Civic Works Committee, October 22, 2019 – East London Sanitary Servicing Study – Municipal Class Environmental Assessment: Issuance of Addendum

Civic Works Committee, August 13, 2018 – Appointment of Consulting Engineer – Vauxhall Wastewater Treatment Plant – Class EA for Capacity Upgrades

Civic Works Committee, August 13, 2018 – East London Sanitary Servicing Study – Municipal Class Environmental Assessment: Notice of Completion

Civic Works Committee, July 17, 2017 – Appointment of Consulting Engineer – Design and Construction Administration Services - Pottersburg-Vauxhall Wastewater Treatment Plants Interconnection Project

Civic Works Committee, November 3, 2015 – Appointment of Consultant – Master Plan/Municipal Class EA for the Pottersburg-Vauxhall Interconnect

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.

BACKGROUND

Purpose

The purpose of this report is to seek approval to award AECOM Canada Ltd. (AECOM) a contract for consulting services for design and construction administration of the Pottersburg Transfer Pumping Station upgrades.

Context

The construction of a transfer pumping station at Pottersburg Wastewater Treatment Plant will enable the transfer of flows to Vauxhall Wastewater Treatment Plant through the new Pottersburg-Vauxhall Interconnection. This aligns with the strategies identified in the East London Sanitary Servicing Study and the Pottersburg-Vauxhall Interconnect Class Environmental Assessments.

DISCUSSION

The Vauxhall Wastewater Treatment Plant (WWTP) services a sewershed that is mostly built-out, while the Pottersburg WWTP sewershed has a significant capacity for growth. However, Vauxhall WWTP has been demonstrated to have both available capacity and a potential for relatively inexpensive capacity increases, while Pottersburg WWTP experiences challenges that limit its ability to provide the full rated treatment capacity identified.

The East London Sanitary Servicing Study identified a short-term strategy to transfer flows from Pottersburg to Vauxhall via a new forcemain connection between the two plants. This would enable growth to continue in the Pottersburg sewershed, while also reducing the likelihood of wastewater overflows and bypasses at Pottersburg WWTP. The forcemain construction project is mostly complete, so the construction of a pumping station will enable this flow transfer to occur immediately upon commissioning.

As a result, a Request for Proposals was issued for a Consulting Engineer to provide detailed design and contract administration services for a transfer pumping station at Pottersburg WWTP

Procurement Process

A Request for Proposal (RFP): RFP 19-40 was issued by the City. RFP 19-40 was conducted through the Purchasing Division and was confirmed to be compliant with CETA and CFTA requirements. There were nine package takers, although only two consulting firms ultimately submitted proposals:

- AECOM Canada Ltd.; and
- CH2MHill Canada Ltd (Jacobs).

The submissions were reviewed by staff from Wastewater Treatment Operations and Purchasing and Supply to ensure compliance with the City's Procurement of Goods and Services Policy. Both proposals met the City's requirements for submission acceptance, and were evaluated via a weighted scoring system by the review team. The proposal from AECOM scored the highest based on this scoring system.

AECOM has extensive experience with pumping station design and contract administration, including many projects within the City of London and for the Wastewater Treatment Operations division specifically. AECOM's fees were the lowest of the proposals received and within the budget for the project. The City's project team has confidence in AECOM's ability to ensure that the City ultimately receives high quality infrastructure that meets present and future needs.

Project Schedule and Budget Implications

The design portion of this project is expected to be complete by Fall of 2020, with tendering to follow. Construction is expected to be complete by the end of 2021. This project is a growth-funded project, identified in the 2019 One Water Development Charge Update Study as DC19-WW0005 – Pottersburg/Vauxhall Transfer PSs.

CONCLUSIONS

AECOM received the highest score through the RFP selection process for design and construction administration services related to the Pottersburg Transfer Pumping Station construction. AECOM has a history of successful project delivery with the City and has specific experience at this facility through multiple previous projects. AECOM also demonstrated a good understanding of the project in their Proposal, and the project team is expected to provide good results for the City. It is recommended that AECOM be awarded this assignment.

Acknowledgements

This report was prepared with the assistance of Kirby Oudekerk, P.Eng. in the Wastewater Treatment Operations Division.

PREPARED BY:	**REVIEWED BY:**
GEORDIE GAULD **DIVISION MANAGER** **WASTEWATER TREATMENT OPERATIONS**	**SCOTT MATHERS, MPA, P.ENG.** **DIRECTOR** **WATER, WASTEWATER & TREATMENT**

RECOMMENDED BY:
KELLY SCHERR, P.ENG., MBA, FEC **MANAGING DIRECTOR** **ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**

Attachment: Appendix “A” Sources of Financing

cc: John Freeman, Purchasing and Supply
Alan Dunbar, FP&P
Jason Davies, FP&P
Matt Feldberg, Development Finance
Chris Ginty, Procurement Officer
Neil Awde, P.Eng., AECOM Canada Ltd.

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**SERVICE LEVEL AGREEMENT RENEWAL WITH LONDON HYDRO FOR WATER METER READING AND WATER AND SEWER BILLING**

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the Service Level Agreement Renewal with London Hydro Inc:

a) the proposed attached by-law (Appendix "A") **BE INTRODUCED** at the Municipal Council meeting to be held on October 29, 2019 to approve a Service Level Agreement between The Corporation of the City of London and London Hydro Inc., substantially in the form appended as Schedule "A" to the proposed by-law, for the management and operation of the meter reading, billing, collections and customer service for the City's water and sewer accounts by London Hydro Inc.;

b) the City Engineer **BE DELEGATED** the authority to execute the Agreement approved in a), above; and,

c) the Civic Administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with the Agreement approved in a) above, including any future related documents and/or agreement with London Hydro Inc. that are consistent with the requirement contained in the Agreement approved in a) above.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- Board of Control – June 23, 2004 - Water Meter Services Relationship with London Hydro
- Board of Control – December 10, 2009 - Service Level Agreement
- Board of Control – October 21, 2009 - Service Level Agreement with London Hydro for Water Meter Reading and Water and Sewer Billing
- Finance and Administration Committee – December 13, 2010 - Service Level Agreement Amendment with London Hydro for Water Meter Reading and Water and Sewer Billing
- Civic Works Committee – January 21, 2013 - Service Level Agreement Amendment with London Hydro for Water Meter Reading and Water and Sewer Billing
- Civic Works Committee – February 2, 2016 - Service Level Agreement Amendment with London Hydro for Water Meter Reading and Water and Sewer Billing

2015-2019 STRATEGIC PLAN

This report and its recommendations support the Strategic Plan in Leading in Public Service – Excellent Service Delivery, Proactive Financial Management and Collaborative Engaged Leadership. Through the established partnership with London Hydro many efficiencies are realized by utilizing London Hydro's existing technology, systems, and sharing of innovative solutions while providing a seamless service to residents with regards to collaborative customer service and combined billing.

BACKGROUND

Purpose

London Hydro Inc. provides water meter reading, billing, collection, and customer services for the City's water, wastewater and storm water accounts. This report seeks authorization for the City Engineer to execute a new five year Service Level Agreement between London Hydro Inc. and The Corporation of the City of London for the services noted above at a cost of $3,998,000 per annum which is a 0.45% ($18,000) increase from the previous agreement. The current four year Service Level Agreement expires on December 31, 2019.

Context

The City and London Hydro have a well-established partnership with a Service Level Agreement. The London Public Utilities Commission (PUC) included water, hydro, parks and recreation until January 1, 1993. When the PUC was dissolved and water, parks and recreation became departments of the City and London Hydro became a wholly-owned subsidiary of the City. The meter reading and billing services have remained with London Hydro since this time. Approaching the end of every Service Level Agreement cycle this arrangement is re-evaluated by a third party. It has been determined that that the current billing partnership remains the most advantageous and cost effective approach.

Several accomplishments and improvements have occurred since the approval of the last agreement which had a cost of $3,980,000 per annum. London Hydro worked collaboratively with the City to deliver the following service enhancements, including:

- Hourly interval water data collection for all compatible water meters;
- Online access to Green Button standard interval water data;
- Access to energy and water reporting benchmarking data services mandated by the province for buildings 50,000 square feet and larger; and
- Detailed data visualization reports to better understand our customers.

In 2019, London Hydro and the City of London was presented, before utilities and municipalities from across Canada and the United States, the Innovation in Digital Customer Engagement award at CSWeek in Phoenix, Arizona, for the development of the Green Button standard interval water data portal.

DISCUSSION

City and London Hydro staff have reviewed the existing agreement to determine where enhancements are required. Certain services are no longer relevant, while new needs have also arisen. The new Agreement prioritizes the three key areas of customer service, financial performance, and information management.

Customer Service

A new rate structure was approved November 20, 2012 by Municipal Council with a desire for enhanced customer engagement strategies. The City is able to work with London Hydro, our billing partner, to enhance services in order to accommodate the increasing need for data and customer service. With improved technologies, evolving meter reading capabilities, increased automation and efficiency measures adopted in the private sector, many of the larger water users in the City have requested digital access to the water use information displayed on their bills. Recent City investments in new water meters and additional developmental work completed under the existing SLA have allowed London Hydro to collect hourly interval water meter data for approximately

70% of customers, which have been valuable in assisting residential customers with unexpectedly high water usage, industrial and commercial customers with monitoring their efficiency, and providing data that the City can use for more robust engineering models and demand projections.

Website and online services continue to improve with interval water data export capability, and the provision of energy and water reporting benchmarking (EWB) data to industrial, commercial, and institutional customers. Internally at the City and London Hydro there are regular checks run to ensure the quality of data in the system, along with reviews of processes and analysis to reduce potential errors.

Detailed data analysis and visualization has greatly increased the speed at which errors in customer data or non-conforming trends are observed, investigated, and responded to. It has allowed the City to better understand the usage profile of water customers and develop programming that is more suitable; such as the Growing Naturally home water use audit program.

London Hydro administers on the City's behalf the Crisis Prevention and Customer Assistance Programs. The programs provide funding to proactively replace toilets in low income housing, and to help those who seek relief for a substantial leak resulting from a plumbing failure. In many cases London Hydro's team has assisted residents unfamiliar with City procedures and electronic forms to complete their applications; which has greatly decreased barriers to access these programs. The City is monitoring recent provincial changes to how efficiency programs are offered through electrical utilities, and will redirect the crisis prevention program if London Hydro is unable to continue with its administration.

Incremental improvements to existing features and services have been negotiated and the new agreement adds the following service requirements:

1. Workforce Management Interface
   Provide a means to integrate City workflow software and London Hydro software so that service requests can be updated electronically in both directions. This is expected to lower the risk of missed work orders, save staff time, and increase communication with the customer.

2. Water Meter Alert & Alarm Management
   Automated water meter reports will flag when a meter is in need of battery replacement, detects reverse flow, or has been tampered with. This is expected to help with revenue recovery.

3. Technical Support for Interval Water Portal
   As usage of the Interval Water Portal is anticipated to increase, and this is a recently developed feature, London Hydro will provide continued support to ensure adequate performance.

4. Ad-hoc Wastewater Regulatory Billing
   Support the currently manual issuance of ad-hoc wastewater bills generated through by-law WM-28 processes. This includes customers who contribute more water into the sanitary system than they purchase, and those who are on special billing arrangements requiring manual intervention of billed wastewater volumes.

The following updates to operational processes have also been agreed upon by London Hydro, and did not necessitate scope changes to the existing Service Level Agreement:

1. Improved Wastewater Data Reporting
   Existing data reports will include billed wastewater volumes to permit the tracking of accounts receiving ad-hoc, manual, or otherwise special considerations. This provides a more visible means of tracking and auditing accounts for wastewater billing purposes.

2. Special Physical Water Meter Reads

Even with investments in remote meter reading technology, there is anticipated to be a small number of accounts that will require physical water meter reading services; either due to a reluctance to update their water meters, or technical limitations of the remote read meters. London Hydro will conduct one read per year, in compliance with City by-law W-8, without additional fees.

3. Improved Contact Centre Case Tracking and Reporting
   The existing reporting process is adequate, but falls short of detailed breakdown of interaction specifics, such as the number of first call resolutions and statistical values based on key performance indicators. London Hydro agreed with the value of improved reports, and will be making investments to provide detailed customer interaction tracking and resolution records. It will include tracking the number and content of customer complaints and compliments. This will allow the City to create programs and resources that improve the customer experience, and do so more efficiently.

Financial Performance

The efficiencies gained by shared meter reading, customer service, information technology and infrastructure between the two utilities has been reviewed by a third party, BMA Management Consulting Inc. The City hired BMA Consulting to look at the overall cost of service for London Hydro to continue providing meter reading and billing services to the City which was completed in May 2019. This exercise was also done for the past two updates to the SLA.

BMA has found that the new fee for service is within what they would expect for the suite of services provided. For context, other similar sized municipalities in Ontario have costs for these services that range between $2.78 per bill to $3.42 per bill. The City of London will pay an equivalent of $2.82 per bill under the new agreement. The City of London receives services, such as the interval water data portal, that the other comparable cities do not offer.

The new agreement commences on January 1st, 2020 and terminates on December 31st, 2024. City and London Hydro staff have negotiated a cost of $3,998,000 per annum, with no escalation, to cover the costs of water and sewer meter reading, billing, customer service, and collections. This fee for service is based on the results of the consultant analyses and London Hydro's compliance requirements under Ontario Energy Board.

Information Management

London Hydro provides monthly and annual reports to the city with regards to billing, customer service, and customer assistance programs. There are also monthly update meetings.

The City has the ability to audit London Hydro with written notice to verify compliance of service level agreement.

Administrative Changes

Administrative changes were made to the agreement to better reflect the City and London Hydro's changing needs. They include minor scope reductions and agreement clarifications with the most significant change as the extension of the agreement period from four years to five years. This allows London Hydro to submit their rates with the Ontario Energy Board, where a guaranteed income for the five year period is looked upon favourably. There are no anticipated issues to the City's budgeting process.

CONCLUSIONS

The Civic Administration is seeking approval of the attached proposed by-law and

Service Level Agreement (Appendix “A”) between London Hydro Inc. and the Corporation of the City of London for the management and operation of the meter reading, billing, collections and customer service for the City’s water and sewer accounts for a period of five years. The new Agreement prioritizes the three key areas of customer service, financial performance, and information management. The new fee for service has been deemed to be good value for money by a third party consultant and the rate is in line with comparable municipalities.

SUBMITTED BY:	**REVIEWED & CONCURRED BY:**
AARON ROZENTALS, P.ENG. **DIVISION MANAGER,** **WATER ENGINEERING**	**SCOTT MATHERS, MPA, P. ENG.** **DIRECTOR** **WATER & WASTEWATER**
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC **MANAGING DIRECTOR** **ENVIRONMENTAL & ENGINEERING** **SERVICES AND CITY ENGINEER**	

October 22, 2019

APPENDIX "A"

Bill No.
2019

By-law No. A.-_____

A by-law to approve a Service Level Agreement between The Corporation of the City of London ("City") and London Hydro Inc. (the "London Hydro") for the for the management and operation of the meter reading, billing, collections and customer service for the City's water and sewer accounts by London Hydro Inc. and to authorize the City Engineer to undertake all administrative acts that are necessary in connection with the Agreement.

WHEREAS subsection 5(3) of the *Municipal Act, 2001* S.O. 2001, c.25, as amended, provides that a municipal power shall be exercised by by-law;

AND WHEREAS section 9 of the *Municipal Act, 2001* provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

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

1. The Service Level Agreement between The Corporation of the City of London and London Hydro Inc. for the managemeht and operation of meter reading, billing, collections and customer service for the City's water and sewer accounts by London Hydro Inc. attached as Schedule 'A' to this by-law, is hereby approved.

2. The City Engineer is hereby authorized to execute the Agreement approved under Section 1 of this by-law.

3. The City Engineer is hereby authorized to undertake all administrative acts that are necessary in connection with the Agreement approved in Section 1 of this bylaw.

4. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council on October 29, 2019

Ed Holder
Mayor

Catharine Saunders
City Clerk

First reading – October 29, 2019
Second reading – October 29, 2019
Third reading – October 29, 2019

SCHEDULE 'A'

THIS SERVICE LEVEL AGREEMENT effective as of the 1st day of January, 2020**.**

BETWEEN:

THE CORPORATION OF THE CITY OF LONDON

("City")

And

LONDON HYDRO INC.

("London Hydro")

WHEREAS the City is a municipality that has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under the *Municipal Act, 2001* or any other Act;

AND WHEREAS London Hydro is a corporation that engages in business activities such as providing meter reading and entering into joint ventures to provide services to other utilities or the public sector in London;

AND WHEREAS the City is the sole shareholder of London Hydro;

AND WHEREAS London Hydro continues to provide the City with services such as water meter reading, billing, collection, and customer service for the City's water accounts and sewer accounts;

THEREFORE IN CONSIDERATION of the premises and other good and valuable consideration, in sufficiency of which is hereby acknowledged and admitted, the parties agree as follows:

1.0 TERM

1.1 This agreement shall commence on January 1, 2020. This agreement shall terminate December 31, 2024, unless terminated earlier pursuant to Part 5.0 of this

1.2 At least six months prior to the end of the term, the authorized representatives of the City and London Hydro, identified in Appendix D, may mutually agree in writing to renew the Agreement provided the fee for service for renewal has also been agreed upon by the authorized representatives for both parties. Any renewals are subject to the termination provisions as provided in this Agreement.

2.0 OBLIGATIONS OF THE CITY

Fee for Service

2.1 In exchange for the services provided by London Hydro under the terms of this Agreement, the City agrees to compensate London Hydro an interim fee for service of $3,998,000 per year.

2.2 A provisional sum of $150,000 per year is available to undertake additional services which are not contemplated in the current scope of the agreement. The provision of additional services and access of the provisional sum is described in clause 3.7.

2.3 The City shall make such payments to London Hydro in equal installments per term, in advance, on the first day of the month.

2.4 The fee for service can be reviewed and adjusted at any time by the authorized representatives of the City and London Hydro, identified in Appendix D, provided that the authorized representatives of both parties agree in writing to the change.

Contacts and Contract Management

2.5 (a) The City shall appoint a key contact individual to a role called a Water Demand Manager. The Water Demand Manager will be the liaison with London Hydro to assist in the resolution of issues by either party. The Water Demand Manager will administrate, manage, and monitor the overall performance of London Hydro with respect to this agreement.

(b) The City shall appoint a person or persons to fill the following roles:

- Customer Service Coordinator
- Billing and Revenue Management Coordinator
- Data Transfer/IT Coordinator
- GIS Coordinator
- Water Meter/Operation Coordinator

Such appointed persons shall communicate with the Water Demand Manager to ensure that issues are resolved in a prompt and courteous manner. Names, corporate titles, and contact information are listed in Appendix 'D', and any updates shall be provided in writing as necessary.

2.6 The City will conform, where reasonably practical, to its commitments and accountabilities set out in Appendix "A2".

2.7 The City will conform, where reasonably practical, to its commitments as set out in Appendix "B".

3.0 OBLIGATIONS OF LONDON HYDRO

3.1 London Hydro shall provide those services set out in Appendix "A1".

3.2 London Hydro shall report to the City as set out in Appendix "C".

3.3 London Hydro shall conform, where reasonably practical, to its commitments as set out in Appendix "B".

3.4 London Hydro shall comply with all applicable privacy legislation, including the *Personal Information Protection and Electronic Documents Act* (Canada) and the *Municipal Freedom of Information and Protection of Privacy Act.*

Contacts and Contract Management

3.5 (a) London Hydro shall appoint a Key Account Manager to manage all issues relating to this Agreement. The Key Account Manager will review regularly the completion of London Hydro's responsibilities set out in this Agreement. The Key Account Manager will be the initial contact for all Non-Pricing issues. At the discretion of the Key Account Manager, other individuals or departments will be included in the resolution of the requests or issues, and the Key Account Manager will monitor performance of London Hydro.

(b) London Hydro shall appoint a person or persons to fill the following roles:

- Customer Service Coordinator
- Billing and Revenue Management Coordinator
- Data Transfer/IT Coordinator
- GIS Coordinator
- Water Meter/Operation Coordinator

Such appointed persons shall report to the Key Account Manager to ensure that issues are resolved in a prompt and courteous manner. Names, corporate titles and contact information are listed in Appendix 'D'. Any updates shall be provided in writing as necessary.

Ad Hoc Reporting or Services

3.6 It is anticipated that the City will be able to create its own non-standard or *ad hoc* reports as necessary; however the City may from time to time request that London

Hydro provide *ad hoc* or non-standard reporting of a varied nature related to meter reading, billing and/or collections. London Hydro shall use reasonable commercial efforts to provide this reporting within a reasonable time frame. The expected annual effort to be allocated to all reporting maintenance and development including Ad Hoc Reporting and Services shall not exceed the equivalent cost of a full time SAP Business Systems Analyst.

Additional Services

3.7 From time to time additional service related to this agreement can be requested by the City to be performed by London Hydro. Examples of services include investigations, business or operational process changes, development projects, new promotional campaigns or technology trials. In many cases, for tasks of small scope or where there is no time constraint, this work can be done within the framework of this agreement. However, for larger projects which require additional expense or resource for completion will be handled outside of this agreement. Both parties agree to follow several steps to initiate an additional service:

- Identification of business requirements and value proposition (City)
- Cost and resource plan estimate proposal (London Hydro)
- Written agreement for expected deliverables, timelines and costs (both parties)
- Service Implementation
- Post Implementation evaluation

Payment for additional services will be through the use of the provisional sum in the contract which can only be accessed through written authorization by the City.

Automated Meter Management

3.8 London Hydro shall provide water meter management through their Customer Information System and meter reading systems.

London Hydro Covenants

3.9 London Hydro covenants and agrees as follows:

(a) To comply with all Federal and Provincial Legislation, Regulations, and Rules in fulfilling its obligations under this Agreement.

4.0 OBLIGATIONS OF BOTH PARTIES

Working Group

4.1 If day-to-day operations fail to resolve various issues, London Hydro and the City agree to each nominate individuals from their own corporation to form a working group to discuss issues of mutual interest between the parties related to this Agreement (“Working Group”). The Working Group shall be composed of three (3) individuals nominated by London Hydro and three (3) individuals nominated by the City. The Working Group will report back to the VP of Corporate Services and Key Account Manager for London Hydro, and to the Managing Director of Environmental Services and City Engineer and the Water Demand Manager for the City.

Changes to Agreement

4.2 The parties may annually review this Agreement, and the Agreement may be amended by way of an amending agreement signed by both parties including a change in service delivery, and/or a change in scope of services identified in Appendix A1 and A2.

Data Needs/Data Integration

4.3 Each party agrees to share such data it determines is feasible to share with the other party (including but not limited to water and sewer systems’ data, customer complaint data, geographic based information, work order/work management applications, account adjustments) where not prohibited by law.

Performance Management

4.4 In addition to reporting requirements set out in Appendices A1 and A2, the parties shall consider and develop as required performance measurements/expectations that relate to the delivery of the service by London Hydro and/or its contractors. The measurements should be in terms of costs, scheduling, and service delivery and could include timeliness in providing reports, delivery time on Service Change Request, customer feedback, or actions taken to address issues. Performance measures may also be developed outlining expected actions by the City in response to a London Hydro request.

Dispute Resolution

4.5 When a dispute arises, the parties shall attempt to resolve the matter through the Working Group. For matters that cannot be resolved by this means, the parties shall attempt to resolve the dispute promptly by negotiating between London Hydro's VP of Corporate Services (or designate) and the City's Managing Director of Environmental and Engineering Services and City Engineer (or designate). A resolution will be attempted within 10 days after the issue has been elevated. Each party shall use reasonable commercial efforts to respond to requests for information made by the other party. Should a dispute still not be settled, the parties shall consider alternative dispute resolution process such as mediation or arbitration, as a means of early resolution of business disputes. However if either party determines that alternate dispute resolution is inappropriate for a particular case then they are not bound to its use.

Audit

4.6 The City of London reserves the right to initiate an audit in order to verify London Hydro's compliance with this service level agreement and obtain an assessment of the operational effectiveness of the services provided. This includes, but is not limited to, an audit of the services outlined in Appendix A1, the reporting requirements detailed in Appendix C and the information and processes related to the appendices in this agreement. The City of London shall provide a list of audit requests with 30 days of notice for advance preparation of materials. Any costs generated by the audit shall be borne by the City of London.

5.0 TERMINATION

Termination by the City

5.1 If London Hydro defaults in performing any of its obligations under this Agreement, the City may terminate the Agreement immediately without liability. Any waiver by the City of any breach by London Hydro of any provisions of this Agreement shall be without prejudice to the exercise by the City of all or any of its rights or remedies in respect of any continuance or repetition of such breach.

5.2 The City may terminate this Agreement for any reason without liability by providing notice in writing at least ninety (90) calendar days prior to the date of such termination.

Termination by London Hydro

5.3 London Hydro may terminate this Agreement for any reason without liability by providing in writing at least ninety (90) calendar days prior to the date of such termination.

6.0 ASSIGNMENT

6.1 This Agreement is not assignable by either party without the prior written consent of the other party. Any attempt to assign any of rights, duties, or obligations of this Agreement without written consent is void. London Hydro may use subcontractors to satisfy the requirements of this Agreement.

7.0 NOT AN AGREEMENT OF EMPLOYMENT

7.1 London Hydro acknowledges and agrees this Agreement shall in no way be deemed or construed to be an Agreement of Employment. Specifically, the parties agree that it is not intended by this Agreement that London Hydro, nor any person employed by or associated with London Hydro is an employee of, or has any employment relationship of any kind with the City or is in any way entitled to employment benefits of any kind whatsoever from the City whether under internal policies and programs of the City, the *Income Tax Act,* R.S.C. 1985 c.1 (1st Supp); the Canada Pension Act, R.S.C. 1985, c.C-8; *the Employment Insurance Act*, S.O. 1996,c.23; the *Workplace Safety Act,* R.S.O. 1990, c.o.1; the *Pay Equity Act,* R.S.O. 1990, c.P.7; the *Health Insurance Act,* R.S.O 1990, c.H.6; or any other employment related legislation, all as may be amended from time to time, or otherwise.

7.2 Notwithstanding paragraph 6.1 above, it is the sole and exclusive responsibility of London Hydro to make its own determination as to its status under the Acts referred to above and, in particular, to comply with the provisions of any of the aforesaid Acts, and to make any payments required thereunder.

7.3 London Hydro shall operate independently of the City and is not the agent or servant of the City for any purpose.

7.4 Nothing in this Agreement shall entitle or enable London Hydro or any subcontractor to act on behalf of, or as agent for, or to assume or create any obligation on behalf of, or to make any representation, promise, and warranty or guarantee binding upon, or otherwise to bind the City. Each of London Hydro, any subcontractor of London Hydro and the City is independent and not the agent, employee, partner or joint venture of any of the others.

8.0 CIRCUMSTANCES BEYOND THE CONTROL OF EITHER PARTY

8.1 Neither party will be responsible for damage caused by delay or failure to perform under the terms of this Agreement resulting from matters beyond the control of the City and London Hydro including strike, lockout or any other action arising from a labour dispute, fire (other than a fire caused by London Hydro’s negligence), natural flood, act of God, war, riot or other civil insurrection, lawful act of public authority, all of which cannot be reasonably foreseen or provided against.

9.0 EXECUTION

9.1 London Hydro acknowledges that it has read this agreement, understands it and agrees to be bound by its terms and conditions. Further London Hydro agrees that it is the complete and exclusive statement of the agreement between the parties, which supersedes all proposals or prior agreement, oral or written, and all other communications between the parties relating to the subject matter of this Agreement.

IN WITNESS WHEREOF London Hydro Inc. has affixed its corporate seal, attested by the hands of its duly authorized officers,
SIGNED SEALED AND DELIVERED

LONDON HYDRO INC.

_____ Per (Signature):

Date

Print Name:

Print Title:

_____ Per (Signature):

Date

Print Name:

Print Title:

IN WITNESS WHEREOF The Corporation of the City of London has hereunto caused to be affixed its Corporate Seal attested by the hands of the City Engineer,

SIGNED SEALED AND DELIVERED

THE CORPORATION OF THE CITY OF LONDON

_____ Per (Signature):

Date

Print Name:

Print Title:

_____ Per (Signature):

Date

Print Name:

Print Title:

_____ Per (Signature):

Date

Print Name:

Print Title:

Appendix 'A1'

London Hydro Services Provided

London Hydro shall provide the City with Water Meter reading, billing, collections and customer service and reporting of water-related services. London Hydro shall use its reasonable commercial efforts to provide appropriate regulated standards of customer service which are agreed by both parties to the end user (consumer) of City water. The following are the six major services that shall be performed by London Hydro for the City:

1) Water Meter Related Services;
2) Customer Management Services;
3) Revenue Management, Collection and Billing;
4) Management Reporting;
5) Information Technology (IT) Services; and
6) Select Training to support the previous items.

London Hydro shall maintain appropriate standards of customer service and performance management. London Hydro will afford the City the opportunity to review/input into all of these standards changes that directly impact the City services. Both parties acknowledge that some of the standards are subject to change due to governmental or regulatory changes.

London Hydro Commitments

London Hydro shall communicate with the City, in a timely manner, any legislative or strategic metering changes that could impact the synergies, in terms of cost and convenience inherent in a joint billing program.

London Hydro Accountabilities

The listing below is intended to be informative and is not a defined list of obligations. Items may be added or removed with the written agreement of both parties subject to section 3.7.

London Hydro is responsible for many sub-functions related to the six major services, including:

1) Water Meter Related Services:
    a. Metering:
        i. Co-ordination, initial setup of new water services in the database;
        ii. Setup of new service accounts; and
        iii. Confirmation of correct address information (also covered in Appendix B).

    b. Water Meter Reading:
        i. Scheduled, Final, Special, Recheck reading by London Hydro;
        ii. Interactive Voice Response, Web, Fax Meter readings (customer);
        iii. Provide access to two (2) meter reading handheld devices;
        iv. Validation, Estimation, Edit meter readings; and
        v. For Deduct Meters – London Hydro to continue to read primary and secondary meters with routine billing of secondary meter customers (Reports forwarded to City for review). Both parties agree to minimize the impact of deduct metering.
        vi. Perform one physical meter reading attempt per year for direct read water meters.

2) Contact Center Services:
    a. Application Processing;
    b. Call Center Services:
        i. Automated call distribution;
        ii. Call monitoring;
        iii. Bill payment inquires;
        iv. Mail inquiries;
        v. Web site inquiries;

vi. Account maintenance inquiries;
vii. Phoned-in meter reading;
viii. Payment arrangements;
ix. Initial collection calls;
x. Move-in and move-out; and

3) Revenue Management and Collections

General comment – for many water accounts, the billing communication represent the only contact the customer has with either London Hydro or the City. The City will continue to have the ability to provide bill inserts at a frequency of typically 6 per year. In addition the City will be consulted at appropriate opportunities when bill formats, notice format, etc. are routinely reviewed.

a. Customer Billing Processes:
    i. Consumption calculation;
    ii. Bill calculation (including sewer surcharge)
    iii. Rate management; and
    iv. Volumetric sewer bill calculation (not equal to water volume).

b. Billing Support:
    i. Bill Analysis;
    ii. Water consumption bill adjustments (for meter reading errors etc…);
    iii. Leak Allowance and write-off adjustments (under City directions);
    iv. Email, web, fax, and mail inquiries;
    v. Customer data management;
    vi. Exception resolution; and
    vii. General disputes.

c. Payment Processing:
    i. Payment allocation;
    ii. Recap and reconcile daily payments;
    iii. Post-dated cheque management;
    iv. Bank transfers, including exception management;
    v. Night deposit/drop box payments;
    vi. Management payment processing; and
    vii. Return payment management.

d. Printing & Mailing:
    i. City special inserts; and
    ii. Special mailings to customers (costs that are additional to normal mailing costs shall be borne by the City).

e. Account Monitoring:
    i. Payment records;
    ii. Customer credit rating; and
    iii. Monitor transactions.

f. Collections – accounts receivables
    i. Manage past due accounts;
    ii. Manage sundry billing;
    iii. Manage deposit transactions;
    iv. Bankruptcies and power of sale management;

v. Create service orders for water disconnections & reconnections;
vi. Final bill collection;
vii. Manage social assistance payments and related customer accounts; and
viii. Write-off analysis, forecasting and reporting.

4) Management Reporting:
   a. Revenue reporting;
   b. Statistical reporting; and
   c. Inventory data reporting.

5) I.T. Services, CIS/SAP Services:
   a. In general, London Hydro will maintain sufficient in-house and/or contract expertise to ensure CIS/SAP services are maintained and the CIS/SAP system is supported. As required to operate the system, software will be provided, updated and maintained for the City; and
   b. Report generation “canned reports” and *ad hoc* reports (see listing in “Reporting to City”).

6) Web Services

   General comment – for most of the data that London Hydro provides to their customers, it should be expected that similar data and access to information would be beneficial to the water customer and as such London Hydro shall make reasonable commercial efforts to include water customer information in their web based customer engagement applications, downloads, etc. Any costs associated to the project can be reviewed in the context of section 3.7, noting that there are efficiencies to be gained by providing dual service and designing systems to meet the needs of both London Hydro and the City.

   a. Provide customer consumption data “on demand”;
   b. Bill presentment;
   c. Applications;
   d. Email contact;
   e. Display interval water data where available for the previous 4 years;
   f. Maintain jointly agreed performance standards; and
   g. Data exchange for workforce management tools.

7) Training Services:
   a. Training of City staff in CIS/SAP operations.

Appendix 'A2'

City of London Commitments

The City will communicate to London Hydro on a timely basis any standards that it becomes aware of that are necessary to maintain compliance with any legislation associated with water and/or sewer-related reading, billing or collection services.

The City will communicate to London Hydro in a detailed manner all needs associated with the management of the services provided. The City will utilize various forms of documented communications in regards to changes to specifications of services provided, whether they are City or legislatively driven. The City will use those methods of communication as requested by London Hydro which will depend on the changes requested (i.e. London Hydro uses Service Change Request (SCR) forms to request changes to the CIS/SAP and reporting functions).
Whenever reasonably possible, the City will provide London Hydro with adequate notice of all change requirements.

City of London Accountabilities

The listing below is intended to be informative and is not a defined list of obligations. Items may be added or removed with the written agreement of both parties.

The City is responsible for many sub-functions related to the six major services, including:

1. Meter Related Services:
    a. Metering:
        i. Perform physical meter installations, replacement, and repair;
        ii. Manage installation and removal of meters in the database and update CIS/SAP with meter information;
        iii. Service order related meter management including create and close out service orders on CIS/SAP as required (i.e. meter related complaints);and
        iv. Facilitate meter exchange appointments.

    b. Technology:
        i. Consult with London Hydro on meter technology issues; and
        ii. Consult on special projects.

    c. Meter Reading:
        i. Service order related events.

2. Call Center Services:
    a. Manage escalated customer concerns;
    b. Meter dispute resolution;
    c. Approve leak allowance; and
    d. Report to London Hydro any customer interaction relative to account management.

3. Revenue Management and Collections:
    a. Customer Billing Processes:
        i. Report on meter change management that affects billing;
        ii. Advise of rate structures;
        iii. Advise of rate class; and
        iv. Advise of rate exemption.

    b. Billing Support:
        i. Advise on technology or rate issues.

c. Payment Processing:
    i. No responsibilities.

d. Printing, Mailing:
    i. Special mailings such as Not Registered Meter or Meter Replacement letters; and
    ii. Water and sewer inserts (content).

e. Account Monitoring:
    i. No responsibilities.

f. Collections – Accounts Receivables:
    i. Respond to service orders created by London Hydro Collections (i.e. to turn water off);
    ii. Physical disconnect and reconnect; and
    iii. Vital Services administration (Application of liens to arrears).

4. Management Reporting (will change on a regular basis – See Appendix C):
    a. Define Revenue reporting requirements;
    b. Define Statistical reporting requirements; and
    c. Define Inventory data reporting requirements.

5. I.T. Services:
    a. Provide the City hardware (City Locations);
    b. Manage software updates (providing London Hydro notification); and
    c. Update tax records.

Appendix 'B'

Accountabilities – GIS

Sharing of Information between the Parties

The listing below is intended to be informative and is not a defined list of obligations. Items may be added or removed with the written agreement of both parties.

1. Address points:
    a. The City delivers monthly, via ftp (electronically), to London Hydro; and
    b. Subsequent to each update the City will do a comparison between the City's address points and London Hydro's addresses. On a quarterly basis London Hydro will review the list of mismatched addresses and will work with the City to make corrections.

2. Parcels – Final:
    a. The city delivers via ftp (electronically) to London Hydro when the data is published to the City;
    b. Delivery will include an additional table for condos with details for 20-digit roll numbers; and
    c. Confirmed parcels are polygon data and include Assessment Roll Number, Condo Number and Legal Description (Lot and Plan).

3. Parcels – Proposed:
    a. The City delivers via ftp (electronically) to London Hydro when the data is published to the City;
    b. Proposed parcels are simple lines '9int' polygons), and should be differentiated form final parcels; and
    c. There is no attribution for proposed parcels.

4. Street Centerlines & Intersection Points:
    a. The City delivers to London Hydro via e-mail quarterly as part of the City's standard distribution cycle;
    b. Intersections are available as a separate file; and
    c. Centerline attributes include address ranges and street class.

5. Buildings and Curb-lines:
    a. The City delivers via ftp (electronically) to London Hydro when the data is published to the City.

6. Landmarks:
    a. The City delivers via ftp (electronically) to London Hydro when the data is published to the City.

7. Tree Inventory:
    a. The City delivers quarterly to London Hydro via ftp (electronically).
    b. With suitable attributes such as species and diameter at breast height, if available.

8. Aerial Imagery:
    a. The City delivers annually to London Hydro via ftp (electronically) when new imagery is available.

9. FTP:
    a. Data Transfer Coordinators (as outlined in Appendix 'D') to prepare FTP (electronic) access and authentication for secure and appropriate transfer.

10. Planning District:

a. The City delivers via ftp (electronically) to London Hydro when the data is available.

Appendix 'C'

London Hydro Reporting to the City of London

Financial Reporting

London Hydro shall provide the following reports to the City:

(i) Write off and Billing adjustment reports
(ii) Weekly – London Hydro Revenue Transfer Report;
(iii) Monthly – Billing Statistics Report;
(iv) Annually (at year-end) – Billing, system charges, rent, bad debts, customer assistance credit and miscellaneous charges; and
(v) Additional requests: year to date information, year over year totals.

London Hydro shall provide information in an electronic data format (as well as hard copy) which can be queried at any time by the City's contact staff.

Operations Management Reporting

London Hydro shall provide the following reports on demand by the City:

1) Water Meter Inventory;
2) Top consumers by water consumption per meter size;
3) Non-registering meter report sorted by manufacturer and meter model;
4) Water service shut-off, sorted by address;
5) Breakdown of service call types per year;
6) Hydro meters on parcel property or building associated to water service;
7) New water account verification;
8) Electric Meter installations with pending Water Meter Installation;;
9) List of new accounts by month and class; and
10) Number of minimum bills by month.
11) Low Battery Alarms
12) Suspect Tamper Alarms
13) Backflow Alarms
14) Leak Detection Alarms

Engineering / Consumption Reporting

London Hydro shall provide the following reports on demand by the City:

1) Reconciled monthly consumption data by account;
2) Reconciled monthly consumption by meter type, size and account;
3) List of new accounts by month and class; and
4) Number of minimum bills by month.

London Hydro shall include at minimum the following fields in engineering/consumption reports (other fields may be necessary but will be made by special request):
Account, Customer Name, Service Account, Service Address Unit, Service Address St. number, Service Address St Name, Service address St. Suffix, Service Address St. Post, Service ID, Service Status, Curb stop Location, Meter Number, Meter Type, Meter Size, Meter Install Date, Meter Location, Remote Location, Water Rate, Sewer Rate, Storm Rate, Rate Effective Date, January, February, March, April, May, June, July, August, September, October, November, December, Total Annual (m^3)

Appendix 'D'

Contacts

Definitions:

Authorized Representative

London Hydro's representative and the City's representative have the authority under the agreement to renegotiate the cost of service and extend the agreement, provided that the authorized representatives of both parties agree in writing to the change. London Hydro's representative will be the Chief Executive Officer of London Hydro or their designate and the City's representative will be the Managing Director of Environmental and Engineering Services and City Engineer or their designate.

Key Account Manager

London Hydro representative that will oversee the communication between the City and London Hydro for all requests and information outlined in this agreement. The Key Account Manager will also ensure that the overall performance of the SLA meets the terms agreed herein.

Water Demand Manager

The City's representative that will oversee the communication between the City and London Hydro for all requests and information outlined in this agreement. The Water Demand Manager shall take on the contract administration duties of this agreement and assess and change the agreement at the completion of each term to meet the evolving needs of both London Hydro and the City.

Customer Service Coordinator

London Hydro's representative and the City's representative that will receive and attempt to resolve any water billing issues brought forward by customers. Generally most customer complaints are handled through London Hydro. However, there may be a need to involve the City's staff in extreme cases.

Billing and Revenue Management Coordinator

London Hydro's representative and the City's representative that will audit and review water billing revenue and consumption updates.

Data Transfer / I.T. Coordinator

London Hydro's representative and the City 's representative that will manage the seamless transfer of water account data between London Hydro and the City for use in water billing, meter management and account information. Transfers should be frequent enough to provide the most recent on-demand data as possible.

GIS Coordinator

London Hydro's representative and the City's representative that will manage the seamless transfer of GIS data between London Hydro and the City for use in water billing, meter management and account information. Transfers should be frequent enough to provide the most recent on demand data as possible.

Water meter / Operations Coordinator

London Hydro's representative and the City's representative that will manage the day to day operations and maintenance of water meters for use in billing.

Role	Name	Corporate Title
Authorized Representative	Luke Seewald	Director, Customer Service and Metering
Key Account Manger	Paul Kilbourne	Customer Relationship Manager
Customer Service Coordinator	Dan White	Customer Service Supervisor
Billing and Revenue Management Coordinator(s)	Luke Seewald Karen Lyons	Director, Customer Service and Metering; Director, Financial Accounting
Data Transfer/IT Coordinator	Madhumita Ghosh	Supervisor, SAP Applications
GIS Coordinator	Kathie Kuang	Supervisor, GIS
Water Meter/Operation Coordinator	Karen Schmidt	Supervisor Utility Data & Billing Services
Authorized Representative	Scott Mathers	Director, Water, Wastewater and Treatment
Customer Service Coordinator	Daniel Hsia	Water Demand Manager
Billing and Revenue Management Coordinator(s)	Daniel Hsia Debbie Gibson	Water Demand Manager; Financial Business Administrator
Data Transfer/IT Coordinator	Daniel Hsia	Water Demand Manager
GIS Coordinator	Daniel Hsia	Water Demand Manager
Water Meter/Operation Coordinator	Stephen Irwin	Supervisor, Operations Meter Shop

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**LOCAL IMPROVEMENT INITIATION: BLAKIE ROAD**

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the design and construction of a sanitary sewer, watermain, and road extension as part of the Local Improvement Program, on initiation, for Blakie Road.

a) the City Clerk **BE AUTHORIZED** to proceed under the provisions of the Municipal Act, 2001, O. Reg 586/06 with the publishing of the Municipal Council's intention to undertake these works in accordance with the following estimated cost of $2,410,000 excluding HST, to be allocated as follows:
   - Owner's Share: $1,810,000
   - City of London Share: $600,000

b) the financing for this project **BE APPROVED** in accordance with the "Local Improvement Report" attached hereto as Appendix 'A'; and

c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- Local Improvement Policy Review, Civic Works Committee, December 4, 2017

2015-2019 STRATEGIC PLAN

This report and its recommendations support the 2015-2019 Strategic Plan under Building a Sustainable City – Responsible Growth, by planning, designing and constructing new infrastructure consistent with the Local Improvement Program.

BACKGROUND

Purpose

The purpose of this report is to seek Council approval to initiate a Local Improvement Project which includes the design and construction of a sanitary sewer, watermain, and road extension on Blakie Road to fill the existing gap across two undeveloped lots.

Context

This Local Improvement will be undertaken as a property owner-led Local Improvement in conformance the City's Local Improvement Policy. The proposed works as part of the Local Improvement will provide servicing to 37 hectares of industrial development lands and allow approximately 38 hectares of industrial lands to abandon their existing private sanitary septic systems.

DISCUSSION

The portion of Blakie Road from Meadowbrook Drive to Breck Avenue is fronted by thirteen light industrial properties. Eight of these properties (including the large Meadowbrook Business Campus) are currently serviced by private septic systems. The remaining five properties are currently vacant as development opportunities are constrained by the lack of municipal services. As a result of this need, a property owner that owns a large portion of the lands on Blakie Road is seeking municipal servicing and has chosen to pursue a Local Improvement. Consistent with the City's Local Improvement Policy, Local Improvements are led by the property owner who must gather signatures for a petition in order to determine if the works will proceed. To date, this property owner has secured a petition that includes the signatures of owners that represent 69% of the lots representing 84% of the property values. A Local Improvement can be triggered by a petition that includes the signatures of owners that represent at least 2/3rd (66.6%) of the lots representing 50% of the property values. This petition has been reviewed by the City Clerk and has been determined to be sufficient and in accordance with Ontario Regulation 586/06: Local Improvement Charges – Priority Lien Status.

As shown in Appendix 'B' (Location Map), there is currently a gap in Blakie Road across two undeveloped parcels. The City has had constructive conversations with the property owners where this gap exists and they have transferred the lands required to construct the right-of-way to the City in order for a sanitary sewer, watermain, and road to be constructed.

The general cost sharing of work in the municipal right-of-way is proposed as follows:

Item	Owner Cost	City Cost
Roads, Boulevards, Restoration	75%	25%
Curb and Gutter	75%	25%
Watermain	75%	25%
Sanitary Sewer	75%	25%
Water Service to Property Line	100%	0%
Private Drain Connection (PDC) to property line	100%	0%
Exemptions and Reductions	0%	100%

Additional private property work by Owners:

Item	Owner Cost	City Cost
Water and Sanitary connections on Private Property	100%	0%
Internal Plumbing, Decommissioning Well	100%	0%

If Council approves the attached Local Improvement By-Law (Appendix "C"), the City will continue with the detailed design of the works, and following construction, all owners would be required to pay their share based on the frontage of their property in one lump sum payment or on their taxes over a ten year period beginning in the year following

construction. Construction is scheduled to take place in 2020, with payment of the works to be begin in 2021.

Each property owner must pay their Local Improvement Charge, however, there is no requirement to immediately connect their water and sanitary services. Owners can arrange for their water service at the time of construction by providing a letter committing to connecting their water within 12 months. If the property owner is not willing to pay and connect to the watermain within 12 months, then the City will not build the water service to avoid stagnant water which leads to water quality concerns. All sewer connections will be installed and left capped on the property owner's side of the sidewalk for future connection by property owners. When the owners wish to connect to either sewer or water, they will be required to obtain a building permit and pay any related costs.

CONCLUSIONS

The proposed work will provide municipal water and sanitary sewers to the existing and future light industrial properties in the Blakie Road area. In addition, the proposed work will include closing the gap in Blakie Road and connecting the two existing right-of-ways providing a through road. It is recommended that Municipal Council approve the by-law attached to this report and allow the work to proceed as a Local Improvement.

SUBMITTED BY:	**REVIEWED & CONCURRED BY:**
TOM COPELAND, P. ENG. **DIVISION MANAGER** **SEWER ENGINEERING DIVISION**	**SCOTT MATHERS, MPA, P. ENG.** **DIRECTOR** **WATER & WASTEWATER**
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC **MANAGING DIRECTOR** **ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER**	

Attached: Appendix 'A' – Local Improvement Report
Appendix 'B' – Location Map
Appendix 'C' – Local Improvement By-Law

APPENDIX 'A'

LOCAL IMPROVEMENT REPORT

SUBJECT: ***Blakie Road Local Improvement***

1. ***INTRODUCTION***
   In accordance with the provisions of the *Municipal Act, 2001* the following report is presented for the design and construction on a sanitary sewer, watermain, and road extension on Blakie Road.

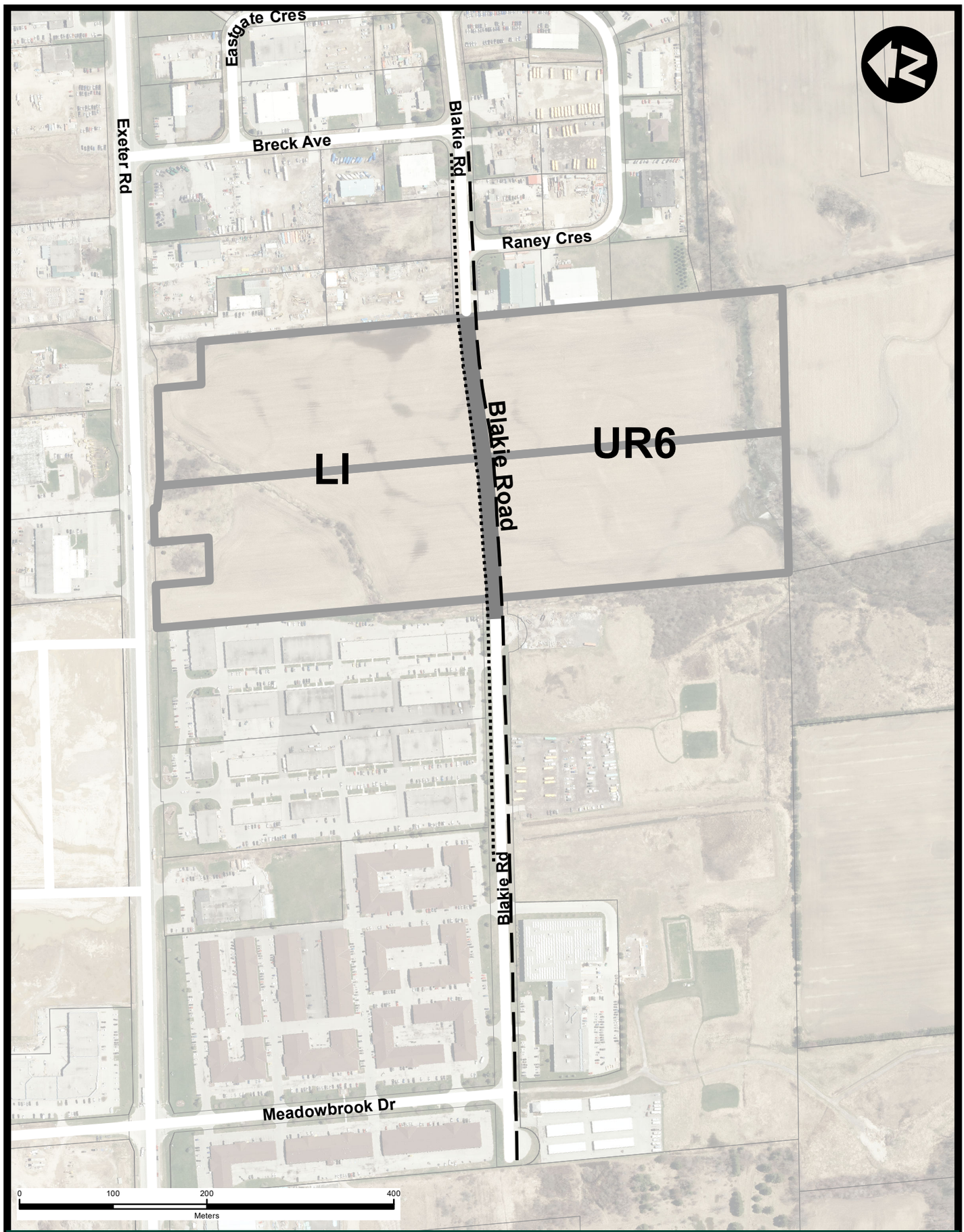
2. ***LIMITS OF WORK***
   The limits of work are shown on the Location Map in Appendix 'B'. Approximately 300m of watermain and 1050m of sanitary sewer, and 320m of new roadway will be constructed in order to service thirteen (13) industrial properties. All work is contained within the right-of-way owned by the City.

3. ***OWNER COST***
   The works described above come at an estimated cost to the owner of $1,003 per meter of frontage.

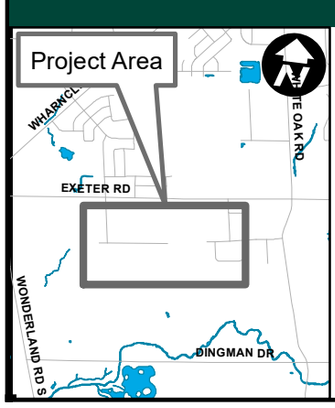
4. ***FRONTAGES***

TOTAL ESTIMATED GROSS COST	$2,411,910
CORPORATIONS SHARE OF THE COST	$602,977.50
OWNERS SHARE OF THE COST	$1,808,932.50

APPENDIX 'B'



LOCATION MAP



Blakie Road Local Improvement

Blakie Road from 60m west of Meadowbrook Drive to west of Breck Avenue.

- Proposed Sanitary Sewer
- Proposed Watermain
- Proposed Road

Map Produced by the Sewer Engineering Division

Sept 25 2019 CM

London
CANADA
300 Dufferin Avenue,
PO Box 5035
London, Ontario
N6A 4L9
www.London.ca

Bill No.
2019

ON PETITION

By-law No. S.A.S.-_____

A by-law to authorize the construction of sanitary sewer and watermain on Blakie Road (the “Work”) as a local improvement pursuant to section 5 of Ontario Regulation 586/06 under the *Municipal Act, 2001*.

WHEREAS The Corporation of the City of London (the “Corporation”) has authority under section 5(1) of Ontario Regulation 586/06, Local Improvement Charges – Priority Lien Status under the *Municipal Act, 2001*, (the “Regulation”) to pass a by-law to undertake work as a local improvement for the purpose of raising all or any part of the cost of the work by imposing special charges;

AND WHEREAS notice of the intention to pass a by-law to undertake the construction of sanitary sewer and watermain on Blakie Road, (the “Work)”, as a local improvement was given to the public and to the owners of the lots liable to be specially charged in accordance with section 6 of the Regulation;

AND WHEREAS in accordance with section 7 (2) (c) of the Regulation, the Corporation has received a petition signed by at least two-thirds of the owners representing at least one-half of the value of the lots liable to be specially charged for the Work, in favour of undertaking the Work as a local improvement;

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

1. The Corporation shall authorized to undertake the Work as a local improvement for the purpose of raising part of the cost of the Work by imposing a specially charge, in accordance with the provisions set out in the Regulation on those lots that abut on the Work and lots that do not abut on the Work but will be immediately benefited by it as set out in the attached Schedule “A” to this by-law.

2. The estimated cost of the Work of $2,411,910.00 is approved.

3. The owners’ share of the cost of the Work being 75% of the estimated cost in the amount of $1,808,932.50 comprising of the estimated specially charge per metre of frontage of $1,003.25, is approved.

4. The Corporation’s share of the cost of the Work being 25% of the estimated cost in the amount of $602,977.50, is approved.

5. The Managing Director of Environmental & Engineering Services and City Engineer is authorized to prepare all necessary plans, specifications and reports required for and to supervise the construction of the Work.

6. This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on , 2019.

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – , 2019
Second Reading – , 2019
Third Reading – , 2019

Blakie Road - Water & Sewer Servicing

cost/m $1,003.25

Lot/Block #	Plan #	Roll #	Address	Frontage (feet)	Flankage (feet)	Frontage (metres)	Flankage (metres)	Exemptions and Reductions Frontage	Exemptions and Reductions Flankage	Exemptions and Reductions Past Credits	Notes	Frontage (metres)	Cost to Owner
Lot 22	CON 3	080050082000000	189-207 Exeter Rd.	413.386		126.000	0.000		0.000			126.000	$126,409.47
Lot 22	CON 3	80050081000000	169-187 Exeter Rd.	380.577		116.000	0.000		0.000			116.000	$116,376.97
Block 1	33M185	080050079200000	4026, 4056 Meadowbrook Drive 4096, 4500, 4474 Blakie Rd	905.190		275.902	0.000		0.000			275.902	$276,798.61
Blocks 3 & 4	33M185	080050079800000	4525, 4285 Blakie Rd.	1358.615		414.106						414.106	$415,451.73
Block 2	33M185	080050079000000	4023, 4053, 4093 Meadowbrook Dri	221.896		67.634						67.634	$67,853.79
Blocks 3 & 4	33M185	80050079700000	4575 Blakie Road	631.350		192.435	0.000					192.435	$193,060.36
Lot 22	M71	80050089630000	4183 Blakie Road	181.330		55.269	0.000					55.269	$55,448.61
Lot 21, Part 6	M71, 33R7522	80050089600000	4201 Blakie Road	186.540		56.857						56.857	$57,041.77
Lot 16	M71	080050089450000	4200 Blakie Road	213.480		65.069						65.069	$65,280.46
Lot 17	M71	080050089480000	4230 Blakie Road	214.500		65.380						65.380	$65,592.47
Lot 18	M71	080050089510000	4231 Blakie Road	216.535		66.000						66.000	$66,214.48
Part 1	33R5464	080050084000000	233 Exeter Road	496.467		151.323						151.323	$151,814.76
Part 2	33R5464	080050084010000	225 Exeter Road	495.728		151.098						151.098	$151,589.03
			Column Totals (metres)			1803.073	0.000	0.000	0.000	0.000	Totals	Metres	Dollars
						A	B	C	D	E	1 - Frontage plus Flankage (A+B)	1803.073	$1,808,932.50
											2 - Exemptions and Reductions (C+D+E)	0.000	$0.00
											(1) - (2) = (3)	1803.073	$1,808,932.50

Frontage	Flankage	Exemptions and Reductions Frontage	Exemptions and Reductions Flankage	Exemptions and Reductions Intersection

ALL DOLLAR VALUES ARE ESTIMATES

Schedule "A"

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**LOCAL IMPROVEMENT INITIATION: BLAKIE ROAD**

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the design and construction of a sanitary sewer, watermain, and road extension as part of the Local Improvement Program, on initiation, for Blakie Road.

a) the City Clerk **BE AUTHORIZED** to proceed under the provisions of the Municipal Act, 2001, O. Reg 586/06 with the publishing of the Municipal Council's intention to undertake these works in accordance with the following estimated cost of $2,410,000 excluding HST, to be allocated as follows:
   - Owner's Share: $1,810,000
   - City of London Share: $600,000

b) the proposed by-law attached hereto as Appendix "C" **BE INTRODUCED** at the Municipal Council meeting on October 29, 2019 to undertake the work as a local improvement;

c) the financing for this project **BE APPROVED** in accordance with the "Local Improvement Report" attached hereto as Appendix 'A';

d) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- Local Improvement Policy Review, Civic Works Committee, December 4, 2017

2015-2019 STRATEGIC PLAN

This report and its recommendations support the 2015-2019 Strategic Plan under Building a Sustainable City – Responsible Growth, by planning, designing and constructing new infrastructure consistent with the Local Improvement Program.

BACKGROUND

Purpose

The purpose of this report is to seek Council approval to initiate a Local Improvement Project which includes the design and construction of a sanitary sewer, watermain, and road extension on Blakie Road to fill the existing gap across two undeveloped lots.

Context

This Local Improvement will be undertaken as a property owner-led Local Improvement in conformance the City's Local Improvement Policy. The proposed works as part of the Local Improvement will provide servicing to 37 hectares of industrial development lands and allow approximately 38 hectares of industrial lands to abandon their existing private sanitary septic systems.

DISCUSSION

The portion of Blakie Road from Meadowbrook Drive to Breck Avenue is fronted by thirteen light industrial properties. Eight of these properties (including the large Meadowbrook Business Campus) are currently serviced by private septic systems. The remaining five properties are currently vacant as development opportunities are constrained by the lack of municipal services. As a result of this need, a property owner that owns a large portion of the lands on Blakie Road is seeking municipal servicing and has chosen to pursue a Local Improvement. Consistent with the City's Local Improvement Policy, Local Improvements are led by the property owner who must gather signatures for a petition in order to determine if the works will proceed. To date, this property owner has secured a petition that includes the signatures of owners that represent 69% of the lots representing 84% of the property values. A Local Improvement can be triggered by a petition that includes the signatures of owners that represent at least 2/3rd (66.6%) of the lots representing 50% of the property values. This petition has been reviewed by the City Clerk and has been determined to be sufficient and in accordance with Ontario Regulation 586/06: Local Improvement Charges – Priority Lien Status.

As shown in Appendix 'B' (Location Map), there is currently a gap in Blakie Road across two undeveloped parcels. The City has had constructive conversations with the property owners where this gap exists and they have transferred the lands required to construct the right-of-way to the City in order for a sanitary sewer, watermain, and road to be constructed.

The general cost sharing of work in the municipal right-of-way is proposed as follows:

Item	Owner Cost	City Cost
Roads, Boulevards, Restoration	75%	25%
Curb and Gutter	75%	25%
Watermain	75%	25%
Sanitary Sewer	75%	25%
Water Service to Property Line	100%	0%
Private Drain Connection (PDC) to property line	100%	0%
Exemptions and Reductions	0%	100%

Additional private property work by Owners:

Item	Owner Cost	City Cost
Water and Sanitary connections on Private Property	100%	0%
Internal Plumbing, Decommissioning Well	100%	0%

If Council approves the attached Local Improvement By-Law (Appendix "C"), the City will continue with the detailed design of the works, and following construction, all owners would be required to pay their share based on the frontage of their property in one lump

sum payment or on their taxes over a ten year period beginning in the year following construction. Construction is scheduled to take place in 2020, with payment of the works to be begin in 2021.

Each property owner must pay their Local Improvement Charge, however, there is no requirement to immediately connect their water and sanitary services. Owners can arrange for their water service at the time of construction by providing a letter committing to connecting their water within 12 months. If the property owner is not willing to pay and connect to the watermain within 12 months, then the City will not build the water service to avoid stagnant water which leads to water quality concerns. All sewer connections will be installed and left capped on the property owner's side of the sidewalk for future connection by property owners. When the owners wish to connect to either sewer or water, they will be required to obtain a building permit and pay any related costs.

CONCLUSIONS

The proposed work will provide municipal water and sanitary sewers to the existing and future light industrial properties in the Blakie Road area. In addition, the proposed work will include closing the gap in Blakie Road and connecting the two existing right-of-ways providing a through road. It is recommended that Municipal Council approve the by-law attached to this report and allow the work to proceed as a Local Improvement.

SUBMITTED BY:	**REVIEWED & CONCURRED BY:**
TOM COPELAND, P. ENG. **DIVISION MANAGER** **SEWER ENGINEERING DIVISION**	**SCOTT MATHERS, MPA, P. ENG.** **DIRECTOR** **WATER & WASTEWATER**
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC **MANAGING DIRECTOR** **ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER**	

Attached: Appendix 'A' – Local Improvement Report
Appendix 'B' – Location Map
Appendix 'C' – Local Improvement By-Law

Bill No.
2019

ON PETITION

By-law No. S.A.S.-_____

A by-law to authorize the construction of sanitary sewer and watermain on Blakie Road (the “Work”) as a local improvement pursuant to section 5 of Ontario Regulation 586/06 under the *Municipal Act, 2001*.

WHEREAS The Corporation of the City of London (the “Corporation”) has authority under section 5(1) of Ontario Regulation 586/06, Local Improvement Charges – Priority Lien Status under the *Municipal Act, 2001*, (the “Regulation”) to pass a by-law to undertake work as a local improvement for the purpose of raising all or any part of the cost of the work by imposing special charges;

AND WHEREAS notice of the intention to pass a by-law to undertake the construction of sanitary sewer and watermain on Blakie Road, (the “Work)”, as a local improvement was given to the public and to the owners of the lots liable to be specially charged in accordance with section 6 of the Regulation;

AND WHEREAS in accordance with section 7 (2) (c) of the Regulation, the Corporation has received a petition signed by at least two-thirds of the owners representing at least one-half of the value of the lots liable to be specially charged for the Work, in favour of undertaking the Work as a local improvement;

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

1. The Corporation shall be authorized to undertake the Work as a local improvement for the purpose of raising part of the cost of the Work by imposing a special charge, in accordance with the provisions set out in the Regulation on those lots that abut on the Work and lots that do not abut on the Work but will be immediately benefited by it as set out in the attached Schedule “A” to this by-law.

2. The estimated cost of the Work of $2,411,910.00 is approved.

3. The owners’ share of the cost of the Work being 75% of the estimated cost in the amount of $1,808,932.50 comprising of the estimated special charge per metre of frontage of $1,003.25, is approved.

4. The Corporation’s share of the cost of the Work being 25% of the estimated cost in the amount of $602,977.50, is approved.

5. The Managing Director of Environmental and Engineering Services & City Engineer is authorized to prepare all necessary plans, specifications and reports required for and to supervise the construction of the Work.

6. This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on , 2019.

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – , 2019
Second Reading – , 2019
Third Reading – , 2019

Blakie Road - Water & Sewer Servicing

cost/m $1,003.25

Lot/Block #	Plan #	Roll #	Address	Frontage (feet)	Flankage (feet)	Frontage (metres)	Flankage (metres)	Exemptions and Reductions			Notes	Frontage (metres)	Cost to Owner
								Frontage	Flankage	Past Credits			
Lot 22	CON 3	080050082000000	169-207 Exeter Rd.	413.386		126.000	0.000		0.000			126.000	$126,409.47
Lot 22	CON 3	80050081000000	169-187 Exeter Rd.	380.577		116.000	0.000		0.000			116.000	$116,376.97
Block 1	33M185	080050079200000	4026, 4056 Meadowbrook Drive 4096, 4500, 4474 Blakie Rd	905.190		275.902	0.000		0.000			275.902	$276,798.61
Blocks 3 & 4	33M185	080050079800000	4525, 4285 Blakie Rd.	1358.615		414.106						414.106	$415,451.73
Block 2	33M185	080050079000000	4023, 4053, 4093 Meadowbrook Dri	221.896		67.634						67.634	$67,853.79
Blocks 3 & 4	33M185	80050079700000	4575 Blakie Road	631.350		192.435	0.000					192.435	$193,060.36
Lot 22	M71	80050089630000	4183 Blakie Road	181.330		55.269	0.000					55.269	$55,448.61
Lot 21, Part 6	M71, 33R7522	80050089600000	4201 Blakie Road	186.540		56.857						56.857	$57,041.77
Lot 16	M71	080050089450000	4200 Blakie Road	213.460		65.069						65.069	$65,280.46
Lot 17	M71	080050089480000	4230 Blakie Road	214.500		65.386						65.386	$65,592.47
Lot 18	M71	080050089510000	4231 Blakie Road	216.535		66.000						66.000	$66,214.48
Part 1	33R5464	080050084000000	233 Exeter Road	496.467		151.323						151.323	$151,814.76
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											(1) - (2) - (3)	1803.073	$1,808,932.50

Frontage	Flankage	Exemptions and Reductions		
		Frontage	Flankage	Intersection

ALL DOLLAR VALUES ARE ESTIMATES

Schedule "A"

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON TUESDAY, OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**EAST LONDON SANITARY SERVICING STUDY MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT: ISSUANCE OF ADDENDUM**

RECOMMENDATION

That, on the recommendation of the Managing Director Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the East London Sanitary Servicing Study:

(a) The proposed addendum to the East London Sanitary Servicing Study **BE ACCEPTED** in accordance with the Schedule 'B' Municipal Class Environmental Assessment process requirements;

(b) A Notice of Addendum **BE FILED** with the Municipal Clerk; and,

(c) A Master Plan Revision Report for the East London Sanitary Servicing Study **BE PLACED** on public record for a 30-day review period.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Civic Works Committee, August 13, 2018 – Appointment of Consulting Engineer – Vauxhall Wastewater Treatment Plant – Class EA for Capacity Upgrades

Civic Works Committee, August 13, 2018 – East London Sanitary Servicing Study – Municipal Class Environmental Assessment: Notice of Completion

Civic Works Committee, July 17, 2017 – Appointment of Consulting Engineer – Design and Construction Administration Services - Pottersburg-Vauxhall Wastewater Treatment Plants Interconnection Project

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

Civic Works Committee, November 3, 2015 – Appointment of Consultant – Master Plan/Municipal Class EA for the Pottersburg-Vauxhall Interconnect

Civic Works Committee, June 2, 2015 – Appointment of Consultant – Engineering Services for the Stress-Testing and Re-Rating of Adelaide, Pottersburg & Vauxhall Wastewater Treatment Plants

Civic Works Committee, September 22, 2014 - Optimization of London Wastewater Treatment Plants – A Strategy and Roadmap

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.

BACKGROUND

Purpose

The purpose of this report is to provide a revised servicing alternative to the one identified in the 2018 East London Sanitary Servicing Study (ELSS) Master Plan. Recent planning and technical reviews have identified an alternative that has less environmental impact and is more cost-effective. In order to fulfill the regulatory requirements, an addendum of the original environmental assessment has been initiated.

Context

The Vauxhall Wastewater Treatment Plant (WWTP) services a sewershed that is mostly built-out, while the Pottersburg WWTP sewershed has a significant capacity for growth, especially industrial. The 2018 ELSS determined that Vauxhall WWTP would need to be upgraded to provide treatment capacity to East London while a new Pottersburg plant is constructed.

Through subsequent technical and planning investigations it has now been determined that the future WWTP at the Pottersburg WWTP site can be constructed while maintaining operation of the existing Pottersburg WWTP. As a result, both the Vauxhall and Pottersburg WWTPs can work in tandem to provide servicing for East London. This reduces the scope of the upgrades that would have been required at Vauxhall WWTP, significantly reducing the environmental impact and cost.

DISCUSSION

The Vauxhall Wastewater Treatment Plant (WWTP) and Pottersburg WWTP service a significant portion of east London. The Vauxhall WWTP services an area that is for the most part built-out. The Pottersburg WWTP’s service area has the potential for significant amounts of new industrial development; however, the capacity improvements required to upgrade the Pottersburg WWTP are extremely costly. The capacity of the Vauxhall WWTP can be upgraded at a relatively low cost. The purpose of the East London Sanitary Servicing Study was to consider the servicing challenges within Vauxhall and Pottersburg WWTP sewershed areas and provide a preferred approach for providing wastewater collection and treatment to support future development.

The East London Sanitary Servicing Study determined that to provide the treatment capacity required under the long-term scenario, a newly constructed WWTP would be required. This is due to the age and condition of the existing Vauxhall and Pottersburg WWTP infrastructure which limit their remaining service life. This approach was anticipated to require the demolition of the current Pottersburg WWTP, thus requiring the Vauxhall WWTP to receive and treat all flows generated in both sewersheds during construction of the new plant. The ELSS provided a high level cost estimate for these upgrades which ranged from approximately $35,000,000 to $75,000,000.

A Schedule ‘C’ Class EA was initiated in late 2018 with the intention of formalizing the plan for upgrading the Vauxhall WWTP to the 60,000 m^3/d treatment capacity recommended in the ELSS. As a result of additional technical review and planning in the early stages of the Class EA it was determined that an alternative solution could be implemented which would satisfy the short- and long-term treatment requirements identified in the ELSS at a substantially reduced environmental impact and cost. The key elements of the revised approach are:

- Repurpose an existing section of the Pottersburg WWTP to support the interconnection project.
- Through careful construction and staging construct the future Pottersburg WWTP while keeping the existing Pottersburg plant in operation.
- Cancel planned rehabilitation work on the Vauxhall WWTP, and focus financial resources on the construction of a new Pottersburg WWTP;
- Plan several projects to reduce peak flows at the Pottersburg and Vauxhall WWTPs experienced during rain events.
- Having reduced peak flows, the Vauxhall WWTP can then be re-rated to obtain a sufficient treatment capacity to meet the short-term treatment requirements in the City’s east end.

Public/Stakeholder Consultation

The City has engaged in pre-consultation efforts with the MECP and have received tentative approval for the revised short-term servicing solution. The MECP has also confirmed that filing an addendum to the ELSS rather than completing the Schedule ‘C’ Class EA is considered sufficient to fulfil the environmental planning requirements prior to proceeding with design and construction of the proposed solution.

A Notice of Addendum with a hyperlink to the Addendum Report will be circulated to all First Nations, Agency and the public stakeholders previously identified through the ELSS.

Budget Implications

As identified above, the revised solution represents a significant cost reduction from what was previously anticipated at the time the ELSS was completed.

The recommended long-term treatment strategy to construct a new Pottersburg WWTP has not changed from approach recommended in the ELSS. The timeline for the initiation of the planning process for this future project is likely to be within 10 years and the estimated $330M-$460M construction cost warrants early planning and budgeting.

Timing of Next Steps

Issue Addendum and Addendum Report for East London Sanitary Servicing Study

Upon acceptance by Council:

1) A “Notice of Addendum” be published identifying that the addendum report is available for public review for the mandatory 30 calendar days at City Hall - 9th Floor and online at: http://www.london.ca/residents/Environment/EAs/Pages/East-London-Sanitary-Servicing-Study.aspx

2) Stakeholders are encouraged to provide input and comments regarding this study during this time period. Should stakeholders feel that issues have not been adequately addressed, they can provide written notification within the 30-day review

period to the Minister of the Environment, Conservation and Parks requesting further consideration. This process is termed a “Part II Order” (informally known as a Bump-Up Request).

3) Subject to no requests for a Part II Order being received, the Addendum Report will be finalized and the recommended solutions may proceed to design and construction.

CONCLUSIONS

The East London Sanitary Servicing Study was undertaken as a means to establish short- and long-term strategies for wastewater treatment and the accommodation of growth in the Vauxhall and Pottersburg WWTP sewersheds. Through recent follow-up studies and planning, a revised approach representing a significant capital cost avoidance has been developed. It is recommended that this revised servicing alternative for the short-term wastewater treatment needs of East London be accepted and that an Addendum to the East London Sanitary Servicing Study be posted for the 30-day public review period.

SUBMITTED BY:	**REVIEWED AND CONCURRED BY:**
GEORDIE GAULD **DIVISION MANAGER,** **WASTEWATER TREATMENT OPERATIONS**	**SCOTT MATHERS, MPA, P. ENG.** **DIRECTOR, WATER AND WASTEWATER**
RECOMMENDED BY:	
KELLY SCHERR, P. ENG., FEC **MANAGING DIRECTOR,** **ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**	

Attach: Appendix “A” – ELSS Executive Summary

cc. Mike Newbigging, Jacobs Engineering Group
Tom Copeland, Wastewater and Drainage Engineering

Executive Summary

Study Background

The City of London (the City) recently completed the East London Servicing Study Environmental Assessment Master Plan (study) under the Municipal Class Environmental Assessment (EA) process outlined in the Municipal Engineers Association's (MEA's) Municipal Class EA document (as amended in 2007, 2011 and 2015). This study was initiated as a means to plan for future growth and development expected in East London under a 20 and 50 year planning window. The Vauxhall sewershed is mostly built out, with limited infill development expected. Conversely, the Pottersburg sewershed is expected to see significant growth as a result of anticipated commercial and industrial growth.

Sewer servicing in east London comprises the Vauxhall and Pottersburg Sewersheds, which convey flows for treatment at the Vauxhall and Pottersburg WWTPs respectively. Both plants are operated under Ministry of the Environment, Conservation and Parks (MECP) Environmental Compliance Approvals (ECA) which specify that the Vauxhall WWTP has a current rated capacity of 20,900 m^3/d and the Pottersburg WWTP has a rated capacity of 39,100 m^3/d. Figure ES-1 depicts the boundaries of the two sewersheds as well as the location of the two WWTPs.

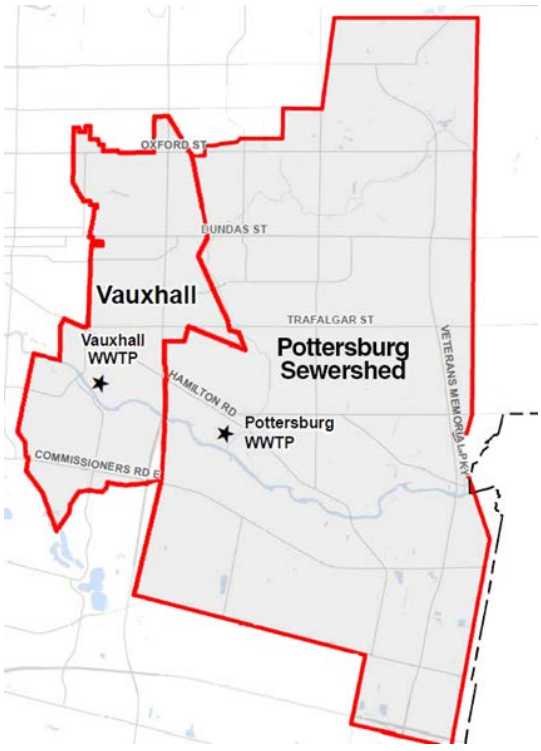


Figure ES-1. Vauxhall and Pottersburg Sewersheds

The analysis and recommendations of the ELSS was based on expected population growth in these sewersheds, the estimated capacity of the Vauxhall and Pottersburg WWTPs, as well as the condition of various infrastructure associated with both (WWTPs). The primary issues at

both WWTPs relate to aging infrastructure and high peak flows related to wet weather inflow and infiltration into each sewershed's respective sewer system, which results in a net reduction in the rated capacity (average day flow) of each WWTP. High peak flows related to wet weather also are the cause of occasional overflows at both plants, which result in discharges of raw and partially treated wastewater to the Thames River.

Desktop capacity evaluations and follow up stress testing was performed on the various treatment processes at both plants. These evaluations determined that the Pottersburg WWTP would likely struggle to achieve the treatment requirements under the plants current rated capacity as a result of high peak flows. However, Vauxhall was found to be capable of providing a higher treatment capacity than the current rated capacity of the plant. It was recognized that a project that was being completed in parallel, construction of a pipeline between the two East London WWTPs (termed the Pottersburg-Vauxhall Interconnection), could be utilized to make use of the additional capacity at Vauxhall, allowing for cost effective optimization of East London wastewater servicing overall.

However, both plants were projected to have a limited remaining service life as a result of the age of concrete tankage. As a result, the ELSS recommended that the wastewater servicing long term strategy would include replacing both facilities by a single new WWTP, to be located at the existing Pottersburg WWTP site and designed to provide treatment for flows from both sewersheds. To ensure that the City provides sufficient treatment capacity in the short-term, the ELSS recommended:

- Utilizing the Pottersburg-Vauxhall Interconnection to send a portion of the flows received at the Pottersburg WWTP to the Vauxhall WWTP for treatment (currently under construction)
- Upgrades at the Vauxhall WWTP to be completed in two phases to provide an initial increased treatment capacity of 36,000 m^3/d and ultimately 60,000 m^3/d.

The final upgrade to 60,000 m^3/d was required to facilitate the construction of the future WWTP at the Pottersburg WWTP site, which was forecasted to require the demolition of the existing plant infrastructure. A preliminary cost estimate was developed for the upgrades associated with the short-term solution which ranged between $34.8 million to $74.5 million.

The City accepted the recommendations of the ELSS and initiated a Schedule C Municipal Class EA to further the planning of the required upgrades to increase treatment capacity at the Vauxhall WWTP. As part of this process, the City and their consultant, Jacobs Engineering, has since reviewed projections on anticipated flows received at these two plants, as well as construction methodologies, and it is currently believed that parts of the Pottersburg WWTP can be kept in service during construction of the future East End Plant. As a result, the expansion goal of 60.0 MLD of treatment capacity at the Vauxhall WWTP would no longer be necessary.

Revised Short-Term Wastewater Servicing Strategy for East London

Rather than completing the Schedule C Municipal Class EA to expand the Vauxhall WWTP, the City now intends to issue an Addendum to the East London Sanitary Servicing Study. The addendum provides additional details regarding cost estimation, approvals and timing. At a high level, the upgrades that are now being contemplated to allow the City to achieve the minor increase in wastewater treatment capacity at the Vauxhall WWTP are expected to have a significantly reduced capital cost compared to what was originally estimated in the ELSS.

The revised strategy currently proposed is to carry out some minor upgrades at the Vauxhall WWTP to realize the available capacity previously identified and to better manage peak flows received as a results of inflow and infiltration (I/I) into the sewer collection system. These minor upgrades will include some construction efforts at the Vauxhall WWTP site, but will be relatively minor with no anticipated disruptions to the current wastewater treatment process.

- **Vauxhall WWTP Re-Rating:** Based on the results of the previously completed capacity assessments as well as the minor capital upgrades proposed, the Vauxhall WWTP can likely be re-rated to a revised rated capacity of 36,000 m^3/d. The re-rating is a methodology whereby the City would prove to the Ministry of the Environment, Climate and Parks, using historical performance data and supporting engineering analysis/reports, that the level of treatment considered necessary to protect the health of the Thames River will be met. The City has had some preliminary discussions with the Ministry of the Environment, Conservation and Parks (MECP) and are currently working through the approach to amend the original study findings and recommendations. To date the MECP has been receptive to the proposed revised strategy.
- **Flow Equalization:** The Pollution Prevention and Control Plan (PPCP) Master Plan that was completed in 2018 focusses on reducing bypasses and overflows in the City. The City intends to continue to implement methods to improve wet weather performance at their WWTPs. As part of the proposed re-rating of the Vauxhall WWTP, the City is proposing to implement a significant amount of equalization capacity, which will dampen peak flows conveyed through the plant. This will permit an increase in the rated capacity of the plant and also result in a significant reduction in the number of bypasses and overflows from the Vauxhall WWTP. The Pottersburg WWTP is also negatively impacted by higher than typical peak flows. Equalization will also be implemented to maximize the performance of the existing treatment process and to also facilitate the pumping of flow via the Pottersburg-Vauxhall Interconnection. Both the PPCP and the ELSS contemplated improved wet weather performance as part of the recommended alternatives. It is noted that the addition of equalization at a sewage treatment plant is identified as a Schedule B activity in the Municipal Class EA document. Therefore, the completion of these two master planning documents has fulfilled the Class EA requirements to proceed with this infrastructure.
- **Increased UV Capacity:** The current UV system at Vauxhall WWTP is reportedly designed for a peak flow of 49.75 MLD. While the unit is properly sized for the Plant's rated capacity, it is undersized relative to the peak flows received at the plant. Additionally, this unit is coming to the end of its life and will require replacement in the coming years. It is therefore considered prudent to replace the UV system with a new unit that meets all current design requirements.

Since the two facilities will be effectively joined via the Pottersburg-Vauxhall Interconnection, the Ministry of the Environment has expressed a desire to consider combining the two WWTPs under a single Environmental Compliance Approval. The only change anticipated is that the MECP has indicated that the treatment requirements associated with both East London WWTPs will become more stringent. Historically, the City has demonstrated environmental stewardship by producing an effluent well below both the current and proposed treatment requirements imposed by the MECP at both WWTPs. City staff believe that the current process is capable of continuing to provide this level of treatment.

At this time, the City's long-term solution to meeting the wastewater servicing needs of East London remains as recommended by the ELSS; a future single facility will be built at the

Pottersburg Site to service all flows generated in East London, replacing both the Pottersburg and Vauxhall WWTPs. The City envisions that within the next 15 to 20 years, the public consultation process will be initiated for the new East End Plant, which will be a Schedule C Class EA, and an Assimilative Capacity Study to assess the Thames River would be completed at that time. The Vauxhall WWTP would become a pumping station after the new East End Plant is built.

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHEER, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER & ANNA LISA BARBON, CPA, CGA MANAGING DIRECTOR, CORPORATE SERVICES & CITY TREASURER, CHIEF FINANCIAL OFFICER**
SUBJECT:	**2019-2023 CORPORATE ENERGY CONSERVATION AND DEMAND MANAGEMENT (CDM) PLAN**

RECOMMENDATION

That on the recommendation of the Managing Director, Environment & Engineering Services & City Engineer and Managing Director, Corporate Services & City Treasurer, Chief Financial Officer, the 2019-2023 Corporate Energy Conservation and Demand Management (CDM) Plan **BE APPROVED** and posted on the City's Corporate Energy Management website as per the requirements of the Ontario Ministry of Energy, Northern Development and Mines under the *Electricity Act, 1998 (Former Green Energy Act, 2009).*

PREVIOUS REPORTS PERTINENT TO THIS MATTER

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

- Corporate Energy Management Program Update (August 13th, 2018 meeting of the Civic Works committee, Agenda Item # 2.7)
- Updates: Corporate Energy Management Program and Conservation and Demand Management (CDM) Plan (July 21st, 2014 meeting of the Civic Works Committee, Agenda Item # 17)

STRATEGIC PLAN 2019-2023

Municipal Council has recognized the importance of managing energy costs, energy conservation, and climate change and other related environmental issues in its 2019-2023 – Strategic Plan for the City of London (2019 – 2023 Strategic Plan). Providing corporate energy use and associated greenhouse gas emissions data supports three of the five Areas of Focus as follows:

Building a Sustainable City

- Conserve energy and increase actions to respond to climate change and severe weather
- Build infrastructure to support future development and protect the environment
- Improve London's resiliency to respond to potential future challenges

Growing Our Economy

- Increase partnerships that promote collaboration, innovation, and investment

Leading in Public Services

- Increase the use of technology to improve service delivery
- Enhance the ability to respond to new and emerging technologies and best practices

BACKGROUND

PURPOSE

The purpose of this report is to provide the Civic Works Committee and Council with a copy of the proposed new 2019-2023 Corporate Energy Conservation and Demand Management (CDM) Plan required by the Ontario Ministry of Energy, Northern Development & Mines under the *Electricity Act 1998 (F*ormer *Green Energy Act, 2009)* and *Ontario Regulation 507/18* including:

- Results from the 2014-2018 CDM Plan:
  - Total corporate energy use performance compared to plan targets, and
  - Description of actions taken in the last five years which assisted in energy and greenhouse gas emission reductions.

- A revised forecast of future energy use and updated targets by:
  - establishing baselines for past and current energy management activities; and
  - creating a strategy for energy reduction targets towards the five year CDM Plan

CONTEXT

Provincial Requirements for Energy Management in the Public Sector
In August 2011, the provincial government introduced *Ontario Regulation 397/11* under the *Green Energy Act, 2009*. This regulation requires municipalities, municipal service boards, school boards, universities, colleges and hospitals to report on their energy consumption and associated greenhouse gas (GHG) emissions annually beginning in 2013. The affected public agencies were also required to develop and implement five-year CDM plans starting in 2014. The intent of the regulation was to help broader public sector organizations better understand their energy consumption, to help them benchmark energy use and to encourage energy conservation and demand management activities within them.

In order to comply with the requirements, the City was required to submit annual energy consumption and greenhouse gas emissions for each calendar year in buildings or facilities the public agency owns or leases that:

a) Are heated or cooled and in respect of which the public agency is issued the invoices and is responsible for making the payments for the energy consumptions; or

b) Are related to the treatment or pumping of water or sewage and in respect of which the public agency is issued the invoices and is responsible for making the payments for the energy consumptions.

On July 1st, 2013, the City prepared and submitted the first Annual Energy Consumption and GHG Emissions Report to the Ministry of Energy and has been doing so annually since. These submissions can be found on the City's open data catalogue. The City also prepared and posted its 2014-2018 CDM Plan to encourage energy conservation and demand management activities by outlining a strategy for energy reduction targets and identifying future conservation potentials and measures in July 2014. In July 2018, the new provincial government moved these requirements under *Electricity Act 1998, O.Reg 507/18.*

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.*

The Corporate Energy Conservation and Demand Management (CDM) Plan from 2014-2018 and the proposed 2019-2023 contain actions that reduce energy use, in particular fossil fuel energy use, and other actions that address the declaration including future work to move the Corporation towards net-zero energy.

DISCUSSION

This report contains details in three parts highlighted below:

- **PART A - 2014-2018 CDM Plan Results** – an update on the results of the plan compared to targets set in 2014, with highlights of the key energy projects in the last five years. Detailed annual reports on previous energy consumption and energy management activities within Corporation are available on the Corporate Energy Management website.

- **PART B - 2019-2023 Corporate Energy Conservation and Demand Management (CDM) Plan** – this is a follow up to the 2014-2018 CDM Plan, which is required to be updated every five years to meet the reporting requirements of the Ontario Ministry of Energy, Northern Development & Mines.

- **PART C – Overall Results from 2007 and Future Direction** – this part highlights progress made since 2007 for the purpose of illustrating how past commitments and actions have continued to be an important part of where we are today and where we have to go in the near future.

PART A – 2014-2018 CDM Plan Results

The City's Corporate Energy Management Program was expanded in 2007 and is based on six key focus areas:

1. Tracking & monitoring energy consumption;
2. Renewable energy and feasibility projects;
3. Leadership in Energy and Environmental Design (LEED) Buildings;
4. Energy conservation and demand management projects;
5. Energy procurement; and
6. Creating a corporate "culture of conservation".

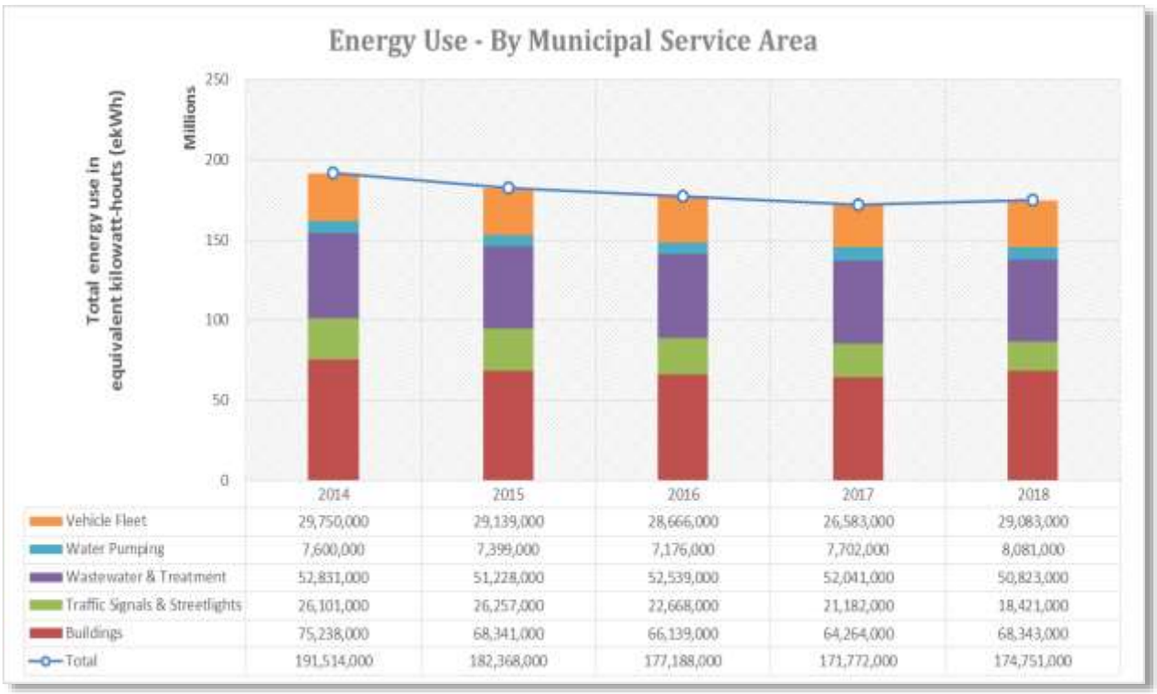
The primary goal for the 2014-2018 CDM Plan was to achieve a ten percent reduction in total annual corporate energy use by 2020, using 2014 as the baseline year. Tied to this primary goal were three secondary goals:

- 15 percent reduction in corporate energy per capita (i.e., energy efficiency for service delivery);
- 15 percent reduction in corporate energy-related GHG emissions (i.e., excluding landfill gas methane emissions and sewage incineration nitrous oxide emissions); and
- Maintain annual utility costs below $22.7 million per year by 2020.

Complete details can be found in the 2014 Corporate Energy Conservation and Demand Management (CDM) Plan on the Corporate Energy Management Program page on the City of London's website. Some of the highlights of the results achieved include:

- **The City achieved a nine percent reduction in total annual energy use as of 2018** (see Figure 1). With current energy reduction measures in place, City staff are confident that corporate energy use will meet and exceed the ten percent reduction goal by 2020.

Figure 1 – Total Corporate Energy Use Since 2014 by Service Area



- **Energy use per capita have been reduced by 15 percent** since 2014. Dividing the Corporation's total energy use by London's population provides an indication of improvement in energy efficiency for service delivery:

    - Wastewater treatment energy use per person has decreased by 8%
    - Building energy use per person has decreased by 14%
    - Vehicle Fleet energy use per person decreased by 6%
    - Streetlights energy use per person decreased by 32%

- **Energy costs have been reduced by five percent** (see Figure 2). Most of these reductions flow from the former provincial government's Fair Hydro Plan and eight percent price reduction from the Ontario Rebate for Electricity Consumers Act, effective July 2017. The fluctuations on costs per energy consumed ($/kWh) are not entirely under the City's control, but energy consumption is under the Corporation's control.

    - Energy costs would have been $3 million higher in 2018 if the energy efficiency improvements/programs were not in place.
    - $12.5 million in total energy cost avoidance over the last five years.

- **Energy-related GHG emissions have been reduced by 13 percent** since 2014 (see Figure 3).

    - GHG emissions from facility and infrastructure energy use had dropped 25% between 2014 and 2017. Most of this decrease was due to increased conservation efforts and cleaner sources of energy used to generate electricity in Ontario.
    - However, total energy-related GHG emissions in 2018 were 11% higher than in 2017 due to the combination of the following:
        - Colder weather in the winter and spring seasons of 2018, compared to 2017, resulted in an increase in demand for natural gas for space heating.
        - Hotter summer temperatures in 2018, compared to 2017, increased demand for electricity for air conditioning. This increased demand was met by Ontario's natural gas fuelled power plants, which resulted in higher emissions associated with electricity use.

Figure 2 - Total Corporate Energy Costs Since 2014

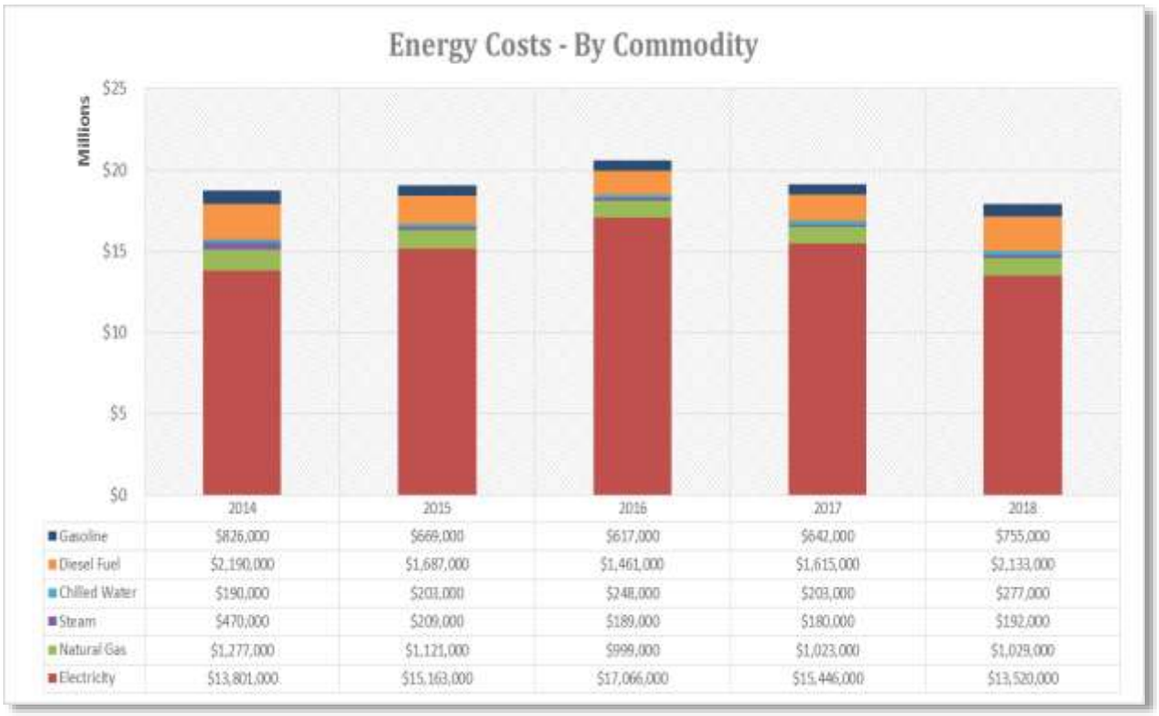
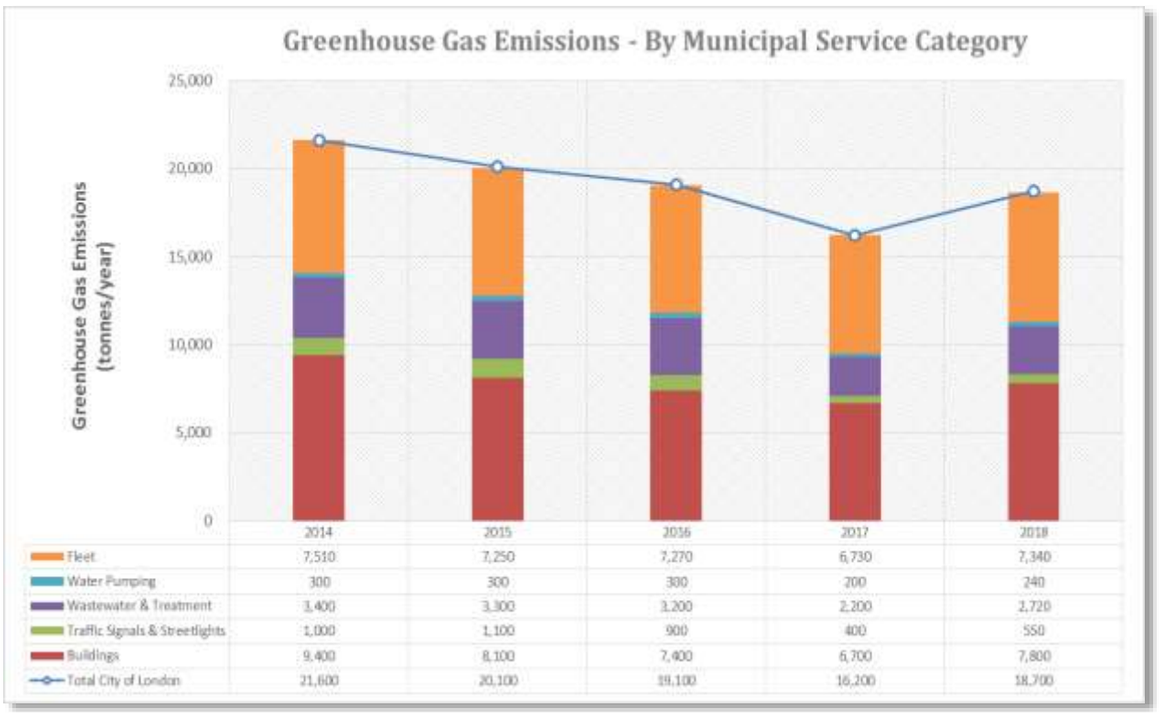


Figure 3 – Total Corporate Greenhouse Gas Emissions Since 2014 by Major Service



Energy Project Highlights

The following is a summary of a few of the key energy initiatives from the last five years which contributed to energy savings. Table 1 also highlights the greenhouse gas emission reductions achieved by avoiding fossil fuel use as a result of these initiatives.

There are two ways of quantifying the greenhouse gas reduction benefits associated with electricity conservation and demand management activities:

- using the Ontario grid-average emission factor, a method that assumes that the electricity savings are allocated evenly across all generating sources such as nuclear, hydro, wind, and natural gas; and

- using the Ontario fossil-on-margin emission factor, a method assumes that the electricity savings are allocated to the natural gas power plants that operate on the margins of demand, ramping up and down in response to power demands.

Both methods are equally valid as they each serve a different purpose. If the purpose is to inventory overall emissions from electricity use, the grid-average emissions factor is used. If the purpose is to quantify impact of an electricity-related action, the fossil-on-margin emissions factor is used. City staff used the electricity-related emissions factors provided by The Atmospheric Fund in their June 2019 report, "A Clearer View on Ontario's Emissions".

Table 1 – 2014-2018 Energy Project Highlights

Project	Results

Canada Games Aquatic Centre – Lifecycle Renewal	• 20% total energy reduction
	• 5% peak electricity use reduction
	• Annual electricity-related GHG emission reduction
	  ○ 30 tonnes based on the grid-average emission factor
	  ○ 135 tonnes based on the fossil-on-margin emission factor
	• Received $3 million loan from FCM and $154,000 in incentives from London Hydro and $35,000 from Union Gas
	• Co-generation (heat & power) system cost avoidance - $20,000 annually

Street Lights Conversion to LEDs	• Phase 1 – 56% reduction in electricity use, $690,000 in electricity cost avoidance annually • Phase 2 – 64% reduction in electricity use, $620,000 in electricity cost avoidance • Annual GHG reduction of 940 tonnes based on the off-peak fossil-on-margin emission factor • Total incentives from London Hydro - $1.8 million

Aeration Blowers Upgrade at Pollution Control Plants	• $760,000 annual electricity cost avoidance
	• 14% reduction in wastewater electricity reduction and 6% reduction in total City's electricity use
	• Annual electricity-related GHG emission reduction
	  ○ 200 tonnes based on the grid-average emission factor
	  ○ 850 tonnes based on the fossil-on-margin emission factor
	• $2.1 million in incentives from London Hydro

Pump Optimization at Elgin-Middlesex Pump Station	• 850,000 kWh savings annually
	• $100,000 in electricity savings annually
	• Annual electricity-related GHG emission reduction
	  ○ 25 tonnes based on the grid-average emission factor
	  ○ 110 tonnes based on the fossil-on-margin emission factor
	• $420,000 in incentives from Hydro One
	• City received "Excellence in Energy Conservation" plaque from Hydro One in March 2019

Southeast Reservoir Pumping Station	• constructed to LEED silver standard; consumes 25% less energy compared to similar building • A green roof to reduce stormwater runoff • Exterior lighting that does not contribute to light pollution • Water use reduction measures in plumbing fixtures

Project	Results

Various Facility energy retrofits	• Savings over the last five years:
	  ○ 10,300,000 kWh electricity savings
	  ○ 52,000 m^3 natural gas savings
	• Annual electricity-related GHG emission reduction
	  ○ 320 tonnes based on the grid-average emission factor
	  ○ 1,200 tonnes based on the fossil-on-margin emission factor
	• Annual natural gas-related GHG emissions reductions of 100 tonnes

Solar Roof Top Sections	• Policy to construct all new buildings to be “solar ready“
Various Green Fleet measures	• Reduced fleet consumption by 2% in the last five years • Annual fuel-related GHG reduction of 170 tonnes • $127,000 savings in the last five years

PART B – City of London Corporate Energy 2019-2023 CDM Plan

Requirements of the CDM Plan

City staff have prepared the 2019-2023 CDM Plan as a step towards addressing the climate change for activities at City buildings, utilities and operations. This plan also meets requirements of:

- Council’s 2019-2023 Strategic Plan, with area of focus on “Building a Sustainable City”; and
- The Ontario *Electricity Act 1998, O.Reg. 507/18*

2019-2023 CDM Plan Development Strategy

The City initiated the 2019-2023 CDM Plan development as an interdepartmental exercise that included a review of the City’s current approach to energy management, review of the City’s 2014-2018 CDM Plan with other municipalities in southern Ontario, the City’s energy consumption and GHG emissions over the 2014-2018 period, and series of staff meetings with major service areas. This resulted in a list of energy projects, initiatives and activities that can be undertaken in the next five years.

Highlights of the 2019-2023 CDM Plan

Complete details can be found in the 2019-2023 CDM Plan report on the Corporate Energy Management Program page on the City of London’s website.

The 2019-2023 CDM Plan is built upon the successful foundation provided by City’s 2014-2018 CDM Plan. Goals developed in the 2019-2023 CDM Plan will also support London’s 2019-2023 Community Energy Action Plan (CEAP).

The 2019-2023 CDM Plan will be a “living document” in that the actions taken towards conservation and demand management activities are designed to build year-by-year for the five year period. The highlights of the 2019-2023 CDM Plan are as follows:

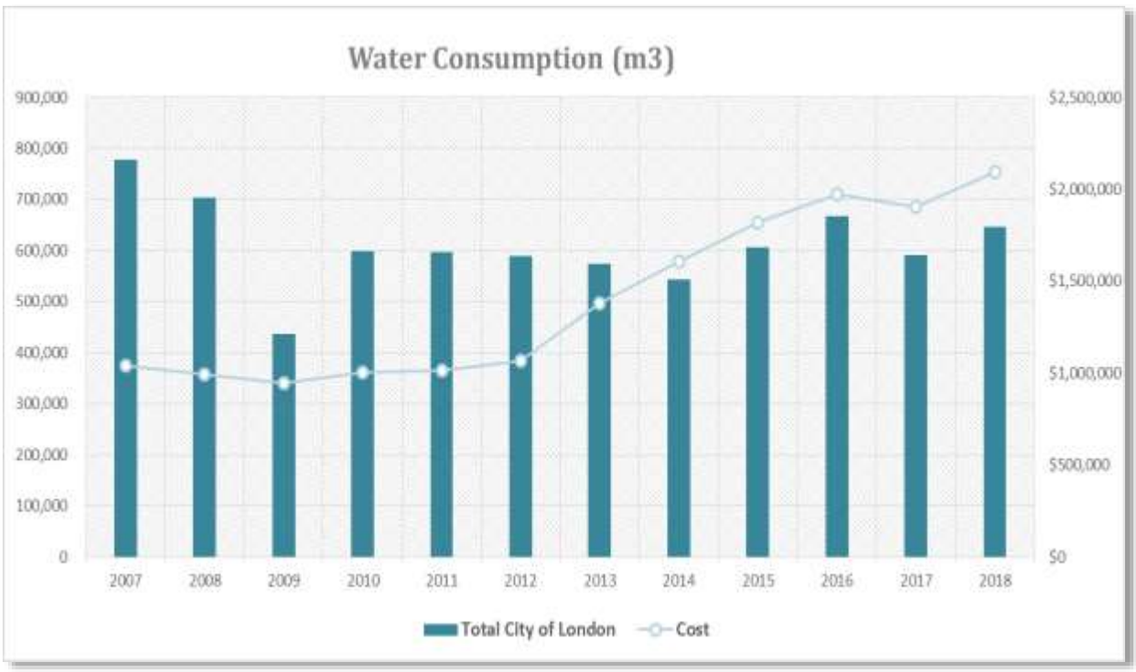
- Using 2018 as the baseline year for the new 2019-2023 Plan, the proposed new primary goals for 2023 include:
  - Five percent reduction target for total annual energy use (or 8,100,000 ekWh per year) by 2023,
  - Ten percent decrease (42 ekWh per person) in energy use per capita, and
  - Keep annual total energy cost increases within five percent.

- Many municipalities in Ontario are also selecting a five percent total energy reduction target for their plans after using a ten percent energy reduction in their previous plans.

- Achieving the goals above would avoid around 900 tonnes per year of GHG emissions by 2023.

- The 2019-2023 CDM Plan has also identified long term secondary goals to monitor and track the City's corporate water consumption starting 2018. Water consumption contributes to second highest utility cost to the City. Figure 4 illustrates that the City's cost for water use has been increasing year over year.

Figure 4 – City of London Total Water Consumption (m^3) from 2007 to 2018



- The 2019-2023 CDM Plan will investigate possible pathways for City buildings, utilities and operations to reach net zero greenhouse gas emissions by 2050, or possibly sooner. Current corporate GHG emission trends and the 2019-2023 Strategic Plan targets are on track and build momentum towards achieving net zero emissions by 2050.

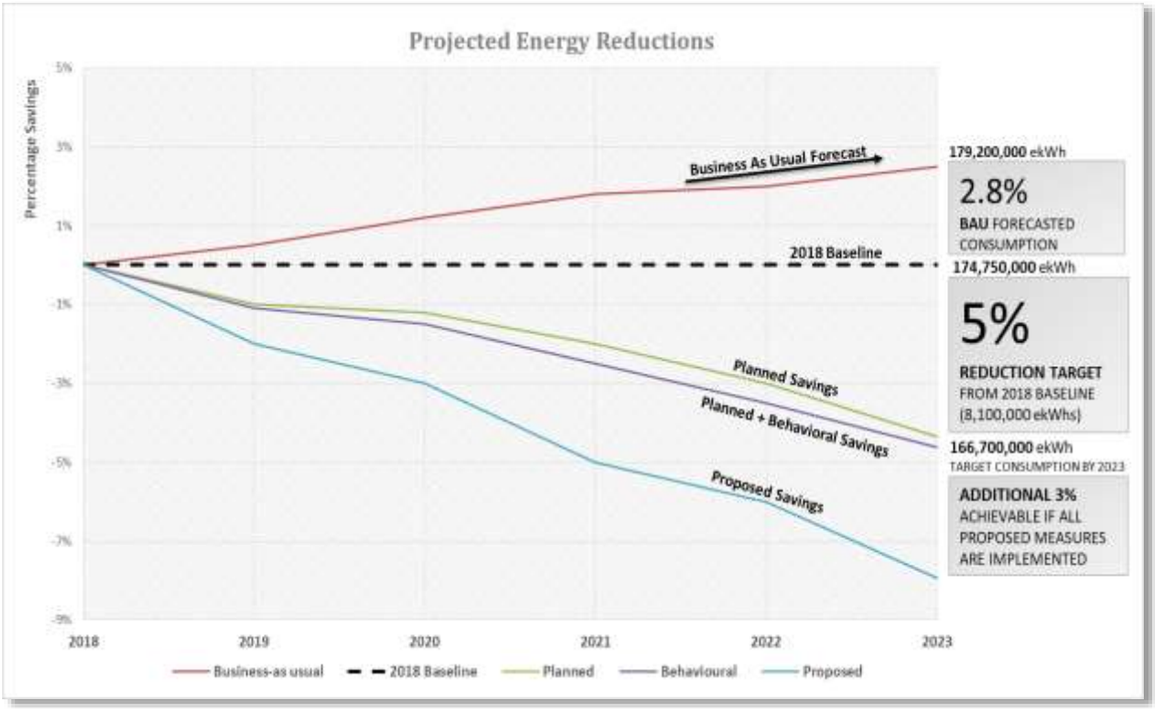
<u>2019-2023 Energy Management initiatives</u>

The 2019-2023 CDM Plan will be implemented by undertaking Planned, Behavioral and Proposed initiatives, as discussed below. The impact of these initiatives on the five percent target are graphically represented in Figure 5 below.

- **Planned initiatives** – those that have already been identified by service areas and already approved by Council. These measures are included in existing capital and operating forecasts. All of these measures are near-term actions within each area by 2023. These initiatives are expected to reduce corporate energy use by 4.3% from the 2018 baseline level. The City is planned to spend over $15 million towards planned energy initiatives in the coming five years.

- **Behavioural initiatives** – are "low cost" or "no cost" initiatives for the City. They are the center of the overall strategy to reduce energy use and associated GHG emissions within City buildings. Behavioral initiatives in the current report include employee engagement activities which have an impact on energy consumption. These initiatives are expected to reduce corporate energy use by an additional 0.5%.

Figure 5 – Projected Corporate Energy Use Reductions



- **Proposed initiatives** – are built upon the planned measures and initiatives, and will require new business cases to justify the project funding. Funding for these initiatives could come from sources such as the Efficiency, Effectiveness & Economy (EEE) Reserve Fund or from Business Cases as part of the multi-year budget. If all these initiatives are implemented, there is the potential for an additional 3% reduction in corporate energy use, which would result in an overall reduction in corporate energy use approaching 8% from the 2018 baseline level.

- All the energy reduction initiatives are categorized into the following services:
  - Facilities buildings
  - Wastewater Operations
  - Water Operations
  - Fleet Operations
  - Traffic and Streetlights operations

- The City's approach to energy efficiency improvements to meet the goals identified in the 2019-2023 CDM Plan will be achieved by maximizing the current budgets assigned and by pursuing incentive opportunities made available by provincial, federal governments and local agencies.

- As noted above under Proposed initiatives, as part of the 2020-2023 Multi-Year Budget deliberations, funding through Business Cases has been identified for proposed additional actions as follows:

  - Feasibility studies that identifying and assess new projects for carbon curtailment
  - Culture of Conservation employee engagement activities
  - Improving energy efficiency performance measurement & reporting
  - Electric vehicle charging stations, with cost recovery for the operations, maintenance and lifecycle replacement costs of these chargers

  The current five percent reduction is achievable even if the above Business Cases are altered or not approved due to other City of London priorities.

The success of the 2019-2023 CDM Plan will also depend on the level of commitment by Council, senior management and staff at the City of London. Leadership and a deeper understanding of the culture of conservation for energy (and many other related matters) is key to overall success. The five percent energy use reduction target will be reviewed on an annual basis and may be subject to change if endorsement changes.

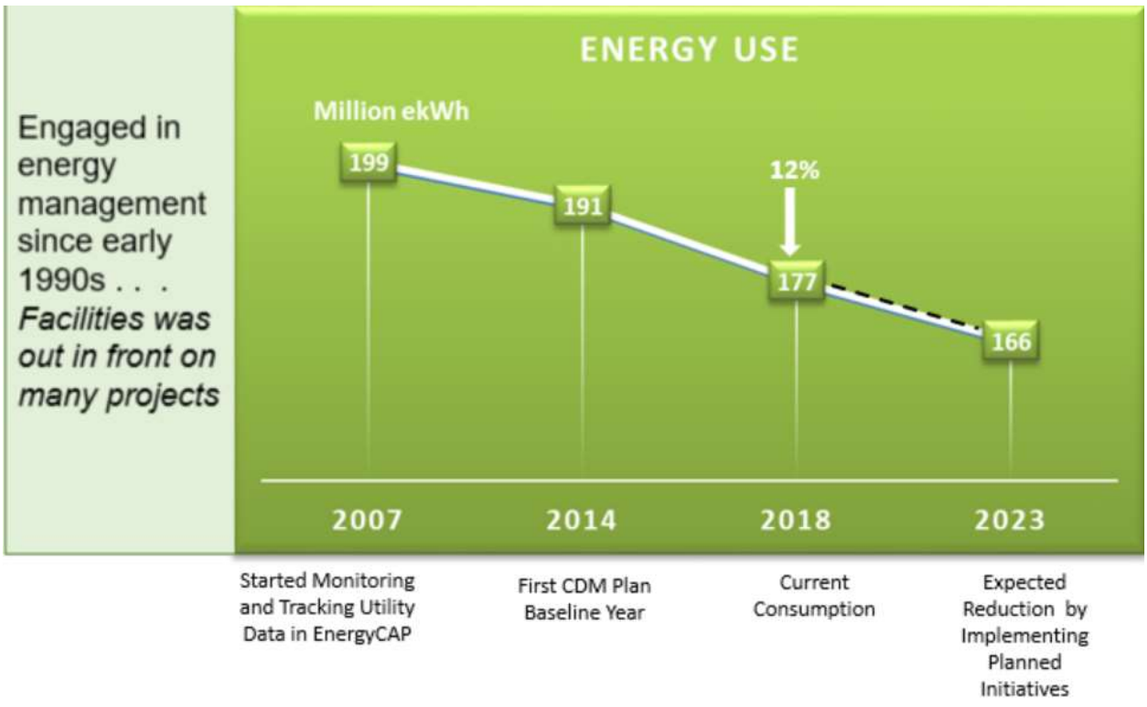
PART C – Overall Results from 2007 and Future Direction

The City of London has been engaged in corporate energy management since the 1990s. In order to understand where the City actually stands today and set a future pathway, it is important to capture the impact that past energy initiatives have had on energy consumption. All the past activities are captured in detail under various reports on the City's Corporate Energy Management webpage.

The City of London first started tracking and monitoring its energy consumption data in 2007 through the use of the EnergyCAP software. Some of the highlights in energy consumption since 2007 are as follows:

- **Total annual energy use has been reduced by 12 percent since 2007**, with highest reductions seen in natural gas consumption at 28 percent lower compared to 2007 followed by chilled water at 14 percent. Various facility upgrade projects along with Slurry Heat Recovery project at the Greenway Wastewater Treatment Plant contributed to the reduction of natural gas use and associated GHG emissions related to natural gas use. Total energy consumption since 2007 is shown in Figure 6 along with expected reductions by 2023 by implementing Planned CDM initiatives.

Figure 6 – City of London Energy Use



- **Total per capita energy use also reduced by 22 percent since 2007.** Most of these reductions flow from decreased natural gas use over the years by 34 percent and decrease in electricity use by 20 percent per capita since 2007.

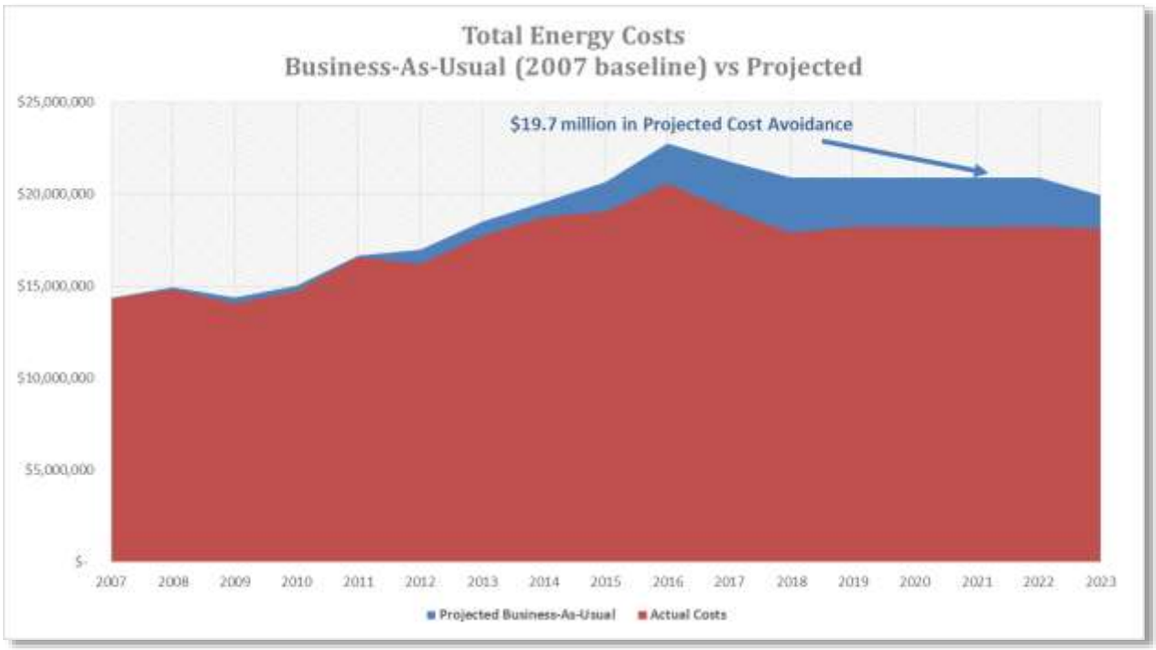
- **Total energy costs for the City have increased by 25 percent since 2007**, with the majority of this is due to the increase in electricity commodity costs, which accounts for over half of the energy used by the City. In the same period, natural gas and steam costs were reduced due to lower natural gas commodity prices.

- **Energy cost is not directly under City's control but energy consumption is.** The City will continue to focus on reducing overall energy consumption along with implementing various procurement strategies to control utility costs within five percent from 2018 baseline year to 2023. Figure 6 illustrates the forecasted impact of the 2019-2023 CDM Plan activities on future energy costs.

    - Currently, about $2.9 million in avoided energy costs were observed in 2018 and an approximately $12.5 million in avoided energy costs have been accumulated since 2007 (based on 2007 levels of energy efficiency).

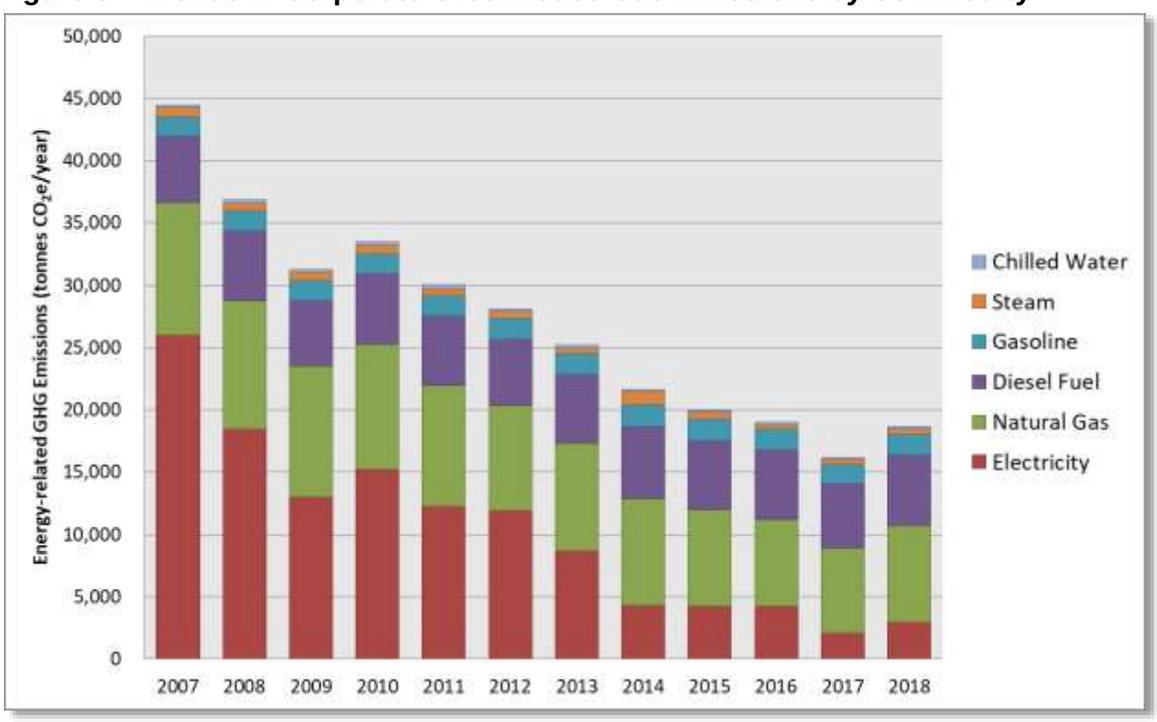
- By implementing all the Planned initiatives identified in 2019-2023 CDM Plan, the projected cumulative cost avoidance would approach $20 million by 2023 (see Figure 7).

Figure 7 – City of London Projected Energy Cost Avoidance



- **Total GHG emissions have reduced by 58 percent since 2007** (see Figure 8). As mentioned in Part A of this report, the majority of the emission reductions are due to increased conservation efforts and cleaner sources of energy used to generate electricity in Ontario:
  - 90% reduction in electricity-related emissions
  - 34% reduction in steam-related emissions, due solely to corporate actions
  - 27% reduction in natural gas related emissions, due solely to corporate actions

Figure 8 – Trends in Corporate Greenhouse Gas Emissions by Commodity

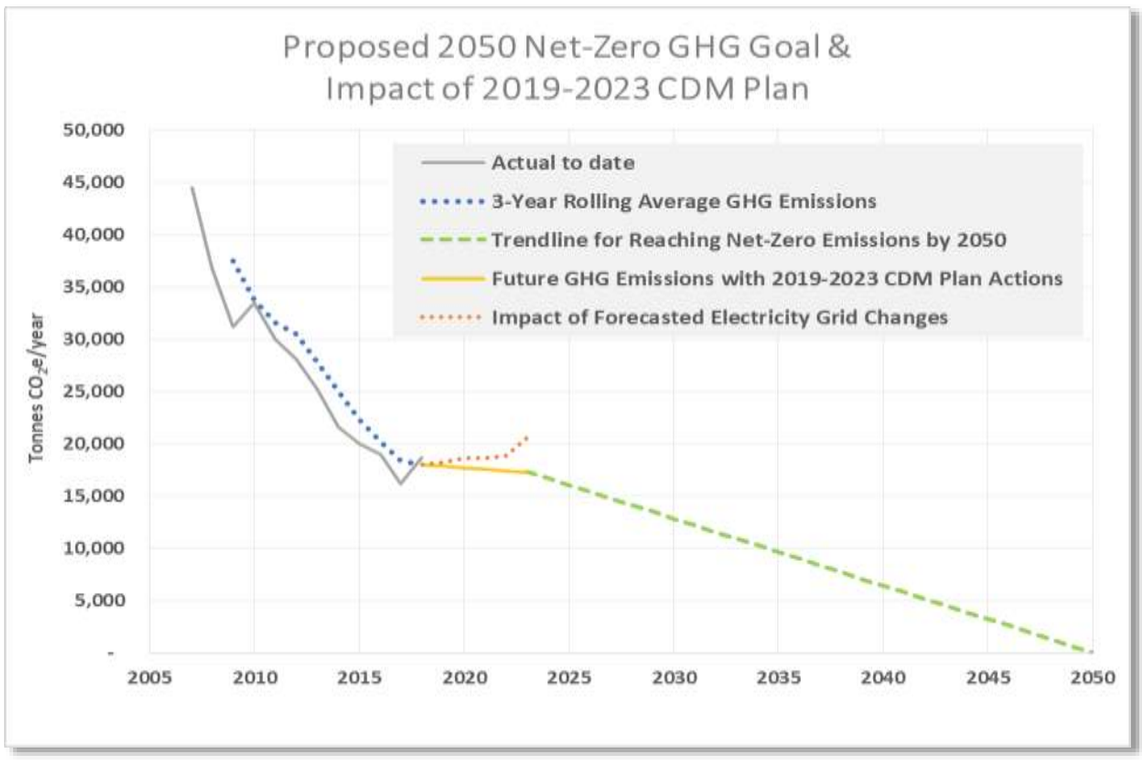


How to Net-Zero GHG Emissions by 2050 or Sooner

The 2019-2023 CDM Plan aspires to set City operations on the path to net zero GHG emissions by 2050, or possibly sooner. Current corporate GHG emission trends and the primary CDM targets listed in this report are on track and build momentum towards achieving net zero emissions by 2050 as shown in Figure 9.

However, based on power supply forecasts provided by Ontario's Independent Electricity System Operator (IESO), The Atmospheric Fund estimates that GHG emission factors for Ontario's electricity grid might increase almost three-fold between 2018 and 2035. This is due to an expected greater reliance on the use of natural gas to meet peak power generation as a result of the planned closure of the Pickering Nuclear Generating Station after 2024 and the Provincial Government's cancellation of the last round of renewable power generation procurement in 2018. If this does occur, this will provide a challenge for reducing GHG emissions.

Figure 9 – Historical GHG Emissions, Emissions Forecast to 2023, and Trend Line for Achieving Net-Zero Emissions By 2050



Reaching net-zero greenhouse gas emission by 2050 or sooner is possible but will require increased changes in energy use, introduction of new technologies, investment in renewable energy, and fuel switching away from fossil fuels. During the next four years, City staff will continue to monitor best practices in other jurisdictions and prepare different scenarios for reaching net zero greenhouse gas emissions by 2030, by 2040, and by 2050.

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Documents found on the City of London website (www.london.ca):

2019 NEW - 2019-2023 Corporate Energy Conservation and Demand Management (CDM) Plan.

Environmental & Engineering Services
- Scott Mathers, Director Water and Wastewater
- Doug MacRae, Director, Roads & Transportation
- Geordie Gauld, Division Manager, Wastewater Treatment Operations
- Aaron Rozentals, Division Manager, Water Engineering
- Shane Maguire, Division Manager, Road Lighting & Traffic Control
- Jamie Skimming, Manager, Community Energy Initiatives

Finance & Corporate Services
- John Freeman, Manager, Purchasing & Supply
- Adam Trela, Corporate Energy Management Engineer

Parks & Recreation
- Scott Stafford, Managing Director, Parks & Recreation

Planning
- John Fleming, Managing Director, Planning & City Planner

Corporate Energy Conservation and Demand Management Plan (CDM) 2019-2023

October 2019

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Contents

Executive Summary

The City of London (the City) has been committed to corporate energy management since the 1990s.

On July 1st 2014, the City submitted its first Corporate Energy Conservation and Demand Management (CDM) Plan to the Ontario Ministry of Energy in compliance with the former Ontario Regulation 397/11 Green Energy Act (now O.Reg 507/18 Electricity Act 1998 – Section 6). The regulation also mandates municipalities to document and report on the results of their CDM plans and update their CDM Plans every five years. The development of the CDM Plan in 2014 was also vital to curb the increasing utility costs to the City.

This report meets the regulatory requirements by providing:

- The results from the 2014-2018 Corporate Energy CDM Plan, documenting energy management initiatives implemented between 2014 and 2018 within various Service Areas, and

- The 2019-2023 Corporate Energy CDM Plan, which outlines the goals and energy management initiatives to be undertaken by the City over the next five years.

2014-2018 CDM Plan

The 2014-2018 CDM Plan covered the City's plan to reduce energy use and GHG (GHG) emissions across its corporate service areas, including:

- Facilities and buildings owned and operated by the City of London
- Wastewater treatment and pumping facilities and operations
- Water distribution and storage facilities and operations
- Street lighting
- Fleet vehicles and equipment

The 2014-2018 CDM Plan was developed according to Ministry of Energy's direction to provide the City's annual energy consumption information to the public and set goals and actions for conserving energy and reducing GHG emissions from 2014 to 2020. However, the 2014-2018 CDM Plan went above and beyond regulatory requirements with the inclusion of vehicle fleet energy use within the scope of the plan.

The primary goal for the 2014-2018 CDM Plan was to achieve a ten percent reduction in total annual corporate energy use by 2020, using 2014 as the baseline year. Tied to this primary goal were three secondary goals:

- 15 percent reduction in corporate energy per capita (i.e., energy efficiency for service delivery),

- 15 percent reduction in corporate energy-related GHG emissions (i.e., excluding landfill gas methane emissions and sewage incineration nitrous oxide emission), and
- Control utility costs below $22.7 million by 2020

In order to achieve these targets by 2020, technical and non-technical actions were prioritized. Some of the highlights of results include:

- **The City achieved a 9% reduction in total annual energy use as of 2018.** With current energy reduction measures in place, the City is confident that it will meet and possibly exceed the 10% goal by 2020.
- **Energy related GHG emissions have been reduced by 13%** since 2014.
- **Energy use per capita have been reduced by 15%** since 2014
- **Energy costs have been reduced by 5%.** The fluctuations in energy prices are not entirely under City's control, but energy consumption is.
- **$12.5 million in total energy cost avoidance** over the last five years.

Since 2015, the City has been providing annual reports on corporate energy consumption and activities. These annual reports help track progress towards the City's Strategic Plan and 2014-2018 CDM plan goals. Figure i below shows total energy reduction in the last five years.

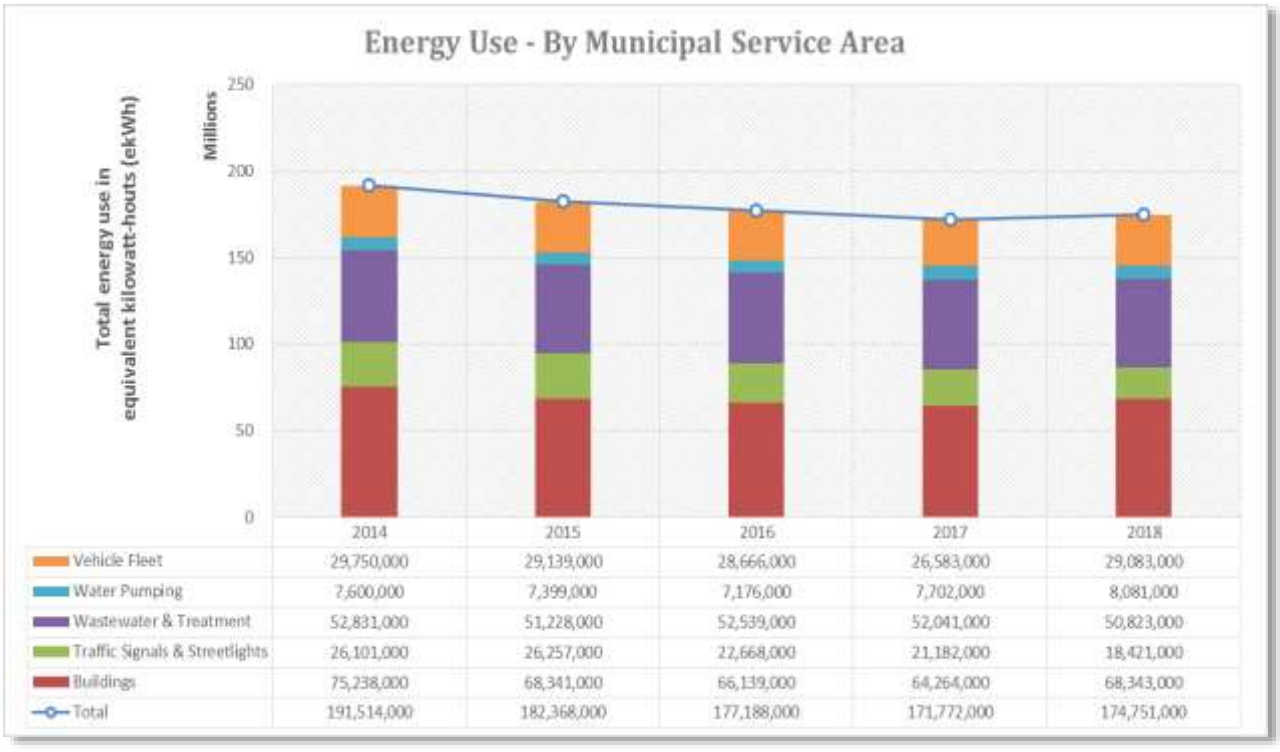


Figure i – Total energy use by municipal service area between 2014 and 2018

2019-2023 CDM Plan

The 2019-2023 CDM Plan is built upon the successful foundation laid by the 2014-2018 CDM Plan. The 2019-2023 CDM Plan supports the City's 2019-2023 Strategic Plan and its "Building a Sustainable City" Strategic Area of Focus. Goals developed in the 2019-2023 CDM Plan also supports London's Community Energy Action Plan (CEAP).

The energy savings initiatives and goals outlined in the 2019-2023 CDM Plan were developed by conducting inter-departmental consultations, reviewing those actions undertaken as part of the 2014-2018 CDM Plan implementation, and analysing energy use and cost in the last five years. The key initiatives developed for each service area are categorised as Planned, Proposed, and Behavioural initiatives that can be implemented in the next five years.

Using 2018 as the baseline year for the new 2019-2023 CDM Plan, the proposed new primary goals includes:

1. Total energy reduction target of 5% by 2023, tied to this goal are:
    - 10% decrease in energy use per capita, and
    - 900 tonnes of avoided GHG emissions by 2023
2. Keep total energy cost increases within 5% from 2018 baseline year.

The 2019-2023 CDM Plan has also identified long term secondary goals as below:

1. Monitor and track City of London's corporate water consumption starting 2018, and
2. Investigate possible pathways for achieving net zero emissions by 2050 or sooner (2030, 2040).

The 2019-2023 CDM Plan identifies key initiatives, energy standards, achievable measures and commitments towards:

- Improving energy efficiency within City facilities,
- Reducing GHG emissions and energy consumption in day-to-day operations,
- Extending the lifecycle of the City's assets, where possible
- Maximizing fiscal resources through direct and indirect energy cost avoidance
- Monitoring energy consumption and utility usage
- Demonstrating leadership and awareness within City employees by creating a Culture of Conservation
- Achieving greater budget control towards energy consumption
- Achieving measures to reach set targets

The 2019-2023 CDM Plan will be a live document that provides a roadmap to build internal energy management knowledge and awareness. This will provide the groundwork for successful energy management decisions and actions within all corporate operations for the next five years and beyond, particularly those that begin to take the actions needed to respond to the City of London's Climate Emergency Declaration.

City of London Climate Emergency Declaration

"Whereas climate change is currently contributing to billions of dollars in property and infrastructure damage worldwide, stressing local and international economies;

Whereas climate change is currently jeopardizing the health and survival of many species and other natural environments worldwide, stressing local and international eco systems;

Whereas climate change is currently harming human populations through rising sea levels and other extraordinary phenomena like intense wildfires worldwide, stressing local and international communities;

Whereas recent international research has indicated a need for massive reduction in carbon emissions in the next 11 years to avoid further and devastating economic, ecological, and societal loss;

Whereas the climate in Canada is warming at twice the rate of the rest of the world, as per Canada's Changing Climate report;

Whereas current initiatives such as City's green fleet plans and energy reduction initiatives are not sufficient to meet the targets as defined by the IPCC scientists,

Whereas an emergency can be defined as "an often dangerous situation requiring immediate action";

Whereas municipalities such as Kingston, Vancouver and Hamilton have already declared climate emergencies;

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."

1. Introduction

With increasing effects of climate change and global warming, it is important for governments to take actions to mitigate its effects on environment. Development of the 2019-2023 CDM Plan is a step towards addressing climate change for activities managed for the City. The 2019-2023 CDM Plan is built upon the successful foundation laid by the City's previous 2014-2018 CDM Plan.

The 2019-2023 Plan supports the City's Strategic Plan 2019-2023 with area of focus on "Building a Sustainable City" with a planned action of developing and implementing a Corporate Energy Management Plan. Goals developed in the 2019 Plan support London's Community Energy Action Plan (CEAP) and the City's recent *Climate Emergency Declaration*.

The 2019-2023 CDM Plan helps strengthen corporate energy management practices and gives direction to all service areas on energy management. The 2019-2023 CDM Plan also meets the new requirements of the Ontario Regulation 507/18 under the Electricity Act, 1998.

The 2019-2023 CDM Plan identifies key initiatives, energy standards, achievable measures and commitments towards:

- Improving energy efficiency within City facilities,
- Reducing GHG emissions and energy consumption in day-to-day operations,
- Extending the lifecycle of the City's assets where possible
- Maximizing fiscal resources through direct and indirect energy cost avoidance
- Monitoring energy consumption and utility usage
- Demonstrating leadership and awareness within City employees by creating a Culture of Conservation
- Providing greater budget control towards energy consumption
- Beginning to control water consumption in City buildings, and
- Establishing measures to reach set targets

All the key initiative required to implement the 2019-2023 CDM Plan and to achieve set goals are categorised by corporate service areas as below:

- Facilities and buildings owned and operated by the City of London
- Wastewater treatment and pumping facilities and operations
- Water distribution and storage facilities and operations
- Street lighting
- Fleet vehicles and equipment

1.1 City of London Strategic Plan

The City of London's Strategic Plan outlines the mission, values and the five areas of focus.

The five areas of focus of the strategic plan have significant ties to the CDM Plan for corporate energy, and the strategic area of focus "Building a Sustainable City" specifically reference the development and implementation of the 2019-2023 CDM Plan.

2. Background

On July 1st 2014, the City introduced its first Corporate Energy and Demand Management (CDM) Plan for 2014-2018 in compliance with the former Green Energy Act, Ontario Regulation 397/11 (now the O.Reg. 507/18, Electricity Act 1998). It proposed technical and non-technical measures that the City would undertake to reduce energy use and GHG reductions from its operations. In order to develop energy reduction targets and initiatives for the 2014-2018 CDM Plan, it was necessary to understand where the City's current performance was compared to previous energy management activities that go as far back as the 1990s. In September 2013, the City published a series of documents to capture the past achievements and management activities for all of the Corporation's energy needs. All of the previous energy management reports can be found on the Corporate Energy Management page on the City's website.

2.1 Ontario Regulation 397/11

In August 2011, the provincial government introduced Ontario Regulation 397/11 under the Green Energy Act, 2009. This regulation required certain public agencies – Municipalities, Municipal Service Boards, Schools Boards, Universities, Colleges and Hospitals – to report on their energy consumption and GHG emissions annually beginning in 2013. The affected public agencies were also required to develop and implement five-year energy conservation and demand management (CDM) Plans starting in 2014. The intent of the regulation was to help the broader public sector organizations better understand their energy consumption, to help them benchmark energy use, and to encourage energy conservation and demand management activities within them.

In order to comply with the minimum requirements of the Green Energy Act and the Ontario Regulation 397/11, the City was required to submit annual energy consumption and GHG emissions for each calendar year in buildings or facilities the public agency owns or leases that,

a) Are heated or cooled and in respect of which the public agency is issued the invoices and is responsible for making the payments for the energy consumptions; or

b) Are related to the treatment or pumping of water or sewage and in respect of which the public agency is issued the invoices and is responsible for making the payments for the energy consumptions.

On July 1st, 2013, the City prepared and submitted the first Annual Energy Consumption and GHG emissions report to the Ministry of Energy to support the province's reporting requirements and has been doing so annually since. These submissions can be found on the City's open data catalogue.

3. 2014-2018 CDM Plan Results

The introduction of the 2014-2018 CDM Plan provided the City with an opportunity to review its energy management program initiatives and proposed energy targets. The approach was:

- To set an achievable target by adopting energy conservation resources into existing capital investments already assigned.
- Explore incentive opportunities towards energy project initiatives.
- Review long term initiatives that have significant impacts on energy consumption and GHG emissions and
- Deepen the culture of conservation within the Corporation's operations.

The primary goal of the 2014-2018 CDM Plan was set to achieve a ten percent reduction in overall annual energy by 2020, using 2014 as the baseline year.

Tied to this primary goal were three secondary goals:

- 15% reduction in corporate energy per capita (i.e., energy efficiency for service delivery),
- 15% reduction in corporate energy-related GHG emissions (i.e., excluding landfill gas methane emissions and sewage incineration nitrous oxide emission), and
- Control the energy cost increase below $22.7 million

The progress towards these goals, as of 2018, is shown below:

Total Energy Use (170 million ekWh)

- **2018-** 174 million equivalent kilowatt-hours (ekWh), 9% reduction. The City achieved 170 million ekWh in 2017, three years ahead of 2020, but overall comsumption in 2018 increased by 1% due to cold weather
- Trends are in line for 10% reduction by 2020

Energy Performance (432 ekWh per person)

- **2018** - 436 ekWh per person, 14.7% reduction
- Trends are in line for 15% reduction by 2020

GHG Emissions (18,500 tonnes)

- **2018** - 18,700 tonnes, 14% reduction
- Trends are in line for 15% reduction by 2020

Energy Cost ($22.7 million)

- **2018** - $17.9 million in energy cost, City of London performed $4.8 million below projected target.
- Energy efficiency projects and provincial acts to reduce electricity rates in 2017 and 2018 helped the City to lower its energy costs.

3.1 Success Stories

A complete update of all the technical measures identified in the 2014-2018 CDM Plan (complete or in progress) are listed in Appendix A. The non-technical measures implemented in the last five years are carried forward and updated as necessary in the 2019-2023 CDM Plan.

The following is a summary of a few of the key energy initiatives from the last five years which contributed to energy savings. This section also highlights the GHG emission reductions achieved by avoiding fossil fuel use as a result of these initiatives.

There are two ways of quantifying the GHG reduction benefits associated with electricity conservation and demand management activities:

- using the Ontario grid-average emission factor, a method that assumes that the electricity savings are allocated evenly across all generating sources such as nuclear, hydro, wind, and natural gas; and

- using the Ontario fossil-on-margin emission factor, a method assumes that the electricity savings are allocated to the natural gas power plants that operate on the margins of demand, ramping up and down in response to power demands.

Both methods are equally valid as they each serve a different purpose. If the purpose is to inventory overall emissions from electricity use, the grid-average emissions factor is used. If the purpose is to quantify impact of an electricity-related action, the fossil-on-margin emissions factor is used. City staff used the electricity-related emissions factors provided by The Atmospheric Fund in their June 2019 report, "A Clearer View on Ontario's Emissions".

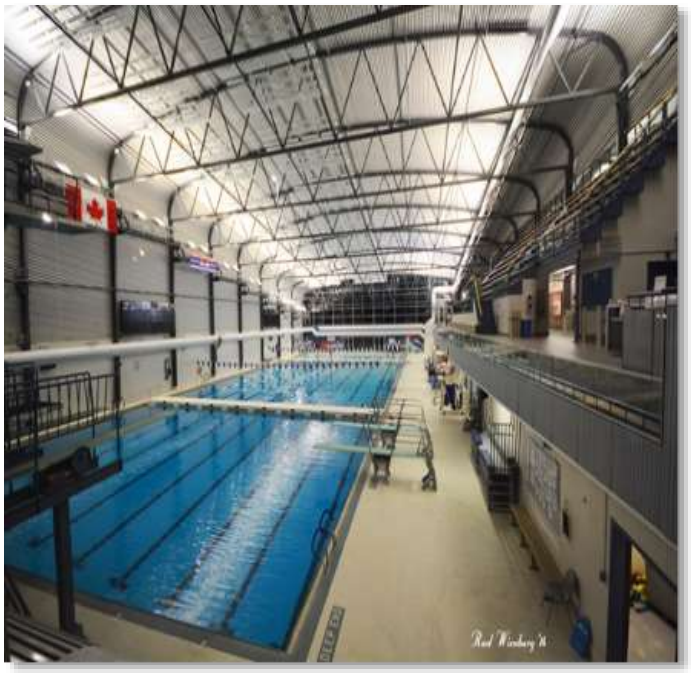
3.1.1 Canada Games Aquatic Centre

Project

Lifecycle renewal project to reduce energy usage, reduce maintenance costs and improve indoor air quality.

Action

- Replace existing metal halide fixtures near the pool area and high pressure sodium fixtures in parking lot with new efficient LEDs.
- Installation of variable-frequency drive (VFD) motors on circulation pumps.
- Replace existing makeup air unit with new efficient one.
- Retrofit, expand and optimize the building automation system for increased efficiency
- Installation of a 53 kilowatt (kW) co-generation unit to provide pool heat as well as power
- Upgrade existing air handling units in Natatorium area



Results

- 20% total energy reduction
- 5% peak electricity use reduction
- Annual electricity-related GHG emission reduction
  - 30 tonnes based on the grid-average emission factor
  - 135 tonnes based on the fossil-on-margin emission factor
- $154,000 in incentives from London Hydro and $35,000 from Union Gas
- Co-generation system cost avoidance - $20,000 annually
- Received $3 million loan from Federation of Canadian Municipalities (FCM) and $154,000 in incentives from London Hydro and $35,000 from Union Gas
- Recognition – 2016 QUEST Smart Energy Communities Award – Real Estate Sector, 2016 Clean30 Top 15 Project
- Media Coverage – Rogers TV link, CTV link, Clean 50

3.1.2 Streetlights Conversion to LEDs

Project

Conversion of High Pressure Sodium (HPS) streetlight fixtures to LEDs.

Action

To date, 20,000 of the existing 35,000 streetlights have converted to LEDs in Phase 1 and Phase 2 of the street lighting project between 2015 and 2017.

Result

- Phase 1 – 56% reduction in electricity use, $690,000 in electricity cost avoidance, and $1.3 million in incentives from London Hydro.

- Phase 2 – 64% percent reduction in electricity use, $620,000 in electricity cost avoidance, and $500,000 in incentives received from London Hydro.

- Annual GHG reduction of 940 tonnes based on the off-peak fossil-on-margin emission factor.

3.1.3 Aeration Blowers Upgrade

Project

Upgrading existing centrifugal blowers to turbo blowers.

Action

City upgraded aeration blowers in all the treatment plants between 2016 and 2018.

Results

- 6,340 megawatt-hours per year in electrical savings and over $760,000 per year in electricity cost avoidance.
- Annual electricity-related GHG emission reduction
  - 200 tonnes based on the grid-average emission factor
  - 850 tonnes based on the fossil-on-margin emission factor
- 6% reduction towards the City's total electricity use
- Received 100% funding from the Canadian Water and Wastewater Fund (CWWF) in 2017 to complete the project and $2.1 million incentive from London Hydro.

3.1.4 Elgin-Middlesex Pump Station

Project

Reducing the size of Pump 1 and Pump 2 at the Elgin Middlesex Pump Station in conjunction with commissioning the South East Reservoir and Pump Station (SERPS).

Action

Replaced the two 600 horsepower (hp) pumps with 450 hp pumps and motors which were sized for pumping to SERPS. These pumps are operated off-peak.

Results

- 850,000 kWh savings annually ($100,000/year).
- $420,000 in incentives in 2018 by Hydro One.
- Annual electricity-related GHG emission reduction
  - 25 tonnes based on the grid-average emission factor
  - 110 tonnes based on the fossil-on-margin emission factor
- City of London has also received "*Excellence in Energy Conservation"* plaque from Hydro one in March 2019 for completion of this project.

3.1.5 South East Reservoir and Pump Station (SERPS)

Project

Construction of the SERPS building to the LEED Silver standard.

Action

SERPS was designed to meet the LEED Silver standard in 2013. However before the completion of the building in 2017, the updated LEED program was released which rendered SEPRS ineligible for certification.

Results

- Consumes 25% less energy compared to a similar building
- A green roof to reduce storm runoff,
- Lighting that does not contribute to light pollution
- Water use reduction measures in plumbing fixtures,
- Use of building materials – certified woods, paints and carpets free of volatile organic compounds (VOCs),
- Public access to the site – walking trails, and
- The use of renewable materials made from agricultural products, and the use of regionally manufactured materials.

3.1.6 Other Facility Energy Retrofits

Project

Implementation of various energy efficiency upgrade projects by the Facilities Division.

Action

More than 50 individual energy efficiency driven and lifecycle renewal with energy efficiency benefits (including those associated with the Canada Games Aquatic Centre project) were complete by Facilities over the term of the 2014-2018 CDM Plan.

Results

All the projects completed by facilities in the last five years are listed in Appendix A.

- Savings over the last five years:
  - 10,300,000 kWh electricity savings
  - 52,000 m^3 natural gas savings
- Annual electricity-related GHG emission reduction
  - 320 tonnes based on the grid-average emission factor
  - 1,200 tonnes based on the fossil-on-margin emission factor
- Annual natural gas-related GHG emissions reductions of 100 tonnes

3.2 Renewable Energy

In terms of overall approach for supporting renewable energy, City staff continue to recommend making direct investment in renewable energy projects at municipal facilities rather than the procurement of “green energy” from energy retailers (e.g., purchase offset credits).

3.2.1 Landfill Gas as a Potential Resource

The City has been collecting and flaring landfill gas since 2004, and has attempted to undertake a number of landfill gas utilization projects such as use as a fuel for power generation and upgrading this landfill gas to pipeline quality renewable natural gas (RNG). In all cases, these projects did not proceed due to external factors.

2017 - The City was awarded a FIT5 contract from the Independent Electricity System Operator (IESO) in mid-October 2017 for the development of a 500 kW landfill gas power plant at the W12A Landfill. The City's FIT5 application was the only one submitted using landfill gas as the renewable energy source, out of 1,120 applications submitted.

2018 - The City was in the process of securing a Renewable Energy Approval from the province for the 500 kW power plant. However, in July 2018, the new Provincial Government cancelled the FIT5 contract. The City had also submitted a proposal to Union Gas in April 2018 for their RNG Request for Proposals (RFP). However, the new Provincial Government also cancelled the Cap & Trade program which was the basis of Union Gas RFP. This project is currently on hold by Union Gas (now Enbridge).

As of October 2019, the City is in discussions with FortisBC Inc., an electricity and gas distribution company in British Columbia (BC), to potentially supply RNG to FortisBC in response to their Request for Expression of Interest (REOI). The City is awaiting further direction from FortisBC regarding their energy regulator's approval to import RNG from outside of British Columbia.

3.2.2 New Construction Solar Rooftop Sections

Roof sections capable of supporting solar photovoltaic generating system (PV systems) continue to be included in new construction design criteria for flat roof areas that are suitably sized and oriented to host a PV System.

In addition to having a PV system-ready flat roof area at the Bostwick Community Centre, the soon-to-be-completed Southeast Community Centre project will include a 10 kilowatt net-metered solar PV system that will offset a portion of the facility's electrical load. This measure was part of the Facility Energy Management Budget Amendment (Case # 19) which was approved by Council in the fall of 2016.

3.2.3 Solar Trackers

In 2015, London Hydro installed three ground mounted solar tracking array units, with a total capacity of 30 kilowatts, at the Manning Drive Material Recovery Facility (MRF). City staff have established an environmental education area at the MRF, and London Hydro's solar trackers will be an asset to this area.

3.3 Fleet Measures

3.3.1 Green Fleet

Fleet GHG emissions from fuel use are the second largest source of energy-related emissions from City operations. Fleet services continue to monitor practices and bring forward methods and technologies to their customers to help reduce both energy consumption and their environmental impacts.

Highlights of the "Green Fleet" initiatives in the last five years include:

- Started the process to replace diesel-fuelled waste collection trucks with compressed natural gas (CNG) trucks over the 2019-2025 timeframe, including facility upgrades to accommodate CNG vehicle maintenance and shared use of the Clean Energy CNG fast-fill station at the Flying "J" Truck Stop.

- Electronically tracking and reporting fuel use patterns and utilization in vehicles and equipment through the Petrovend automated fuel software system.

- AVL Telematics and GPS systems are used in more than 50% of the fleet to monitor and track utilization, idling, engine faults, driver performance (speeding, rapid starts, harsh cornering) and route optimization (trip maps). Specialized telematics systems are used for winter maintenance equipment to manage and/salt distribution and service levels.

- Continued use of gas-electric hybrid vehicles where model types are the "right fit". Successful units in the fleet include the Ford Escape Hybrid and Ford C-Max hybrid.

- Continue to investigate additional hybrid vehicle options as part of every light vehicle replacement process.

- Replacement of full-size work vans with more efficient transit vans;

- Engaged in a pilot project using the “GRIP” idle management system that has lower idling on test vehicle by up to 30 percent. GRIP is a smart customizable idle management solution that identifies and controls voluntary idling by automatically shutting off and restarting the vehicle based on the demands and uses of the vehicle;

- All gasoline used is ethanol blended to E10 (10% ethanol content);

- 59 medium and heavy duty units now include diesel exhaust fluid selective catalytic reduction systems;

- The City is a member in good standing with the E3 Fleet (Energy, Environment and Excellence) program. E3 membership has included several municipal fleet reviews, best practices sharing, certification and continuous improvement programs and initiatives.

- Utilizing approximately 500,000 litres of B5 (5% biodiesel) at the Exeter Road Operations Facility on an annual basis.

- First Full Electric vehicle has been added to the fleet with business plans to add an additional 5-7 full electric vehicles by 2020.

- Business case proposal to transition to full electric ice-resurfacers by 2021.

In the last five years, total green fleet in the rolling stock increased from 55 percent to 57 percent. Fleet GHG emissions have also been reduced by two percent as of 2018 compared to 2014.

3.3.2 Electric Vehicle Charging Stations at City Facilities

Since ChargePoint’s Level 1 & 2 combination EV charger was installed in 2013 as part of a pilot project, the utilization rate has more than doubled by 2018, and is often at 100 percent utilization during weekday business hours. Recognizing the need for more EV chargers, the City conducted a survey of City employees in January 2017 to identify the demand for employee EV charging at various City buildings. Based on the results of this survey, the City has purchased five new dual port Level 2 ChargePoint chargers in December 2018 and currently working on plans to install these at City Hall and AJ Tyler locations with “pay-per-use” access for City employees and public use. These chargers can also be activated via RFID for Fleet vehicle use.

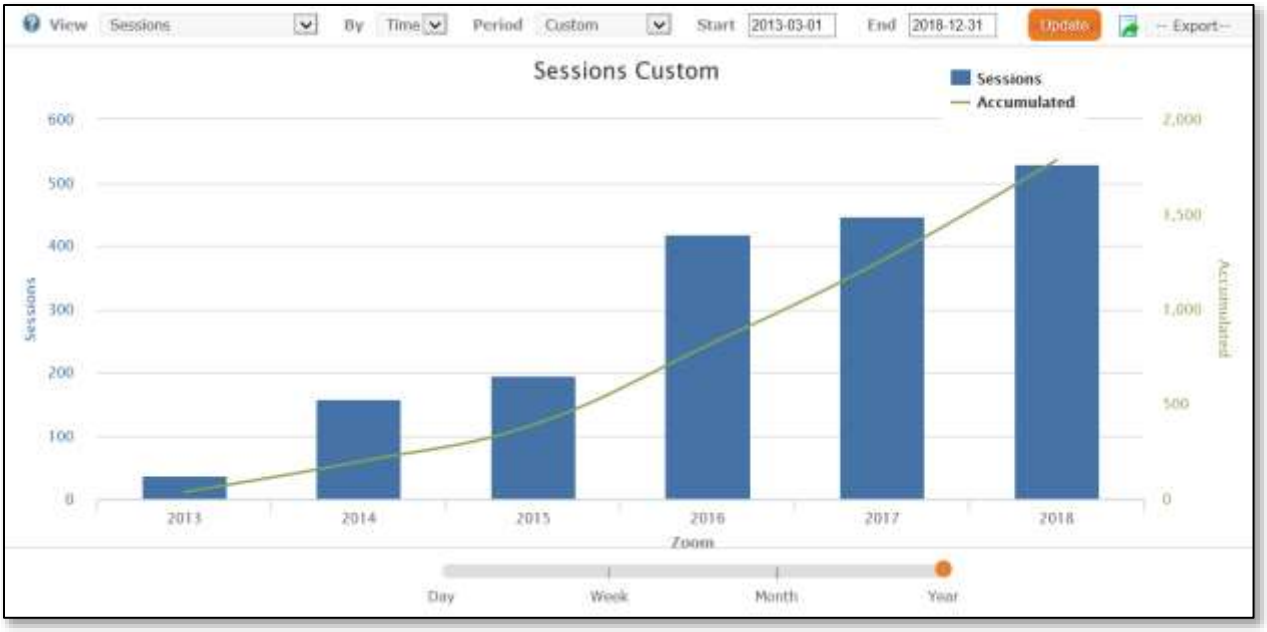


Figure 1 - Number of charging station sessions per year at City Hall

3.4 Culture of Conservation

Engaging City of London staff in energy conservation initiatives is a challenging, rewarding and proven method of achieving conservation targets. With energy costs on the rise, Londoners expect their municipal government to lead the way.

3.4.1 Employee Engagement Event

For example, the 2016 employee engagement event presented an excellent occasion to meet staff in person and answer questions on corporate energy consumption. This event also presented an opportunity to get input from employees to assist in the development of the program. Feedback received from this event helped the Energy Management team develop a series of employee engagement activities that the City can undertake for the coming years.

3.4.2 Re-launching the Energy Mascot

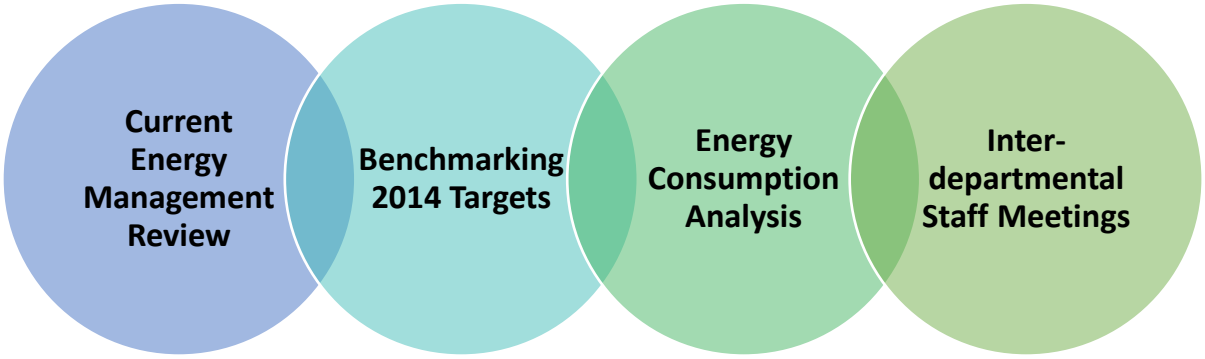
Resurrecting the City's energy mascot was crucial to re-launching *energyMatters* program. Harry the Leopard Frog, native to the Thames River, has been the City's energy mascot since 2013. In 2016, with the help of the City's Communications division, Harry's image has been designed to suit various energy messages for employees.

3.4.3 Building Operator Certification

In Fall 2016, the City had six facility staff members complete the “Building Operator Certification” course for which the City recovered its costs through incentives from the IESO, Union Gas and London Hydro.

4. The 2019-2023 CDM Plan Development Strategy

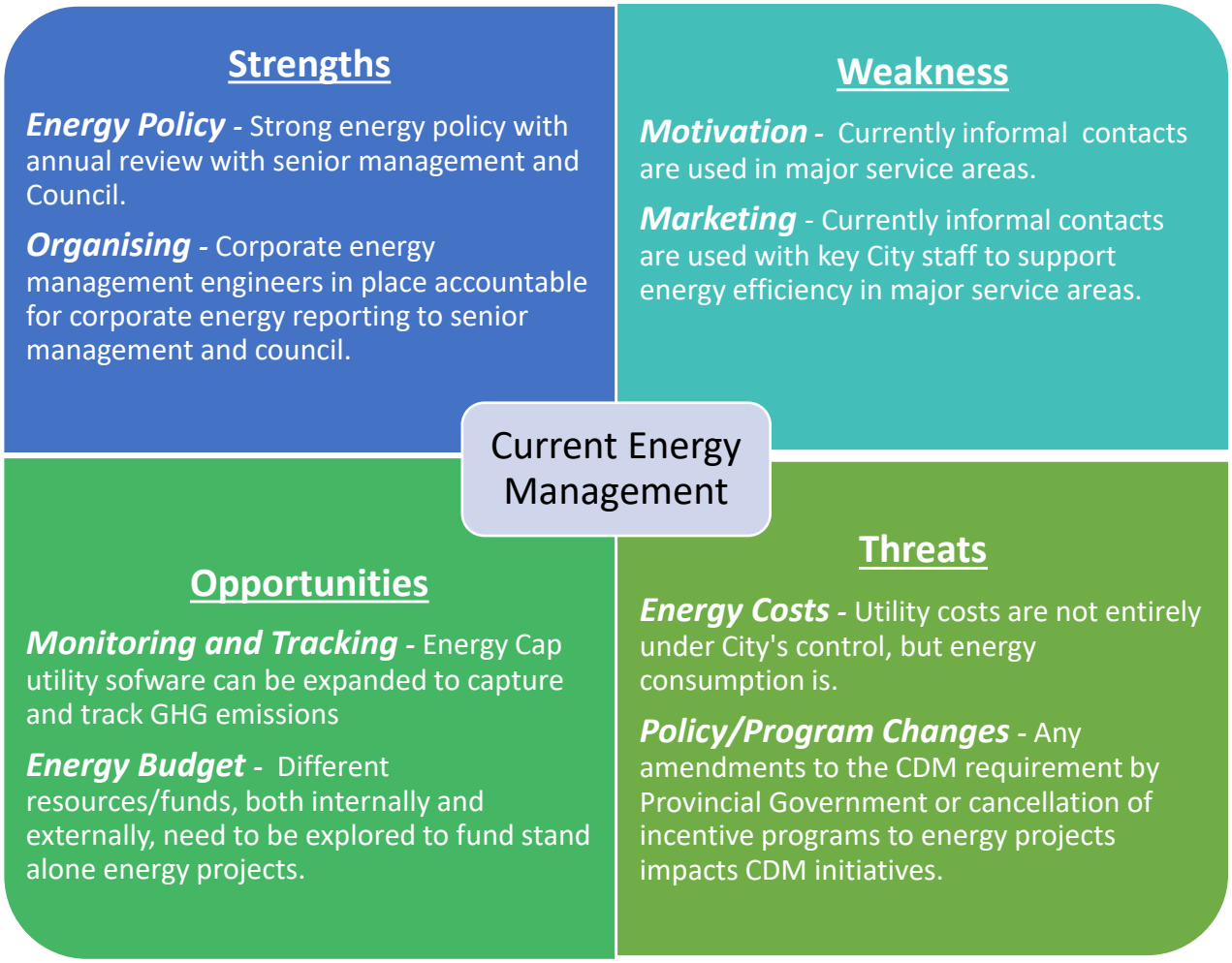
The City’s Environmental Programs division initiated the 2019-2023 CDM Plan development as an interdepartmental exercise that included a review of the City’s current approach to energy management, review of the City’s 2014-2018 CDM plan with other municipalities in southern Ontario, the City’s energy consumption and GHG emissions over the 2014-2018 period, and series of staff meetings with major service areas. This resulted in a list of energy projects, initiatives and activities that can be undertaken in the next five years.



2019-2023 CDM Plan Development Strategy

4.1 Current Corporate Energy Management Review

Environmental programs staff implemented a high level S.W.O.T (Strengths, Weaknesses, Opportunities, and Threats) analysis review of its current approach to energy management. Highlights from this review are below:



Overview of S.W.O.T analysis shows that, moving forward, there are opportunities to improve in areas of employee engagement and exploring different sources of funding for standalone energy projects.

Threats such as fluctuations in utility cost and changes to energy policy by Federal or Provincial governments is not entirely under City's control.

4.2 Benchmarking London's Plan with Other Ontario Municipalities

This process included benchmarking the City's 2014-2018 CDM Plan with other municipalities in southern Ontario. It compared energy goals, initiatives, and action items with those taken in London. The results of this work are summarized below:

Highlights of the City's 2014-2018 Plan:

- The City's 2014-2018 CDM targets were on par with other municipalities.
- Setting a total energy target rather than focusing just on per capita energy reduction was an aggressive approach to reducing emissions.
- The City of London was one of the few municipalities that included fleet emissions as part of its CDM plan.
- The City of London was also one of the few municipalities which captured not only technical measures but listed action items on non-technical and behavioural measures and progress of renewable energy adoption within City operations.

Lessons Learned:

- Develop realistic short-term target that contributes to a longer-term goal.
- Include water conservation in the plan (second-highest utility cost to the City).
- Have service area specific goals and initiatives to increase accountability.
- Develop networking with other municipal energy managers to adopt and share best practices and success stories.

4.3 Energy Consumption Analysis

In order to develop targets for the 2019-2023 CDM Plan, it was necessary to do a deep dive in to total energy consumption, emissions and cost trends for the previous five years.

4.3.1 Energy Use

As Figure 2 illustrates, there has been a steady decrease in total energy consumption year over year with an overall nine percent reduction from 2014 to 2018.

The conversion of streetlights to LEDs contributed to the majority of savings by reducing electricity consumption by 30 percent, followed by corporate Buildings and Wastewater Operations at nine percent and four percent. In Water Operations, the new SERPS facility was commissioned in September 2017, which increased water supply energy usage as reflected in Figure 2.

The energy use analysis illustrates that there needs to be increased energy conservation focus and opportunities for energy efficiency in Water Operations and Fleet in the coming five years.

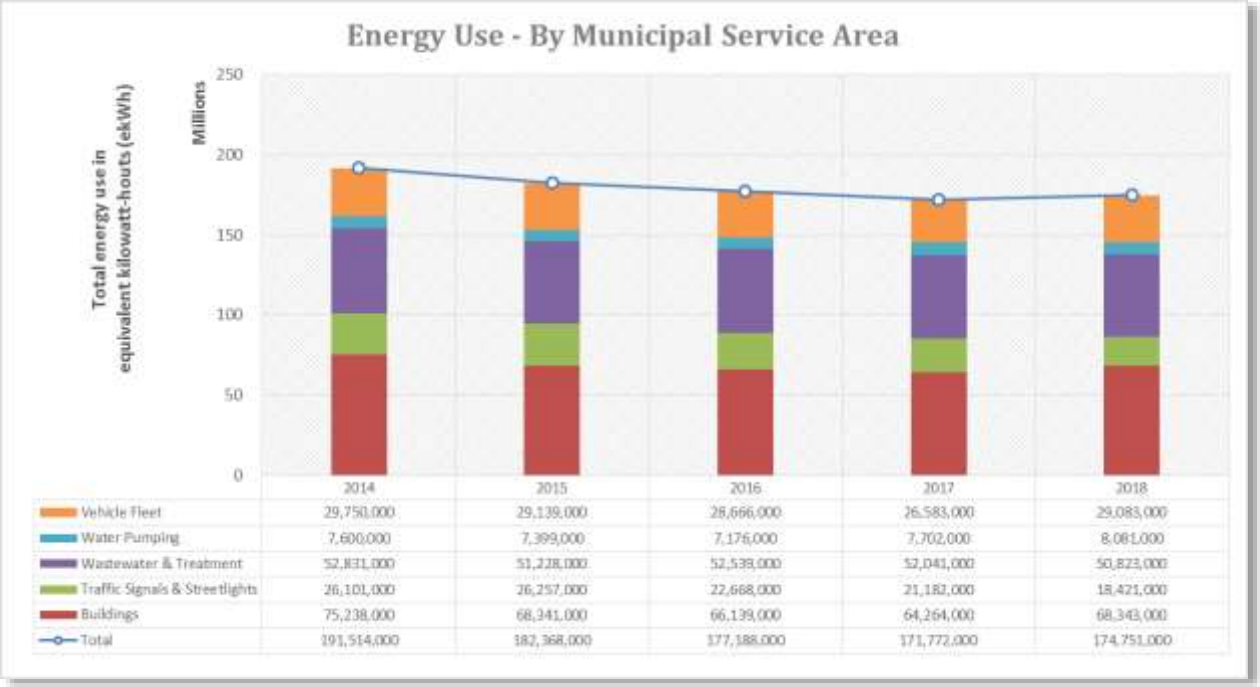


Figure 2 - Total energy use by municipal service area between 2014 and 2018

4.3.2 Greenhouse Gas Emissions (GHG)

The GHG emissions from energy use were 25 percent lower (5,400 tonnes) between 2014 and 2017 due to increased conservation efforts and cleaner sources of energy used to generate electricity in Ontario.

However, due to colder weather in 2018, there was increase in natural gas consumption in buildings and increase in fleet fuel consumption led to 11 percent increase in 2018 (see Figure 3). GHG emissions reduction in fleet fuel use and in City building heating will be areas of focus for the next five years.

Since 2007 though, total GHG emissions have reduced by 58 percent as shown in Figure 4. The majority of the emission reductions are due to increased conservation efforts and cleaner sources of energy used to generate electricity in Ontario:

- 90% reduction in electricity-related emissions
- 34% reduction in steam-related emissions, due solely to corporate actions
- 27% reduction in natural gas related emissions, due solely to corporate actions

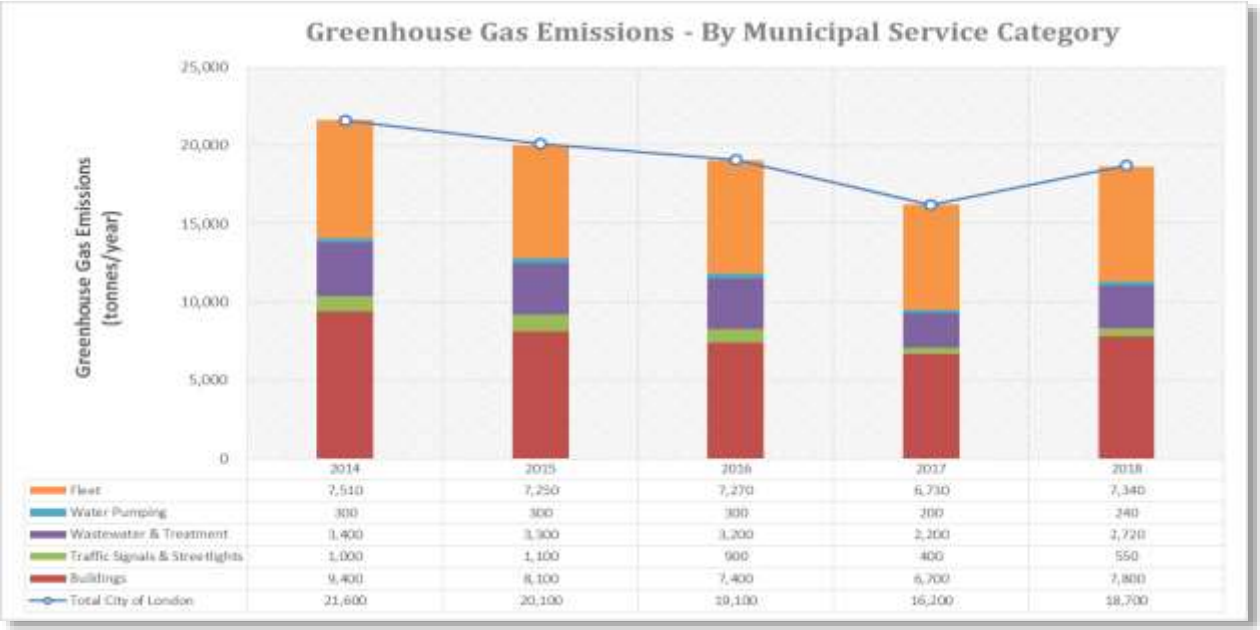


Figure 3 - GHG emissions by municipal service area from 2014 to 2018

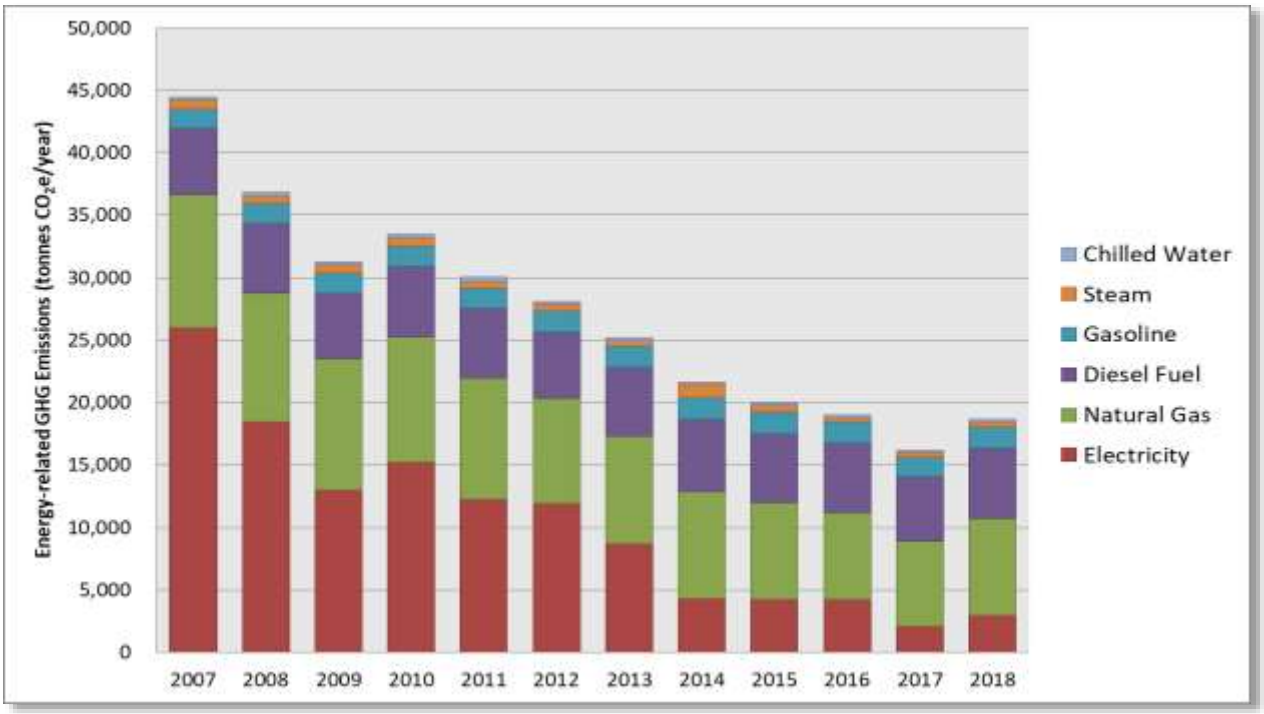


Figure 4 – Trends in Corporate Greenhouse Gas Emissions by Commodity

4.3.3 Energy Costs

The City decreased its energy costs by five percent over the last five years (see Figure 5). There had been a ten percent increase in energy costs between 2014 and 2016 even though energy consumption reduced by seven percent in the same period. Most of this cost increase was due to the increase in electricity and fuel prices.

The subsequent drop in electricity unit rates in particular were the result of Provincial policy changes in the latter part of the term. Utility rates fluctuated in the last five years according to various influences including market pressures and governmental policies. A summary of some of the primary rate drivers are as follows:

Electricity - The Ontario electricity market was subject to a number of policy changes that affected the various rate classes in different ways. The significant policy changes were as follows: the expiration of the 10 percent *Ontario Clean Energy Benefit*, the introduction of the 8 percent *Provincial Rebate*, the expiration of the debt retirement charges, the introduction of the *Ontario Fair Hydro Plan* and the successive reduction of the Class A eligibility threshold. One of the significant cost electricity drivers was the "Global Adjustment" (GA) component of the blended electricity rate. For much of the term, the GA fluctuated significantly month-to-month and consistently trended upward.

Water - The water rates are largely tracked and targets set forth in the *Water Service Area Financial Plan*. There were three successive notable annual increases to the storm water component of the water rates associated with the new formula that includes an emphasis on fixed rate factors associated with property surface area.

Natural Gas - The majority of the City of London natural gas accounts are grouped to enable the bulk purchase of natural gas. This strategy allows for increased price certainty via a series of multi-year bulk natural gas purchase contracts that hedge against market fluctuations and the ability to monitor market prices and respond accordingly. In 2014, a combination of the North American natural gas storage levels falling to record lows and demand reaching a dramatic high due to the polar vortex effect in the winter resulted in a temporary spike in rates. For the remainder of the term, the natural gas rates experienced normal seasonal and market fluctuations, generally trended down as supply levels increased and anticipated exports to offshore markets did not materialize as quickly as expected.

Cost fluctuations are not entirely under City's control, but the City aims to keep the energy cost increase below five percent by conserving energy use. Further details on energy cost forecast and initiatives to mitigate the costs are discussed in section 7.3 of this report.

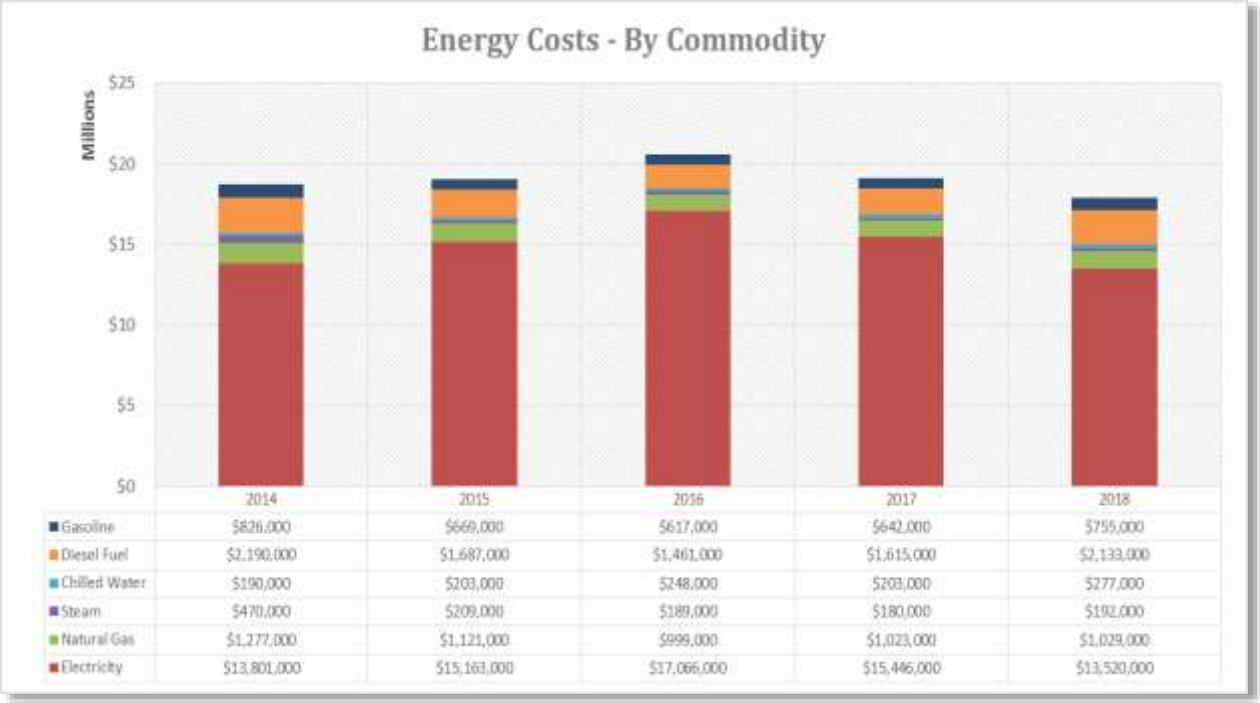


Figure 5 - Energy costs by commodity from 2014 to 2018

4.3.4 Cost Avoidance

Approximately $2.9 million in energy costs were avoided in 2018 compared to business-as-usual projections (based on 2014 levels of energy efficiency) and $12.5 million in avoided energy costs have been accumulated since 2007 (based on 2007 levels of energy efficiency), as shown in Figure 6.

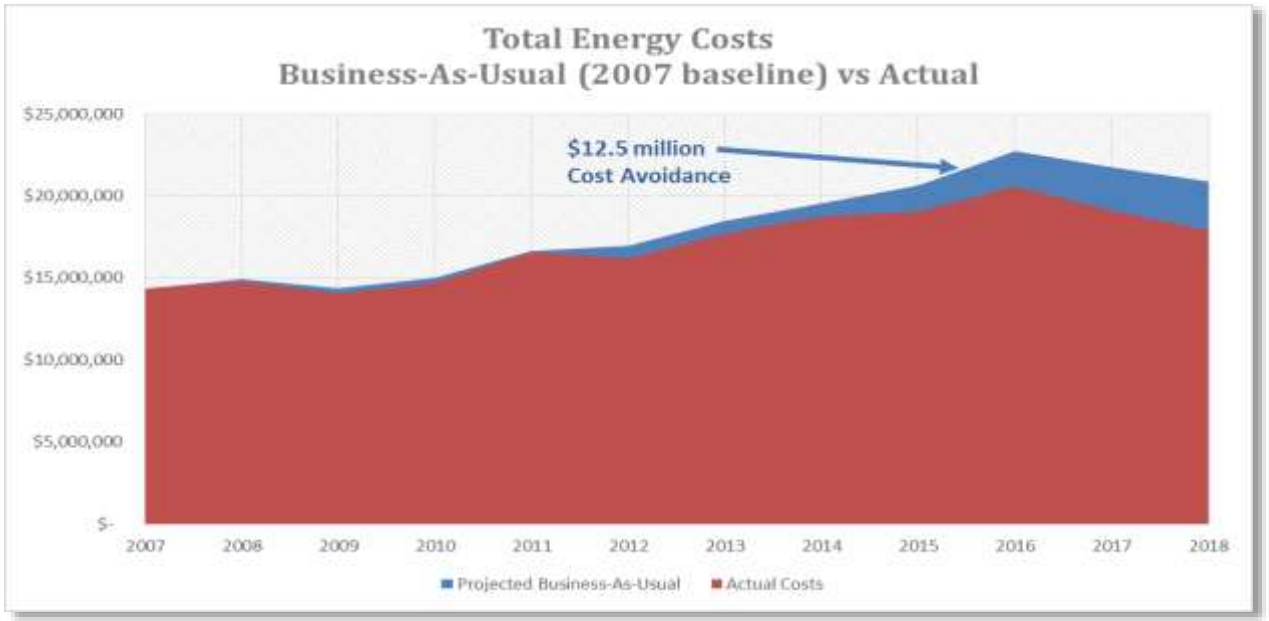


Figure 6 - A comparison of actual energy costs to date versus business-as-usual

4.4 Staff Meetings

A series of staff meetings have been held for Service Areas whose operations have direct control over energy use and GHG emissions. A review of current energy consumption, proposed purpose of the 2019-2023 CDM Plan, direction, and ingredients for future success were discussed in these meetings. A collaborative process to implement the key initiatives in the 2019-2023 CDM Plan was introduced.

These focused meetings facilitated sharing of best practices and identification of key initiatives that will work towards achieving the overall 2019-2023 CDM plan goal. The key initiatives identified by staff in each service area are divided into Planned, Proposed, and Behavioural measure.

Planned measures lists all the projects that have funding assigned in the current multi-year budget. Proposed measures lists all the projects that are currently at the investigation stage, but not currently included within the multi-year budget. Behavioral measures lists actions that can be undertaken by City staff as part of the *Culture of Conservation Program* or other non-technical measures such as developing energy policies or standards. These measures are elaborated further in section 6 of this report.

The measures and initiatives identified in the staff meetings provided specific guidance and direction to set new targets that were realistic and achievable. A final meeting with each service area on proposed 2019-2023 CDM Plan activities provided staff with an opportunity to confirm, review, and refine the preliminary energy initiatives and targets.

5. Targets for the 2019-2023 CDM Plan

In order to safeguard the success of the 2019-2023 CDM Plan, there are a number of goals and objectives that align with its development and implementation. The City's approach for the 2019-2023 CDM Plan is to set achievable targets by continuing to implement short term planned and proposed measures, adopt energy conservation resources into current capital investments already assigned, and review long term initiatives that have significant impacts on energy consumption and GHG emissions.

The 2019-2023 CDM Targets are categorised into Primary and Secondary targets with 2018 as the baseline year. Primary targets will be the main focus and will help achieve Secondary targets. Secondary targets are long term goals and initiatives that have significant impact on GHG and total utility consumption. These targets support the City's Strategic Plan outlined in section 1.1 of this report.

5.1 Primary Targets

The primary targets were developed by capturing all the planned, behavioral, and proposed initiatives that leads to measurable savings.

1. Total annual energy (ekWh) use reduction of 5% by 2023, tied to this goal are;
   - Total energy per capita (ekWh/pp) reduction of 10 percent
   - Avoided GHG emissions of 900 tonnes by 2023

2. Control energy cost increase within 5% of 2018 total costs over the 2019-2023 CDM plan

The recommended key initiatives (planned and behavioral) by various Service Areas are presented later in this document (Section 6) are expected to result in 8,100,000 ekWh reduction in total energy use, over 900 tonnes fewer GHG emissions, and 42 ekWh per person improvement in energy efficiency by 2023 (from the baseline year - 2018). Additionally, if all the proposed initiatives are implemented by the City, an additional three percent reduction can be achieved. If none of the energy efficiency measures are implemented for 2019 to 2023, the Business-As-Usual (BAU) forecasts overall energy consumption to increase by two point eight percent from 2018 baseline year as illustrated in Figure 7.

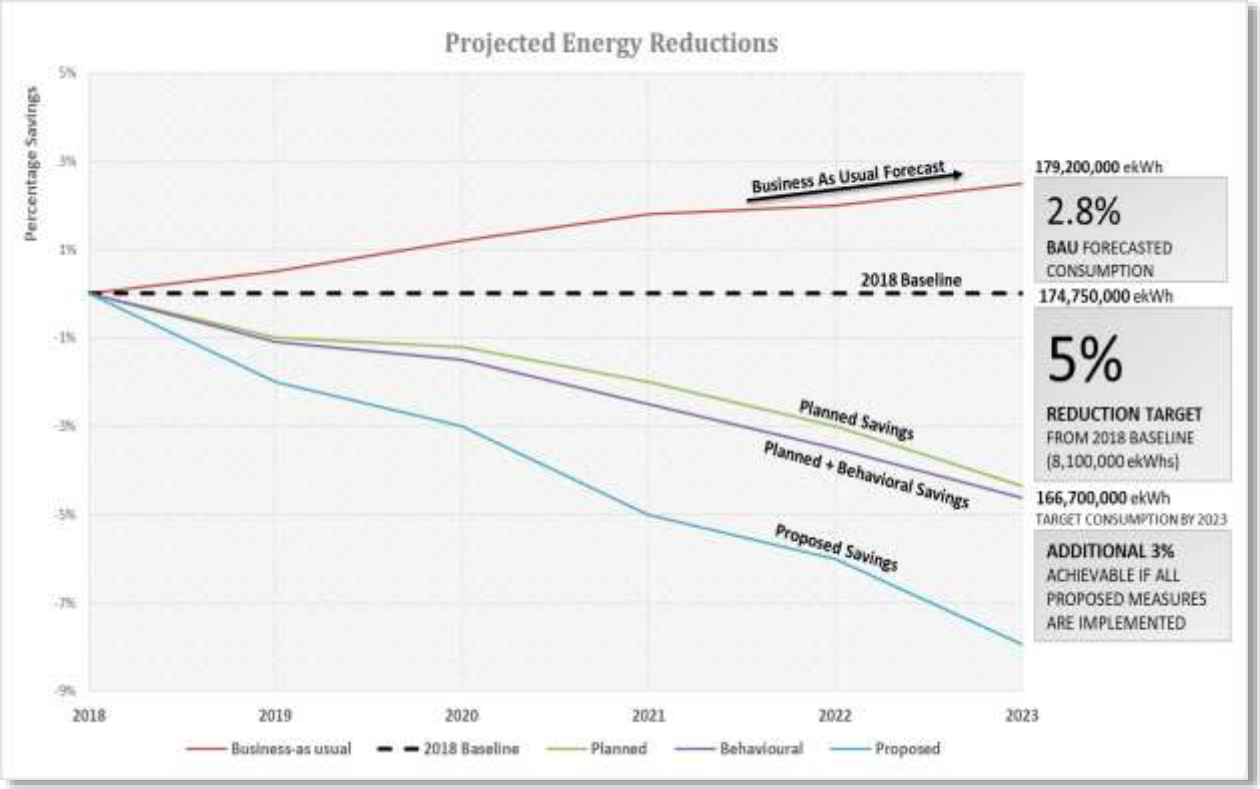


Figure 7 - Forecasts for business-as-usual energy use and planned, behavioral, and proposed savings

5.2 Secondary Goals

1. City staff will monitor and track water consumption and develop corporate water conservation initiatives for its administrative buildings starting 2019.
2. City staff will investigate different options for achieving net zero emissions from corporate activities by 2050, or possibly sooner.

5.2.1 Water Consumption

Water consumption contributes to second highest utility cost to the City, hence, it is important to track. Figure 8 illustrates that water cost is increasing year over year regardless consumption.

Implementing water efficiency at corporate level starts with understanding a facility's water-using processes. City's water consumption on a high level is broken down into two usages:

- 70 percent of the water consumption by the City is used for public pools, arenas, splash pad and for parks and recreation maintenance. It has been observed that this consumption closely follows cooling degree days.

- The rest 30 percent is consumed by City staff needs and for City operations (wastewater operations, vehicle wash, building cooling, etc.)

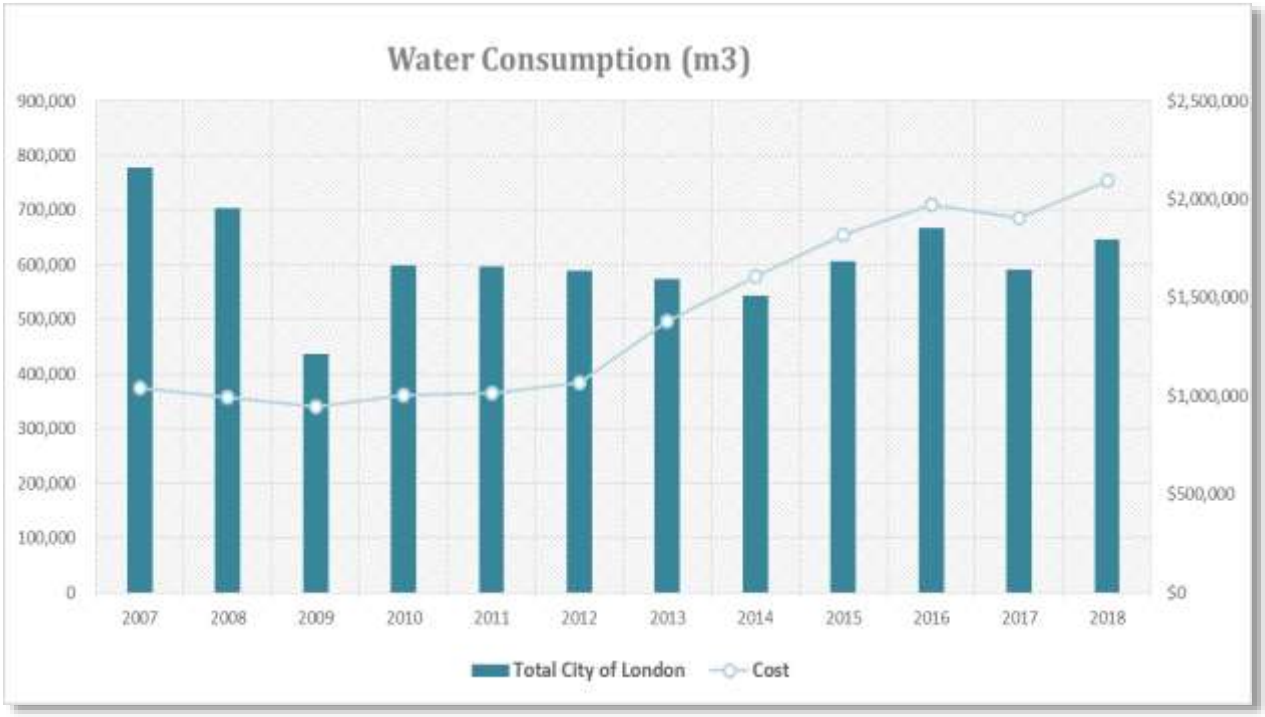


Figure 8 – City of London total water consumption (m3) from 2007 to 2018

As part of water monitoring and tracking initiative, going forward, facilities will conduct a water assessment which helps managers and owners understand how much their facilities use and which processes require the most water. This also helps identify potential water-saving opportunities.

Currently as part of a pilot project, Facilities service area is monitoring water usage in a number of facilities at a granular level via a specialized meter sensor for a combination of leak detection and usage anomalies. Facilities has also partnered with the Water Demand Management staff filed testing a number of waterless urinals.

5.2.2 Net Zero Emissions by 2050 or Sooner

The 2019-2023 CDM Plan aspires to set City operations on the path to net zero GHG emissions by 2050, or possibly sooner. Current corporate GHG emission trends and the primary targets listed in this report are on track and build momentum towards achieving net zero emissions by 2050.

The Ontario electricity grid has seen a reduction in emissions by almost 90 percent in the last decade alone, from 240 grams per kilowatt-hour (g CO_2e/kWh) in 2007 to 30 g CO_2e/kWh in 2018. As of 2018, over 90 percent of Ontario's electricity was generated by emissions-free facilities (nuclear, large hydro, and renewables). This enables the electrification of the City's light-duty fleet vehicles and building space heating as one pathway towards net zero emissions.

However, based on power supply forecasts provided by Ontario's Independent Electricity System Operator (IESO), The Atmospheric Fund estimates that GHG emission factors for Ontario's electricity grid will increase between 2018 and 2035, from 30 to 86 g CO_2e/kWh. This is due to an expected greater reliance on the use of natural gas to meet peak power generation as a result of the planned closure of the Pickering Nuclear Generating Station after 2024 and the Provincial Government's cancellation of the last round of renewable power generation procurement in 2018.

This could result in corporate energy-related GHG emissions increasing over the 2019-2023 timeframe even with the planned energy savings, given that electricity represents about 60 percent of corporate energy needs.

However, after 2035, it is assumed that Ontario's electricity grid will become emissions free by 2050 as these natural gas power plants, designed to meet peak demand needs, are replaced by renewable power generation combined with power storage systems.

Values, Forecasted Emissions Factors

	Emissions Factors (gCO_2eq/kWh)			
Year	**AEF**	**MEF**	**Peak MEF**	**Off-Peak MEF**
2019	34	118	133	106
2020	40	136	154	122
2021	41	140	158	125
2022	45	156	176	140
2023	63	219	247	197
2024	53	184	208	165
2025	82	284	321	255
2026	75	259	293	232
2027	72	247	279	221
2028	67	232	261	208
2029	73	251	283	225
2030	71	246	278	221
2031	84	292	329	262
2032	76	261	295	234
2033	78	270	304	242
2034	82	285	321	255
2035	86	296	335	266

Source: TAF, A Clearer View on Ontario's Emissions (June 2019)

City staff sees the following preliminary ideas as a pathways to net-zero emissions:

- The potential use of renewable natural gas (RNG) from the W12A landfill in heavy-duty fleet vehicles and building space heating. The City has enough potential RNG production capacity from its W12A landfill gas collection system to fuel all the City's heavy-duty vehicles as well as heat every City facility, and still have large quantities remaining to sell to other interested parties.

- City facilities is investigating adoption of carbon-neutral and passive house standards for new constructions. Facilities is also planning to pilot solar thermal and solar wall technologies to reduce natural gas consumption for building heating.

It is important to note that changes to federal and provincial legislation and regulations, as well as technological advances, are anticipated over the next decade that will impact the long-range energy initiatives.

The pathway to net zero emissions for City operations including the forecast for 2023 is illustrated in Figure 9.

Reaching net-zero GHG emission by 2050 or sooner is possible but will require increased changes in energy use, introduction of new technologies, investment in renewable energy, and fuel switching away from fossil fuels. During the next four years, City staff will continue to monitor best practices in other jurisdictions and prepare different scenarios for reaching net zero GHG emissions by 2030, by 2040, and by 2050.

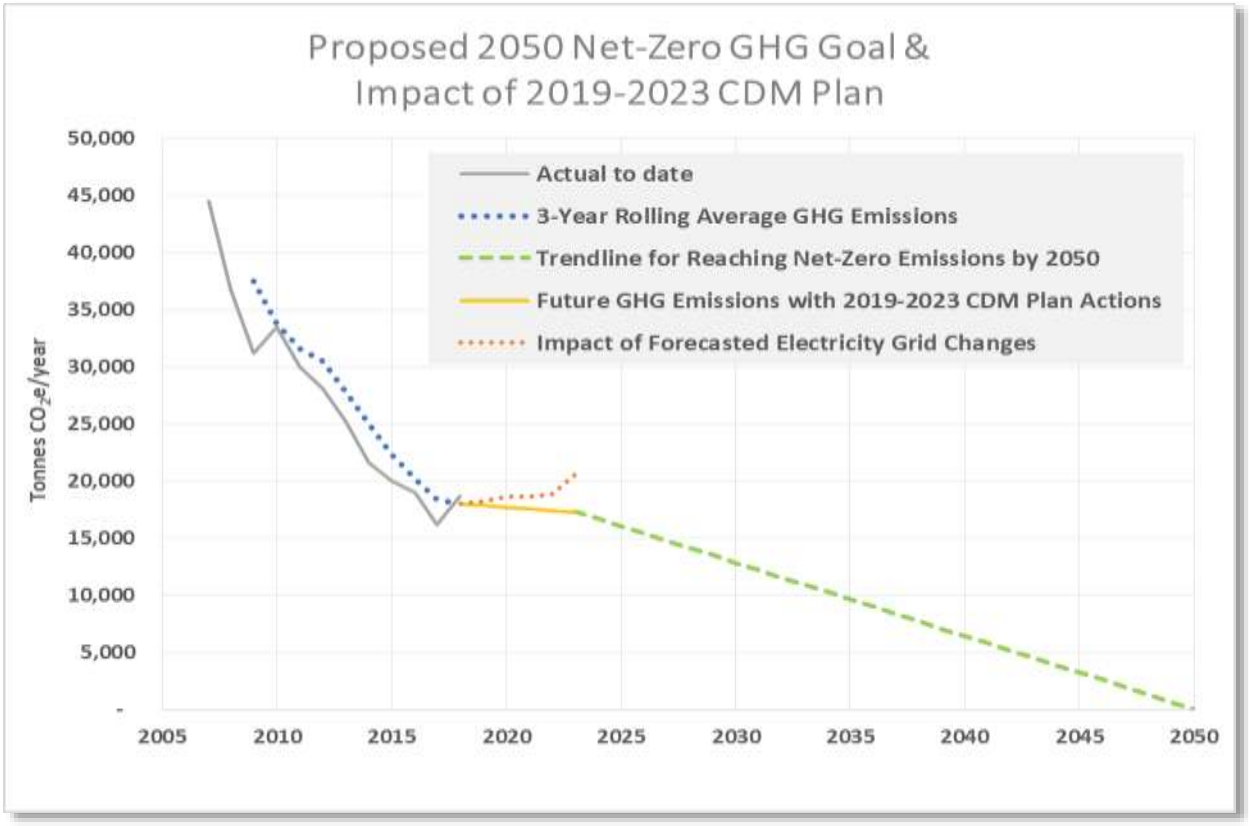


Figure 9 - Historical GHG emissions, emission forecast for 2023, and trend line for achieving net-zero emissions by 2050

6. Key Initiatives by Service Area

With the development of the 2019-2023 CDM Plan targets, a concept of integrated approach to energy management was essential. To accomplish the successful implementation of the 2019-2023 CDM plan, it is imperative that all the service areas be involved in the process. By reviewing the energy consumption and costs, key initiatives have been developed within each service area of the City as every area has a responsibility in energy management.

All the key initiatives listed in this section reflect a review and input from staff meetings and meet the unique needs of the City of London. As changes to the policies, legislation, technology, and climate occur, this list of initiatives will evolve. The initiatives listed below align with the 2023 targets and are within the control of the City.

Key initiatives have been classified into three categories:

Planned initiatives are those that have already been identified by service areas and are approved by the Council. These measures are largely included in existing capital and operating forecasts. All of these initiatives are near-term actions within each area and support the 2023 targets proposed in section 5 of this report. By 2023, these initiatives are expected to account for 4.3 percent of corporate energy use reduction and GHG reductions from 2018 levels.

Behavioural initiatives are “low cost” or “no cost” initiatives for the City. They are the center of the overall strategy to reduce energy use and associated GHG emissions within City buildings. It has been noted that “careless energy consumption in office buildings can add one-third to a building’s design performance, while conservation behavior can save (an additional) third” (source - Nguyen, T. & Aiello, M. (2013) Energy intelligent buildings based on user activity: A survey. Energy and Buildings. 56, 244.)

Behavioral initiatives in the current report lists employee engagement activities which have an impact on energy consumption. These initiatives are expected to contribute to 0.5 percent reduction in corporate energy use and GHG reductions by 2023.

Proposed initiatives are built upon the planned measures and initiatives, and required operational or policy changes. Business cases will be required to justify the project funding. Capital budgets will be impacted by the addition of qualified and approved projects. These initiatives will rely heavily on staff time and additional capital investment and will account for additional three percent of corporate energy use reductions.

As part of the 2020-2023 Multi-Year Budget deliberations, Business Cases has been identified for the following proposed actions to be undertaken by Environmental Programs alone:

- Feasibility studies that identifying and assess new projects for carbon curtailment
- Culture of Conservation employee engagement activities
- Improving energy efficiency performance measurement & reporting
- Electric vehicle charging stations, with cost recovery for the operations, maintenance and lifecycle replacement costs of these chargers

The current five percent reduction target is achievable even if the above Business Cases are altered or not approved due to other City of London priorities.

It is important to note that for a success of the 2019-2023 CDM Plan, service areas need to adopt and implement initiatives identified in this plan. The service areas that include planned, proposed and behavioral initiatives are categorised into Facilities, Water and Wastewater operations, Traffic and Streetlights Operations and Corporate Fleet.

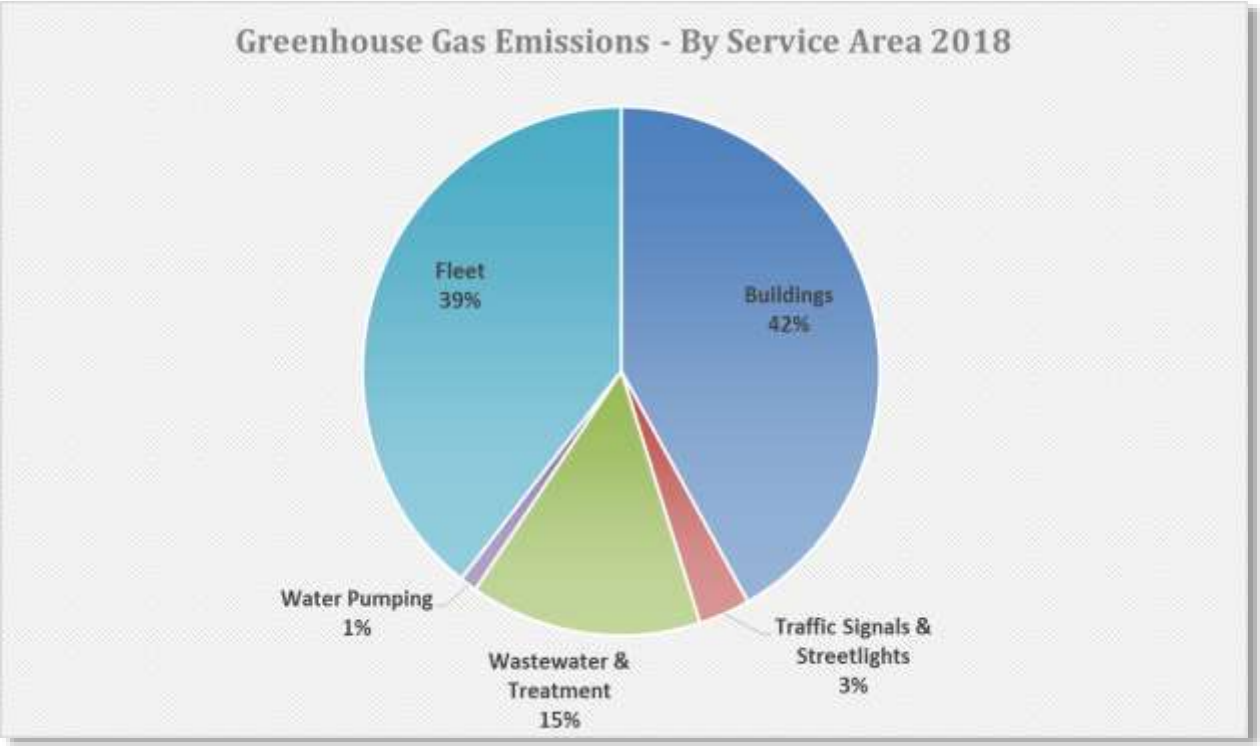


Figure 10 - Breakdown of GHG emissions by service area

6.1 Facilities

According to the Intergovernmental Panel on Climate Change (IPCC), “over the whole building stock, the largest portion of carbon savings by 2030 is in retrofitting existing buildings and replacing energy using equipment.” This statement holds true when we analyse the City’s total GHG emissions, where buildings contribute to the largest (42%) share of GHG emissions, followed by fleet vehicles (39%). The majority of building GHG emissions comes from natural gas consumption. See Figure 10 above.

- Facilities maintains and operates over 95 sites, 279 buildings, 304 hectares (750 acres) of property and approximately 315,870 square metres (3,400,000 square feet) of owned and leased space.
- Facilities Buildings account to 39% of the total corporate energy consumption.
- The proposed projects and initiatives under facilities buildings will contribute to 5% reductions in facilities total energy consumption and GHG emissions by 2023.

The Facilities service area is responsible for the design, construction, energy management, life cycle renewal works, and maintenance of facilities operated by the City with the exception of streetlights, wastewater treatment, sewer operations, and

water supply operations. Facilities is often requested to manage capital development projects for municipal organizations such as London Fire Services, London Police Service, London Public Library and Museum London.

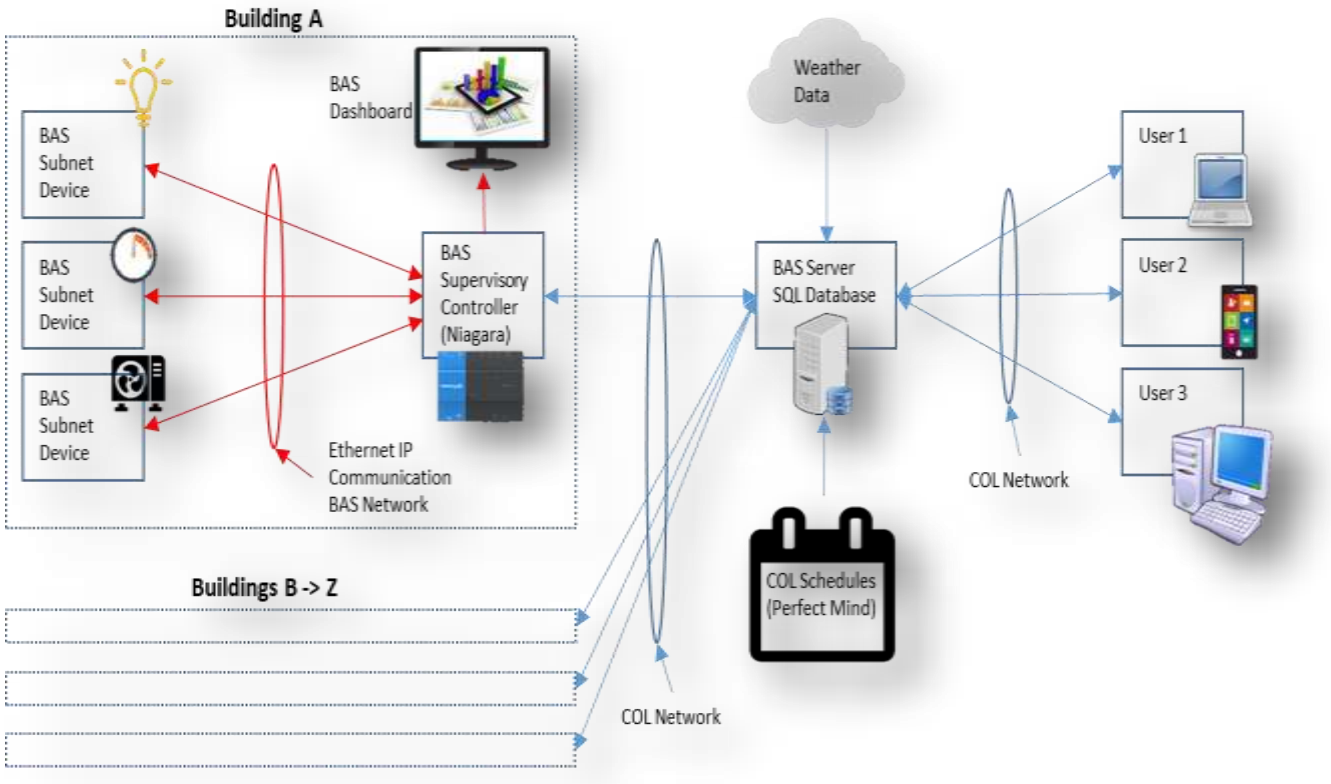
6.1.1 Planned Initiatives

Facilities is currently undertaking Phase Six of energy and lifecycle renewal audits with its energy service partner Ameresco Canada. Audits so far listed a series of energy projects that focused on:

- Energy management control system upgrades (EMS)
- Heating ventilation and air conditioning (HVAC) upgrades
- Lighting upgrades
- Installation of solar PV and
- Deep building energy retrofits

A few highlights of the planned initiatives are detailed below:

EMS Upgrades An energy management system (EMS) is a system of computer-aided tools used by operators to monitor, control, and optimize the performance of their systems. When applied to buildings, energy management systems are typically referred to as building automation systems (BAS).



Building automation is the centralized control of a building's mechanical and electrical subsystems, leveraging an interconnected network of sensors and meters to improve occupant comfort, optimize building efficiency and prolong equipment life through monitoring, alarming and reporting protocols. Such subsystems include, but are not limited to, HVAC, lighting, refrigeration and pumping with integration into scheduling, security and fire safety systems.

In Canada, using energy to heat and cool buildings accounted for 17 percent of the country's GHG emissions (*Senate Report posted 2018-11-19:* https://sencanada.ca/content/sen/committee/421/ENEV/reports/ENEV_Buildings_FINAL_e.pdf). Through a renewal of the City's building automation systems and leveraging on existing controls infrastructure, we plan to reduce each identified site's energy consumption (pools, community centers, arenas, etc.) by at least five percent.

Solar PV at East Community Centre

The installation and utilization of a solar photovoltaic (PV) array is an efficient and cost effective strategy to generate clean and renewable power.

As a demonstration project, the City invested funds to design and construct a 10kW PV array, placed on the roof of the East Community Centre, scheduled to open fall 2019. When installed, the PV array is estimated to generate 12,500 kWh annually.

6.1.2 Behavioral Initiatives:

Highlighted below are the behavioral initiatives that Facilities will be focused on;

1. Assign energy champions within City buildings to promote energy engagement events and promotional materials
2. Establish written operating procedures to control equipment systems operations so as to optimize energy efficiency and eliminate waste energy
3. Publish energy conservation posters where appropriate (light reminder posters, conservation messages, dashboards etc.)
4. Develop user friendly and "easy to understand" energy dashboard for Corporate facilities
5. Undertake building operator training workshops
6. Implement temperature optimization standard

6.1.3 Proposed Initiatives

To further the City's energy efficiency, Facilities will work on the following proposed initiatives to integrate energy management into daily operation processes and facility-based infrastructure decisions to support the 2019-2023 CDM Plan implementation.

1. Identify and implement natural gas savings projects
2. Phase out florescent and other traditional lighting technologies and adopt LEDs in all City Owned and operated buildings.
3. Develop a policy that all major renovations and new construction of city owned facilities include provisions to include a central Energy Management Controls System.
4. Continue to develop and review opportunities towards the development of renewable power generation projects
5. Development of a policy that all new City of London owned buildings and major renovations to the existing buildings be designed to Passive House or similar net-zero energy sustainable design guidelines/ standards

A list of all the planned and proposed energy savings projects are listed in Appendix B of this report.

Table 1 - Facilities Target

Target	Energy Consumption (ekWh)
2018	68,343,000
CDM target reduction	4,162,000
2023	64,180,000
Percentage reduction	6%

6.2 Water Operations

Water Operations provides continuing maintenance of the water storage, pumping and distribution system in the City of London to ensure that water can be conveyed to the residents of London. The City receives its treated water from both the Lake Huron Water Supply System (approximately 85 percent of the daily consumption) and the Elgin Area Water Supply System. A network of well fields, which remain inactive, have been maintained historically in case an emergency situation arises.

Water is delivered from Lake Huron to the Arva Pumping Station, where the City of London's water distribution system begins. Similarly, Lake Erie water is also delivered to the Elgin-Middlesex Pumping Station, from which the City assumes responsibility. Water Operations maintain, operate and control drinking water infrastructure, fire hydrants, water meters, and standby emergency well supplies through both operator-controlled and automated processes.

Water Operations is continuously monitored for energy efficiency opportunities as each litre of water delivered by the city requires energy for pumping which results in GHG emissions associated with the use of electricity and natural gas.

6.2.1 Planned and Proposed Initiatives

Water Operations is currently reviewing energy savings opportunities proposed by AECOM in a optimization study conducted in 2017 and 2018, and does not have any planned projects with capital budget assigned. However, there are a few proposed initiatives identified which support the 2019-2023 CDM Plan targets and listed as follows:

1. Develop on-going water conservation initiatives
2. Review participation in Global Adjustment Class A program for ARVA pumping station
3. Investigate and invest into on-site energy generation/renewable energy projects
4. Investment in future energy audits towards identifying new energy savings measures and opportunities on water operations infrastructure
5. Right-sizing equipment
6. Identify and implement pump optimization projects from the AECOM study recommendations
7. Complete the formal decommissioning and demolition of all wells and former Water facilities no longer in service
8. Downsize the Pond Mills Pumping Station service area, recognizing the capabilities of the Southeast Pumping station to provide service.
9. Review opportunities for revised operational procedures to lessen energy demands during periods of high market energy consumption

Highlights of the proposed initiatives include the following:

Water Conservation - Water Engineering team administers annual water conservation initiatives across the City. These initiatives include:

- Conducting water audits in partnership with facilities
- Designing and implementing a proactive leak detection and monitoring program throughout the City's distribution network.
- Improving the tracking of water used for construction, firefighting and maintenance through the use of reporting protocols and monitoring hardware.
- Funding and piloting water efficient fixtures in City facilities.
- Interval Water Data delivered through the MyLondonHydro online portal, which allows for hourly consumption data to be tracked and viewed.
- Working with Green Economy London to share conservation projects and opportunities with industrial, commercial and institutional customers.
- Upgrades to the MyLondonHydro portal to provide quicker notifications when high bills and leaks are detected.
- Implementation of the Growing Naturally Home Audit Program for members of the public, where user-specific data is generated and a water use report card is provided.
- Improved outreach material for teachers regarding the value of water, and made it more engaging and interesting for students.

- Attained portable water bottle filling stations to allow further participation in community events, allowing for the dissemination of communications materials to a larger variety of groups.

Energy Efficiency and Pump Optimization Study (Arva Pumping Station) - In 2017, City commissioned AECOM to complete energy efficiency and pump optimization study at Arva pumping station. AECOM partnered with VIP Energy to conduct the study. This was completed in 2018 and currently the City is reviewing the recommendations and developing a plan to implement identified projects. A few of the projects that the City is working in regards to energy efficiency include:

- Further detailed analysis of current process pumping operations, with opportunities to replace pumping units (including right-sizing) enhancing control equipment, and developing operational optimization;
- Review the current HVAC system, and replace aged AHU equipment with premium efficiency units;
- Install LED wall-pack fixtures and upgrading interior lighting, including occupancy sensors.

6.2.2 Behavioral Initiatives

1. Assign energy champions within major operational facilities to promote energy engagement events and promotional materials.
2. Undertake operator training workshops

Table 3 – Water Operations Target

Target	Energy consumption (ekWh)
2018	8,081,000
CDM target reduction	760,000
2023	7,321,000
Percentage reduction	9%

6.3 Wastewater Operations

- City of London Corporation owns operates five Wastewater Treatment Plants (WWTPs) and 36 pumping stations to assist wastewater flow to plants from gravity sewers or force mains.
- Wastewater operations are the second highest (29%) in utility consumption among corporate service areas.
- The initiatives identified in this section are planned to improve the energy efficiency of our wastewater operations by 9% in the next five years.

Wastewater Operations' primary focus is the treatment of incoming sewage to meet legislative requirements set out by the Ministry of the Environment, Conservation & Parks. The wastewater operations initiatives aim to optimize energy consumption while maintaining the required treatment standards and capitalize upon on-site energy generation and recovery. The initiatives presented in this plan are built upon the success of the opportunities identified and projects undertaken in the last five years (the 2014-2018 CDM Plan) and support the current primary and secondary targets of this report.

6.3.1 Planned Initiatives

Waste Heat Recovery from Sewage Sludge Incineration - The Greenway Wastewater Treatment Plant (WWTP), the City's largest wastewater treatment plant, presents an opportunity to conserve energy by installing an Organic Rankine Cycle (ORC) engine to utilize waste heat from its Fluidized Bed Combustor (FBC) unit to generate electricity for plant operations. Sludge, a by-product of the treatment process, is produced at each of our five WWTPs and is incinerated via Greenway's FBC. Greenway WWTP's FBC unit is used to incinerate cake (the product remaining after sludge is dewatered). Currently only a portion of energy generated and exhausted in this process is captured and used to pre-heat intake air to the FBC unit.

In April 2016, the Greenway WWTP completed a preliminary study with a consultant, GHD Limited, to determine the feasibility of implementing energy recovery from the FBC unit. The GHD study concluded that energy recovery using an ORC power-generating engine is a viable option for the plant. The ORC system has two main components: the Turboden ORC unit and a thermal fluid heat exchanger. The low temperature heat can be utilized by the ORC engine to generate electricity.

The results from the preliminary study have shown that the ORC engine has the

potential to almost completely offset the electricity requirements of the solids handling process unit within the WWTP at current solids handling rates. This would reduce the Greenway WWTP's annual electricity load by 16 percent, which translates to a four percent annual reduction in City corporate-wide electricity load. The ORC engine is expected to produce 3,675 megawatt-hours (MWh) annually running at 24 hours and 330 days per year. The study also showed a co-generation of almost 9,300 equivalent megawatt-hours of reusable heat energy from this system.

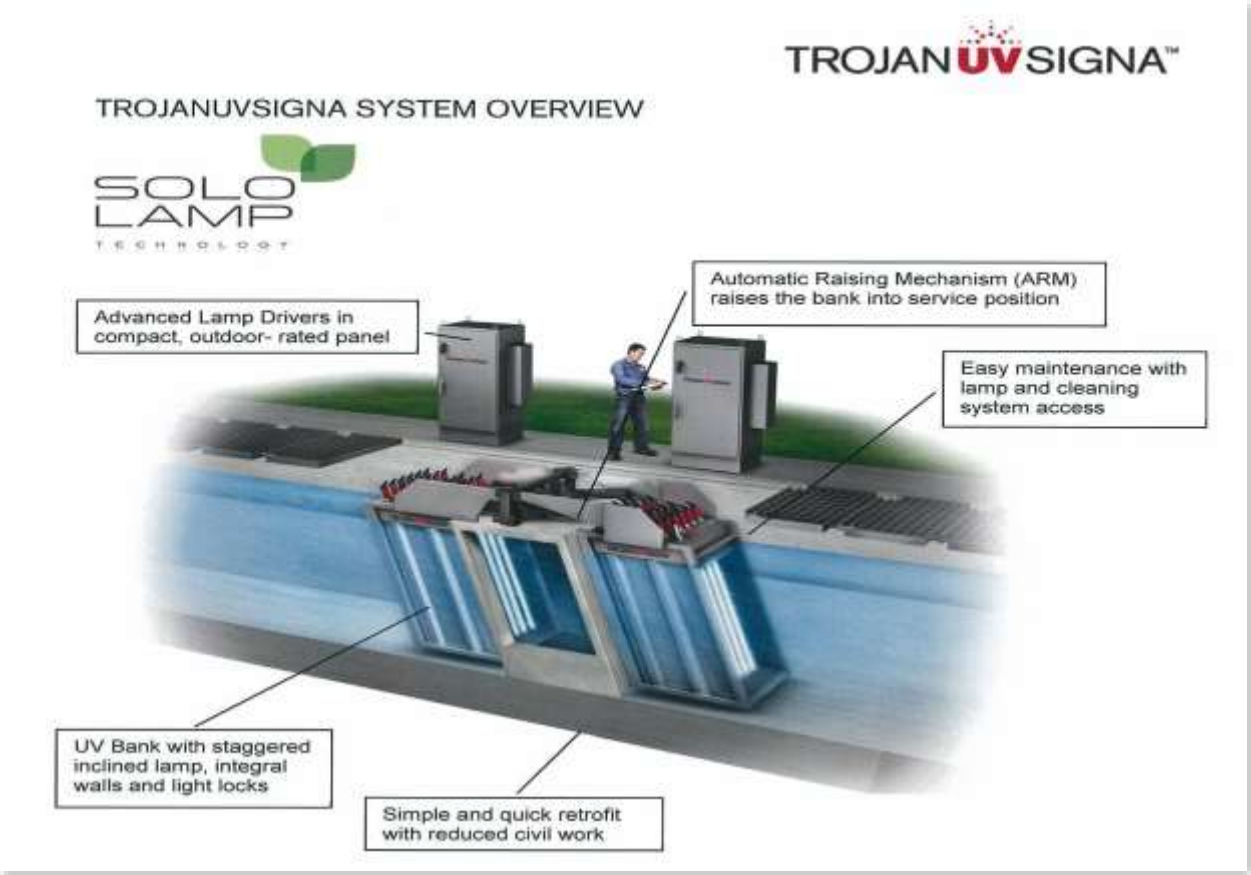
Energy recovery using the ORC unit is the largest energy savings project for the City. It also contributes to the London's Community Energy Action Plan which has "Making use of free heat and free light" & "Use of renewable energy" as key guiding principles. This project has been approved for $750,000 in incentives under the Industrial Accelerator Program (IAP) from London Hydro and the IESO.

The below table shows annual GHG emissions saved by using the electricity generated by the ORC system in lieu of electricity from the grid.

Estimated Method	**Annual GHG Emissions Reduction (tonnes)**
Electricity GHG savings using the grid-average emissions factor	110
Electricity GHG savings using fossil-on-margin emissions factor	580

Based on the economic and environmental benefits identified in the feasibility study, the City is currently working towards implementing the ORC system as a capital project for the Greenway WWTP. The timeline for project completion is estimated to be December 2020.

Ultraviolet (UV) Disinfection System Upgrade - As part of efficiency upgrade at Greenway and Adelaide WWTPs, the City is planning to replace the existing UV disinfection system, which is approaching the end of its asset life, with more current technology. UV is the most effective, safe and environmentally friendly way to disinfect wastewater. It provides broad spectrum protection against a wide range of pathogens, including bacteria, viruses and chlorine-resistant protozoa. However, these systems are energy intensive and accounts for seven percent and four percent of Adelaide and Greenway WWTPs total electrical energy use.



The planned system to be implemented is a Trojan UV Signa™ system that is proven to reduce energy consumption, costs and drastically simplify operation and maintenance of the system. Currently, the City is in the planning stages for this project and it will likely be implemented as part of a larger capital project at the Adelaide and Greenway treatment plants. These projects are expected to be completed and in operation by 2021.

Wastewater Treatment plant	**Expected energy savings from UV disinfection upgrade project**
Adelaide WWTP	153,000 kWh/year
Greenway WWTP	532,000 kWh/year

6.3.2 Behavioral Initiatives

1. Undertake operator training workshops.
2. Continue to build upon ”Culture of Conservation” program to encourage employee engagement towards energy conservation in the workplace
3. Assign environmental champion to promote “Culture of Conservation” activities within WWTPs.
4. Develop and adopt energy dashboard for WWTPs.

6.3.3 Proposed Initiatives

1. Investigate solar PV installation opportunity at the five treatment facilities
2. Replace all the outdoor/indoor light (high pressure sodium/fluorescent) fixtures with LEDs.
3. Review and implement measures recommended in the Chemically Enhanced Primary Treatment Study by Western University on Adelaide treatment plant.
4. Utilize FOG cup generated waste as an additional fuel source for the ORC.
5. Review and implement measures recommended in monitoring and tracking study by UWO on Adelaide treatment plant.
6. Investigate and participate in battery storage technology for Class A Ontario peak days and Demand Response periods.
7. Investment in future energy audits towards identifying new energy savings measures including renewable projects and opportunities on WWTPs infrastructure.

Wastewater Operations Targets: Wastewater treatment is a highly energy intensive process which is required to provide a safe level of treatment in a compact footprint. Based on current planning estimates, it is expected that wastewater flows treated at the City’s WWTPs will increase by approximately 18 percent over the next five years, largely as a result of new industrial contributions. As a result, energy consumption at our wastewater facilities is forecasted to increase by seven percent by 2023. These increases relate to processes necessary for treatment and therefore cannot be avoided. However, projects outlined in sections above improve the efficiency of wastewater related processes to ensure that energy used is done so in the most efficient manner possible. To reflect this, energy targets have been presented in terms of energy consumed (ekWh) per 1,000,000 L (Mega Litre –ML). The targets provided for 2023 demonstrate the City’s continued path towards optimizing how we use energy.

Table 4 – Wastewater Operations Target

Target	Energy Efficiency (ekWh/Mega Liter)
2018	738
CDM target reduction	67
2023	671
Percentage reduction	9%

6.4 Traffic Signals and Streetlights

City of London has already completed LED conversion of 20,000 out of 35,000 streetlight fixtures from high pressure sodium fixtures in Phase One and Phase Two projects. This resulted in a 30 percent reduction of electricity consumption and a 14 percent reduction in utility cost to the City. Currently City is investigating conversion of the remaining 15,000 streetlights to LED as part of Phase Three, which covers all the remaining streetlights which are located along local streets or walkways connecting streets. Phase Three also covers 150 streetlight wall pack fixtures which are located at pedestrian tunnels. Savings associated with the proposed Phase Three project are shown in the below table.

Table 5 – Streetlights Target

Target	Energy consumption (ekWh)
2018	18,421,000
CDM target reduction	3,285,000
2023	15,136,000
Percentage reduction	18%

6.5 Fleet Services and Equipment

Fleet Services include vehicle and equipment purchases and disposals, maintenance and service, asset management/administration and fuel management including refuelling stations. Fleet Services' vehicles and equipment support over 30 City of London program areas including Water, Sewer, Wastewater, Transportation, Solid Waste and Parks & Recreation. Fleet Services also provides various services to agencies, boards, and commissions including London Public Library, Tourism London, London Animal Care Centre, EMS, Fire and Police Services.

- The Corporation's Fleet Services Division is responsible for over $54 million in municipal fleet and equipment assets.
- The Corporation's equipment and fleet consists of over 1,310 units ranging from hand held equipment like string trimmers, to light passenger vehicles, to a whole range of commercial vehicles like dump trucks, waste collection vehicles and heavy off-road and speciality equipment like graders, hydro-excavators and backhoes.
- Fleet contributes to 17% of the total energy consumption by the Corporation and is second highest in GHG emissions (39 percent).
- The fleet initiatives listed in this report contribute to 2% reduction in fleet fuel consumption and reduce 250 tonnes per year of GHGs by 2023.

6.5.1 Planned Initiative

CNG Transition of Solid Waste Trucks - In an effort to reduce its GHG emissions, Fleet Services and Solid Waste Operations have partnered in a plan to convert all of its solid waste collection trucks from diesel to compressed natural gas (CNG) by 2025. Council approved this project in early 2018 and the first phase of CNG trucks have been ordered. Six out of 37 trucks will be CNG by the first quarter of 2020. By end of 2023, 24 trucks will be converted into CNG. This contributes to 150 tonnes GHG emission reductions by 2023. A full transition of 37 trucks is scheduled by end of 2025.

Simultaneously, the City is investigating the use of renewable natural gas (RNG) from its W12A landfill to be used in solid waste collection trucks instead of CNG. If this initiative is successful and implemented before 2023 it would mean that the waste collection fleet would be powered 100 percent with the waste they collect. This in turn will increase the GHG emission reductions by three fold.

6.5.2 Behavioural Initiatives

1. Expansion and better use of idling data from Telematics systems
2. “Green Fleet” campaigns with end users around responsible green decisions (right sizing, fleet optimization, increased utilization, vehicle sharing, fuel savings and efficiency, idle management, changing behaviour)
3. Car share to reduce fleet size and limit underutilization

6.5.3 Proposed initiatives

Fleet Services’ operations are built upon success achieved and lessons learned in the past five years. These key initiatives contribute to 2019-2023 CDM targets and are as follows:

1. Expansion of GRIP Idle Management technology
2. Expansion and better use of idling data from Telematics systems
3. Addition of electric vehicle chargers and vehicles at City Hall and AJ Tyler operations
4. Explore further expansion of CNG vehicles
5. Monitor and track Green Fleet performance through CDM targets and annual update reports.

Fleet Target **–** unlike other service areas of the City, Fleet Services’ performance is measured to GHG emission reductions. This supports City’s long term goals and Fleet Services’ green initiatives.

Table 6 – Fleet Target

Target	GHG Emissions (tonnes)
2018	7,340
CDM target reduction	250
2023	7,090
Percentage reduction	3.5%

6.6 Other Area Measures

Other service areas of City of London listed below contribute indirectly to the 2019-2023 CDM goals.

Service Area	Goal	Proposed initiative
Purchasing and Supply	Source and identify energy efficient products during the procurement of equipment	Build upon the existing sustainable purchasing policy. Adopt Green procurement standards.
Purchasing and Supply	Energy procurement strategy for energy commodity	Continue to evaluate utility rates on behalf of the City's commodity supply arrangements to optimize rates favourable to the City
Asset Management (Facilities)	Adopt climate change impacts in financial planning	Assign funds to climate change mitigation actions such as reduce energy consumption and emissions reductions which are significant decision drivers when planning new assets or renovating existing assets.
Transportation Demand Management – Environmental Programs	Bikes and electrically-assisted bikes (e-bikes) in the Fleet, bike share corporate membership, car share corporate membership, full corporate participation in Commute Ontario, full bicycle facilities at all City facilities, carpool parking spaces at all City facilities.	Conduct survey to review the potential use for bikes and e-bikes in City fleet. Conduct annual surveys to assess City staff commute modal split. Add bicycle facilities to all City facilities. Add carpool parking spots to all City facilities. Explore feasibility of joining a car share and/or bike share program as a corporate member.

Service Area	Goal	Proposed initiative
Planning – Environmental and Parks Planning	Reduce energy consumption in City of London parks	Review lighting standards for parks to assess the needs and to adjust lighting requirements to suit time of use. Expand the use of solar-powered lighting and LED technology.
All Service Areas – Corporate Buildings and Facilities	All renovations to the existing buildings and assets to include an energy efficiency review to ensure targets and efficiencies are being considered	Develop a policy that all retrofits to infrastructure consisting of energy measures be reviewed by Energy Management Conservation Committee (EMCT) for comment.

All the *Planned, Proposed and Behavioural* initiatives listed in section 4 contribute to 8,250,000 ekWh of total energy savings which is equivalent to 1,030 tonnes of GHG reductions by 2023. Meeting 2019-2023 CDM targets will help in moving towards net zero emissions by 2050 (City of London's long term goal).

7. Implementation Structure

The intent of 2019-2023 CDM Plan is to prepare a document that is going to be used by the City to better manage energy use, reduce energy consumption and to demonstrate leadership in the community. For a successful implementation of the CDM Plan, City of London has identified the following areas of improvement: Organizing & Commitment, Motivation, Budget and Monitoring & Marketing.

7.1 Organizing & Commitment

The 2019-2023 CDM Plan is to be reviewed and updated annually to the council. The successful implementation of the 2019-2023 CDM Plan comes from commitment and collaboration from inter departmental staff. The level of commitment towards the CDM plan depends on the level of commitment by Council, senior management and staff at the City.

For stronger adoption of the 2019-2023 CDM Plan and its initiatives by various service areas, it is recommended that:

1. The City create and maintain *Energy Focused Service Area Groups* which meet weekly or bi-monthly to discuss on-going initiatives and best practices. Water and Wastewater Operations, Facilities and Fleet operations need to act on these initiative closely as they contribute to 80 percent of the emissions and energy consumption for the City.

2. Corporate energy management engineers need to be responsible for these energy committees representing all users and participate on as needed basis to discuss CDM initiatives, track progress and share region-wide initiatives.

7.2 Motivation

Education and awareness programs on energy conservation play an integral role in achieving and sustaining reductions in energy use. While efforts to adopt energy efficient equipment, maintenance and operational practices can be challenging, it is a much more difficult challenge to establish energy efficiency as a fundamental value. People tend to take energy for granted, and many are unaware of the opportunities they have to reduce energy use.

GHG emission reduction needs to be integrated into the everyday practices and thinking of more City of London staff. Increasing staff awareness towards energy use is therefore important to ensure the success of the energy efficiency initiatives.

Currently, corporate energy staff works with informal contacts in various service areas and with Human Resources (HR) staff to promote employee engagement events and messages. To leverage on existing mechanisms for employee engagement and motivation, corporate energy staff will:

1. Will contact major users through *Energy-Focused Service Area groups* chaired by an "*Environmental Champion*"
2. Continue to develop and improve upon the employee engagement program to solicit energy saving ideas from City of London staff
3. Take a holistic approach for promoting energy and environmental activities for City staff under the "Culture of Conservation" banner.
4. Develop and promote user friendly and "easy-to-understand" energy dashboard.

7.3 Energy Budget

The City has actively committed to many measures towards energy management in the past that have positioned us. Since the expansion of the Corporate Energy Management program in 2007, the City of London has assigned an annual budget of between $300,000 to $600,000 towards the program and the associated costs for energy management staff, feasibility studies, and other consulting costs. The City has also invested between $250,000 and $1 million per year in capital expenditures related to energy efficiency projects. The City has also spent approximately $14.5 million on energy efficiency motivated projects and lifecycle renewal projects with energy benefits in the last five years. To implement all the identified Planned and Behavioral measures of 2019-2023 CDM Plan, City is investing $6 to $8 million in the coming five years.

Additionally to implement standalone energy projects and initiatives with no budget constraints, it is recommended that:

1. The current Energy Revolving Fund which exists in Facilities be adopted by other major service areas as well to implement energy initiatives or standalone energy projects
2. It is recommended to tap into City's Efficiency, Effectiveness & Economy (EEE) Reserve to implement energy projects and green initiatives which contribute to the Strategic Plan's Building a Sustainable City goals.
3. Utilization of incentive opportunities from governmental and distribution companies towards energy projects.

Energy procurement strategy - The City will continue to seek and pursue energy procurement strategies to achieve cost certainty and best value. There is currently few options for electricity procurement in the marketplace, however, opportunities in the natural gas market continue to be available.

7.4 Monitoring and Marketing

Monitoring - The City currently monitors energy performance (natural gas, electricity and water) through the utilization of a billing analysis and accounting software suite, EnergyCAP. Furthermore, the City uses London Hydro's Interval Data Center to analyse minute-resolution electrical consumption and demand profiles to diagnose operational issues and perpetuate conservation efforts.

Moving forwards, the City will utilize RETScreen to develop and improve energy monitoring performance. RETScreen is an energy accounting software used to identify, assess and optimize the technical and financial viability of conservation projects, as well as ongoing energy performance analysis.

Reporting - In compliance with the Energy Conservation and Demand Management Plans Regulation (O.Reg. 507/18), the City will continue to report its annual energy use and GHG emissions using the Ministry's template on an annual basis. The City will submit its 2019-2023 CDM Plan Update report on November 1st, 2019. This update will serve as a report to document results of the initiatives identified the 2014-2018 CDM Plan and will be updated again in five years as per regulatory requirements.

Apart from the five year CDM plan reporting to the Ministry, Environmental Programs staff will be producing annual energy reports that will include:

- Impacts of energy projects/initiatives implemented by individual service areas.
- Progress towards the 2019-2023 CDM Targets
- Annual energy consumption compared with City's Strategic Plan baseline year of 2007 and CDM Plan updated baseline year of 2018.
- A revised forecast of Planned, Proposed and Behavioural measures.
- A description of any proposed changes to be made to assist the City in achieving established 2019-2023 CDM targets and forecasts.
- A report on the actual results achieved based on the energy initiatives of the 2019-2023 CDM Plan.

Celebrating Success - Previously energy management was promoted through informal contacts. The key focus in the development of 2019-2023 CDM Plan is to market the value of energy efficiency and performance of energy initiatives both within the organisation and outside it. The implemented energy measures and the results will be promoted internally via Environmental Champions under *Culture of Conservation* program. The success from staff and service area that make significant strides towards emission reductions will be recognised through employee recognition awards (BRAVO award, etc.), staff celebration, Team London forums and employee engagement or Community events.

The success of the 2019-2023 CDM Plan relies on adoption of the Plan by various service areas and City staff. Through the City's *Culture of Conservation* program, staff are further encouraged to participate in increasing corporate energy efficiency through behavioural-based ways (e.g., turn energy using infrastructure off or down when not needed).

The City is committed to following the direction of this plan, and will take the necessary steps to ensure its implementation and success. The CDM Plan is a living document that will provide a roadmap and build internal energy management knowledge and awareness that will provide the groundwork for successful energy management decisions and actions within all corporate operations for the next five years and beyond.

Appendix A

2014-2018 Completed Energy Projects:

Facility Name	Project Name	Estimated/ Actual Electricity Savings (MWh)	Completion Date
Richmond Street	LED Roadway Lighting	3 MWh	10-01-14
EMPS	EMPS Pumps	850 MWh	31-01-18
Centennial Hall	Centennial Hall LED Exterior/Pots	7 MWh	31-01-14
Argyle Arena	Argyle Arena Cold Water Flood	26 MWh	07-02-14
Carling Arena	Carling Arena Cold Water Flood	32 MWh	07-02-14
Junior Achievement	Junior Achievement Lighting Retrofit	7 MWh	30-04-14
W12A Landfill	W12A Landfill T12 Retrofit	1 MWh	06-06-14
City Hall	City Hall Lobby Retrofit	28 MWh	30-05-14
Labatt Park	Labatt Park Interior Lighting Retrofit	5 MWh	31-05-14
Covent Garden Market	CGM Medium Bay Lights	243 MWh	30-05-14
City Hall	Cafeteria Lighting Retrofit	19 MWh	08-08-14
Oxford PCP	Aeration Upgrades - Oxford PCP	897 MWh	29-08-14
River Road Golf Course	Ligthing Retrofit	5 MWh	22-08-14
CGAC	CGAC Spectator RTU	6 MWh	31-10-14
CGAC	CGAC Pool Lighting	363 MWh	31-10-14
CGAC	CGAC Admin/Office RTU	2 MWh	31-10-14
CGAC	CGAC Pump VFDs	115 MWh	31-10-14
CGAC	CGAC Natatorium AHUs	MWh	31-10-14
CGAC	CGAC Make up Air	30 MWh	31-10-14
CGAC	CGAC Parking Lot Lights	21 MWh	31-10-14
CGAC	CGAC Building Automation System	10 MWh	31-10-14
Centennial Hall	Centennial Hall Pot Lights	13 MWh	31-10-14
Covent Garden Market	Rooftop Unit Replacement	2 MWh	30-06-14
Wilton Grove Yard Salt Storage	Wilton Grove Yard Salt Storage Lighting	3 MWh	30-10-14

Facility Name	Project Name	Estimated/ Actual Electricity Savings (MWh)	Completion Date
Eldon House	Eldon House Lighting Upgrade	9 MWh	30-10-14
Stronach Arena	Stronach Gym - Lighting Retrofit	36 MWh	26-12-14
AJT Operations Centre	Victoria Park Christmas Lights	151 MWh	15-12-14
Streetlights	Phase 1 of the LED StreetLight Upgrade Program	4,958 MWh	10-08-15
Centennial Hall	Centennial Hall Interior Lighting Upgrades	20 MWh	20-02-14
Adelaide Operations Centre	Exterior Lighting Upgrades	8 MWh	20-04-15
Covent Garden Market	Rooftop Unit Replacement	5 MWh	04-05-15
Dearness Home	Dearness Home - Pot Light Retrofit Phase I	65 MWh	16-07-15
CGAC	General Lighting Upgrades	14 MWh	04-09-15
City Hall	Executive Parking Garage Lighting	29 MWh	22-09-15
Fire Department London	Exterior Lighting Upgrades	11 MWh	31-12-15
Oakridge Arena	Exterior Lighting Upgrades	9 MWh	30-06-16
Lambeth Community Centre	Exterior Lighting Upgrades	26 MWh	31-12-15
Farquharson Arena	Exterior Lighting Upgrades	8 MWh	11-12-15
Earl Nicols Recreation Centre	Arena Exterior Lighing Upgrades	41 MWh	31-12-15
Carling Heights	Exterior Lighting Upgrades	18 MWh	11-12-15
AJT Operations Centre	Exterior Lighting Upgrades	49 MWh	31-03-17
Kiwanis Senior's CC	General Lighting Upgrades	9 MWh	15-01-16
Carling Heights	General Lighting Upgrades	2 MWh	03-03-17

Facility Name	Project Name	Estimated/ Actual Electricity Savings (MWh)	Completion Date
Adelaide PCP	Aeration Upgrades - Adelaide PCP	819 MWh	26-09-14
Vauxhall PCP	Aeration Upgrades - Vauxhall PCP	1,190 MWh	31-07-14
CGAC	CGAC Cogeneration project	465 MWh	31-03-17
Farquharson Arena	Farquharson Arena Insulate Walls	2 MWh	01-10-13
City Hall	Preventative Maintenance - Firehalls	136 MWh	01-06-14
City Hall	Preventative Maintenance - City Hall	203 MWh	01-06-14
City Hall	Culture of Conservation - City Hall	107 MWh	01-07-14
AJT Operations Centre	Culture of Conservation - AJT OC	89 MWh	30-06-15
Adelaide Operations Centre	Culture of Conservation - AOC	38 MWh	30-06-15
Exeter Road Operations Centre	Culture of Conservation - EROC	64 MWh	30-06-15
AJT Operations Centre	Direct Install Lighting Program	127 MWh	31-12-14
Centennial Hall	Centennial Hall Exhaust Air Correction	44 MWh	31-03-15
Farquharson Arena	On-demand Glycol pump control via soft start VFD	202 MWh	31-10-15
Centennial Hall	Centennial Hall Rooftop Unit	3 MWh	31-01-14
AJT Operations Centre	AJT 2nd Floor Office Lighting	13 MWh	31-03-17
Earl Nicols Recreation Centre	Arena Desiccant Dehumidification	86 MWh	30-06-18
AJT Operations Centre	Garage high bay and Main Building Interior Lighting Retrofit	92 MWh	30-11-17
AJT Operations Centre	HVAC upgrades	4 MWh	31-12-17

Facility Name	Project Name	Estimated/ Actual Electricity Savings (MWh)	Completion Date
Oakridge Arena	Arena Desiccant Dehumidification	17 MWh	30-06-18
North London Optimist CC	Replace 4 pad mounted HVAC units	4 MWh	31-01-16
Earl Nicols Recreation Centre	Nichols Arena - Lighting Upgrades	3 MWh	31-03-17
City Hall	City Hall Executive Parking Garage Lighting Upgrade	29 MWh	22-09-15
City Hall	Arena Programming Consolidation	116 MWh	31-12-16
Argyle Arena	Argyle Arena - Equipment Summer Schedule	25 MWh	06-01-16
Adelaide PCP	Adelaide PCP Lighting Retrofit	25 MWh	30-06-18
Adelaide Operations Centre	Phase 6 - Adelaide OC Lighting	64 MWh	31-12-18
Argyle Arena	Phase 6 - Argyle Arena Level Ice Control	54 MWh	31-12-18
Carling Heights	Phase 6 - Pool Lighting Retrofit	69 MWh	31-12-18
Stronach Arena	Phase 5 - Arena Desiccant Dehumidification	31 MWh	28-02-17
Carling Arena	Floating Head Pressure Control	185 MWh	10-10-14
Kinsmen Arena	Phase 6 - Level Ice System	54 MWh	31-12-18
Stronach Arena	Phase 6 - Level Ice System	54 MWh	31-12-18
City Hall	Phase 2 of the LED StreetLight Upgrade Program	6,200 MWh	31-12-17
AJT Operations Centre	IPLC Smart Power Receptacle Reprogramming	251 MWh	01-02-17
Adelaide Operations Centre	IPLC Smart Power Receptacle Reprogramming	158 MWh	01-02-17
Exeter Road Operations Centre	IPLC Smart Power Receptacle Reprogramming	366 MWh	01-02-17
Oxford OC	IPLC Smart Power Receptacle Reprogramming	50 MWh	01-02-17

Facility Name	Project Name	Estimated/ Actual Electricity Savings (MWh)	Completion Date
Citi Plaza	Lighting Retrofit - Citi Plaza	9 MWh	31-07-17
Oakridge Arena	Phase 6 - Floating Head Pressure Control	152 MWh	14-12-18
Labatt Park	Exterior Lighting Upgrades	12 MWh	07-06-18
City Hall	Exterior Lighting Upgrades	204 MWh	31-12-18
Dearness Home	Direct Digital Control System Upgrade Phase I	400 MWh	31-12-18
Stronach Arena	Floating Head Pressure Control	184 MWh	31-01-18
Argyle Arena	Argyle - Increase Humidity Setpoint	144 MWh	13-12-18
Carling Arena	Level Ice	54 MWh	30-11-18
Covent Garden Market	Ice Plant Upgrades	13 MWh	01-01-18
South London Community Center	LED Retrofit - Hallway Lighitng	20 MWh	31-12-18
Streetlights	Phase 2 LED streetlights	4,410 MWh	31-12-17
London Museum	Replace the existing building automation system chiller controllers with new controllers with optimized sequences.	25 MWh	20-05-18
Greenway WWTP	Replace the existing aeration blowers with new energy efficient turbo blowers at the pollution control plant	4,334 MWh	01-03-17
Arva Pumping Station	Optimize the utility and efficiency of the 700 horsepower (HP) pumps in the station by completing a combination of impeller trimmings and impeller replacements.	1,125 MWh	31-12-16

Appendix B

Planned Initiatives for 2019-2023

Facility Name	Project Name	Estimated/ Actual Electricity Savings (MWh)	Completion Date
AJ Tyler Operations Centre	Energy Management Control System Upgrades and Expansion	27,640	10-01-20
AJ Tyler Operations Centre	Rooftop HVAC Replacement	12,000	31-01-19
Adelaide Operations Centre	Energy Management Control System Upgrades and Expansion	25,524	31-01-20
Argyle Arena	Energy Management Control System Upgrades and Expansion	40,975	07-02-19
Argyle Arena	LED Ice Pad Lighting Upgrades	50,000	07-02-19
Blackburn Fountain	Energy Management Control System Upgrades and Expansion	3,750	30-04-20
Canada Games Aquatic Centre	Energy Management Control System Upgrades and Expansion	65,560	06-06-20
Carling Arena	Energy Management Control System Upgrades and Expansion	38,475	30-05-20
Carling Heights Optimist Community Centre	Energy Management Control System Upgrades and Expansion	38,475	30-05-20
Civic Garden Complex	Energy Management Control System Upgrades and Expansion	19,725	30-06-20
Dearness Home	Energy Management Program	423,044	30-05-21
Eldon House	HVAC Upgrades	10,350	30-04-20
Fire Hall 1	Energy Management Control System Upgrades and Expansion	14,390	30-10-19
Fire Hall 2	Energy Management Control System Upgrades and Expansion	17,987	30-12-19

Fire Hall 5	Energy Management Control System Upgrades and Expansion	3,917	30-06-20
Fire Hall 8	Energy Management Control System Upgrades and Expansion	3,317	30-12-19
Fire Hall 11	Energy Management Control System Upgrades and Expansion	5,695	30-12-19
Fire Hall 12	Energy Management Control System Upgrades and Expansion	11,292	30-05-20
J Allyn Taylor	Energy Management Control System Upgrades and Expansion	8,896	30-04-20
Kinsmen Arena	Energy Management Control System Upgrades and Expansion	47,572	30-09-20
Kinsmen Arena	LED Ice Pad Lighting Upgrades	50,000	30-08-20
Kiwanis Senior Centre	Energy Management Control System Upgrades and Expansion	9,195	30-05-20
Lambeth Arena and Community Centre	Energy Management Control System Upgrades and Expansion	26,682	30-04-21
North London Optimist Community Centre	Energy Management Control System Upgrades and Expansion	24,585	30-06-21
North London Optimist Community Centre	HVAC Upgrades	6,860	30-06-21
Earl Nichols Arena and Community Centre	Energy Management Control System Upgrades and Expansion	67,572	30-06-21
Earl Nichols Arena and Community Centre	LED Ice Pad Lighting Upgrades	75,000	30-06-21
Provincial Offences Act	Energy Management Control System Upgrades and Expansion	11,744	31-07-20

South London Community Centre	Energy Management Control System Upgrades and Expansion	15,987	25-02-20
South London Community Pool	Energy Management Control System Upgrades and Expansion	36,475	25-02-20
South London Community Pool	LED Natatorium Lighting Upgrades	12,500	30-03-20
Adelaide WWTP	UV disinfection technology upgrade –utilizing the Trojan UV Signa™ system	154 MWh	01-12-21
Greenway WWTP	UV disinfection technology upgrade –utilizing the Trojan UV Signa™ system	533 MWh	01-12-21
Greenway PCP	Installation of ORC engine to utilize waste heat and generate electricity	3,960	01-12-21
LED Streetlights	Phase 3 streetlights – convert remaing 15,000 fixtures to LEDs	3,300 MWh	01-12-23
Fleet	Convert Solid Waste Trucks to CNG	150 GHG tonnes	31-12-23

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**2018 COMMUNITY ENERGY USE AND GREENHOUSE GAS EMISSIONS INVENTORY AND UPDATE ON THE DEVELOPMENT OF THE 2019-2023 COMMUNITY ENERGY ACTION PLAN**

RECOMMENDATION

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

a) this report on the 2018 Community Energy Use and Greenhouse Gas Emissions Inventory **BE RECEIVED** for information;

b) this report **BE INCLUDED** as one of many informational and technical sources to assist in further reducing fossil fuel energy use and increasing climate change actions, as per the City's Climate Emergency Declaration, and become a central document as part of the community engagement process for the development of the 2019-2023 Community Energy Action Plan starting in November 2019; it being noted that City staff are preparing additional details with respect to the City's Climate Emergency Declaration; and,

c) this report **BE CIRCULATED** to the Advisory Committee on the Environment (ACE), Transportation Advisory Committee (TAC), Cycling Advisory Committee (CAC), Trees and Forestry Advisory Committee (TFAC), Agricultural Advisory Committee (AAG) and Environmental & Ecological Planning Advisory Committee (EEPAC) for their information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

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

- Report to the April 2, 2019 Civic Works Committee (CWC) Meeting, Development of the Next 2019-20123 Community Energy Engagement Plan (Agenda Item #2.7)
- Report to the April 2, 2019 CWC Meeting, 2014-2018 Community Energy Action Plan Final Update (Agenda Item #2.7)
- Report to the August 13, 2018 Civic Works Committee (CWC) Meeting, 2017 Community Energy and Greenhouse Gas Inventory (Agenda Item #2.7)

STRATEGIC PLAN 2019-2023

Municipal Council continues to recognize the importance of climate change mitigation, climate change adaptation, sustainable energy use, related environmental issues and the need for a more sustainable and resilient city in the development of its 2019-2023 - Strategic Plan for the City of London. Specifically, London's efforts in both climate change mitigation and adaptation can address four of the five Areas of Focus, at one level or another:

- Strengthening Our Community
- Building a Sustainable City
- Growing our Economy
- Leading in Public Service

BACKGROUND

PURPOSE

The purpose of this report is to provide the CWC and Council with:

- an overview of the 2018 Community Energy Use and Greenhouse Gas Emissions Inventory;

- how this information illustrates the challenges and opportunities associated with reducing community energy use and greenhouse gas (GHG) emissions; and

- how Londoners, employers and employees can get involved in the upcoming community engagement process as part of the development of the 2019 - 2023 Community Energy Action Plan starting in November 2019.

This CWC report and the comprehensive 2018 Community Energy Use and Greenhouse Gas Emissions Inventory report (found on the City of London website www.london.ca) are key deliverables of the Community Energy Action Plan (CEAP), with the overarching goal of reducing GHG emissions caused by consuming fossil fuels.

CONTEXT

The City of London does not have direct control over how much energy is used in London, but it does have influence. The control over energy use in London rests primarily with citizens, visitors, employers and employees. Individual and collective action with respect to sustainable energy use, energy management, and energy conservation is critical for our future.

London's 2014-2018 Community Energy Action Plan (CEAP) was approved by Council in July 2014. Within the 2014-2018 CEAP, listed under the subsection titled Reporting and Education about the Economic and Environmental Considerations of Energy Use, the highest priority actions for the City of London were to:

1. Provide Londoners with annual information on community energy use and GHG emissions;
2. Develop and report new energy-related performance indicators that highlight the total cost of energy and total money saved/generated from community energy actions; and
3. Develop new tools to raise awareness on progress being made in London.

Goals of 2014-2018 CEAP – GHG Reduction Targets

The overall goals of the 2014-2018 CEAP are to:

1. Increase the local economic benefit of sustainable energy use through:
   a. Cost savings from energy conservation and energy efficiency,
   b. Revenue from local production of clean and green energy products, and
   c. Job creation associated with product and service providers engaged in these activities.

2. Reduce the environmental impact associated with energy use, through the use of greenhouse gas (GHG) emissions reduction targets, namely:
   a. 15 percent reduction from 1990 levels by 2020,
   b. 37 percent reduction from 1990 levels by 2030, and
   c. 80 percent reduction from 1990 levels by 2050.

The three most common benchmark dates used by City staff to report on overall progress are:

- 1990 – the baseline year previously used for the Province of Ontario's GHG reduction targets
- 2007 – the year that energy use and greenhouse gas emissions reached their peak
- 2010 – the first year for which total energy cost data was determined

The 2018 Community Energy Use and Greenhouse Gas Emissions Inventory provides an overview of the energy used in the London community as a whole. This report covers all significant energy sources used in London: natural gas, gasoline, electricity, diesel, fuel oil, and propane. Energy-using sectors covered by the inventory include transportation, residential, industrial, commercial, and institutional. It also includes an estimate of the total cost associated with these energy needs and the greenhouse gas emissions associated with these energy sources. In addition, this report also includes the greenhouse gas emissions associated with the City of London's W12A Landfill and closed landfill sites as well as sewage sludge incineration at the Greenway Wastewater Treatment Plant.

The City of London also reports this information on an annual basis to CDP Cities (formerly the Climate Disclosure Project) and the Global Covenant of Mayors for Climate & Energy.

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.*

The 2018 Community Energy Use and Greenhouse Gas Emissions Inventory report is the measurement tool to highlight London's progress towards meeting its community energy reduction and GHG reduction targets along with other targets and directions.

DISCUSSION

This section is divided into two parts:

Part A: Overview of the 2018 Community Energy Use and Greenhouse Gas Emission Inventory

Part B: Launching the Development of the 2019-2023 Community Energy Action Plan

PART A: Overview of the 2018 Community Energy Use and Greenhouse Gas Emissions Inventory

The 2018 Community Energy Use and Greenhouse Gas Emissions Inventory report can be found on the City of London website (www.london.ca). Highlights from the 2018 report are below in two categories:

1. Community energy use by product and sector including cost spent on energy
2. GHG generation, historical trends, reductions and progress towards current targets

Energy use accounted for 94 percent of community GHG emissions. The remaining six percent of GHG emissions are methane emissions from landfills and nitrous oxide emissions from sewage sludge incineration.

1. Community Energy Use

Energy use by sector in London is as follows:

- 42 percent from industrial, commercial, and institutional buildings and facilities;
- 34 percent from transportation, primarily cars and trucks on London's roads; and
- 24 percent from single-family residential homes.

There are four major energy commodities used in London – natural gas, gasoline, electricity, and diesel. The following table summarizes the impact of these energy commodities in terms of total energy use, total cost, and GHG emissions.

Energy Commodity	Share of Total Energy Used (in terajoules)*	Share of Total Energy Costs	Share of Energy-related GHG Emissions
natural gas	45%	18%	48%
gasoline	25%	37%	33%
electricity	19%	33%	3%
diesel	7%	8%	10%
other	5%	3%	6%

Note: * a terajoule (or, one trillion joules) is a metric unit for measuring energy, and is approximately equivalent to the energy provided by burning 26,000 litres of gasoline (roughly the amount of gasoline in 500 cars)

Specific highlights of recent community energy use progress and longer-term trends, include:

- **The total amount of energy used in London in 2018 was 61,800 terajoules.** This is a 7% increase over 2017. The combination of a colder winter and a hotter summer in 2018 (compared to 2017) increased the demand for natural gas and electricity.

- **Londoners are using energy more efficiently** – on a per person basis, Londoners and London businesses used eight percent less energy overall in 2018 than used in 2007.

- **London is producing more good and services for every unit of energy used** – on a dollar gross domestic product (GDP adjusted for inflation) per unit energy basis, London's industrial, commercial, and institutional sector improved the value of goods and services produced per unit of energy used by 35 percent between 1990 and 2018.
- **On a per person basis, Londoners and London businesses used eight percent less energy overall in 2018 than used in 2007**. 2007 is the year that energy use reached its peak in London.

- **Almost $1.6 billion was spent by Londoners and London businesses on energy in 2018**. This is an 11% increase over 2017. Almost 90 percent of this money leaves London. Every one percent reduction in energy use that Londoners and London businesses achieve keeps about $13 million from leaving the local economy. Gasoline costs increased by nine percent, due primarily to an increase in crude oil prices in 2018. Electricity costs increased by two percent, due to higher electricity consumption. Natural gas costs increased by seven percent overall, where decreases in natural gas prices were offset by increases in natural gas consumption.

- **London is spending less money on energy** – improvements in energy efficiency compared to 2010 levels of energy efficiency (on a per person basis and applied to activity in 2018) avoided $160 million in energy costs had there been no improvements (i.e., Londoners and businesses would have spent $160 million more in 2018 on energy).

In addition, since 1990:

- The total amount of energy used in London in 2018 was 61,800 terajoules, 20 percent above 1990 levels. This increase is due to London's growing population along with our growing economy, partially offset by the improved energy efficiencies noted below.

- On an energy used per person basis:
  - Transportation fuel use has decreased by 10 percent;
  - Energy use to heat and power single-family residential homes has decreased by 13 percent; and
  - Energy use to heat and power industrial, commercial, and institutional buildings decreased by 3 percent.

The one sector that had been lagging behind a couple of years ago was transportation. The volume of fuel sold in London had been increasing year-over-year between 2011 and 2016, but this trend stopped in 2017 and continued on in to 2018. Transportation fuel use per person decreased by four percent between 2017 and 2018, with transportation energy use per person in 2018 now 10 percent lower than 1990.

Vehicle ownership in London has grown by 36 percent since 2011, or almost five percent per year on average. As of December 2018, there were over 286,000 light-duty vehicles registered in London – an increase of about 75,000 since 2011. When compared to Census data on Londoners between the age of 20 and 84, vehicle registration increased from 0.77 per person in 2011 to 0.94 per person in 2018. However, on a positive note, the average annual fuel use per registered vehicle in London was 19 percent lower in 2018 compared to 2011.

Figure 1 illustrates the trend on energy use for major energy-using sectors on a per person basis since 1990. Figure 2 (next page) illustrates the trend for energy costs by commodity since 2010.

Figure 1 – Change in Energy Use in London, Per Person, by Sector Since 1990

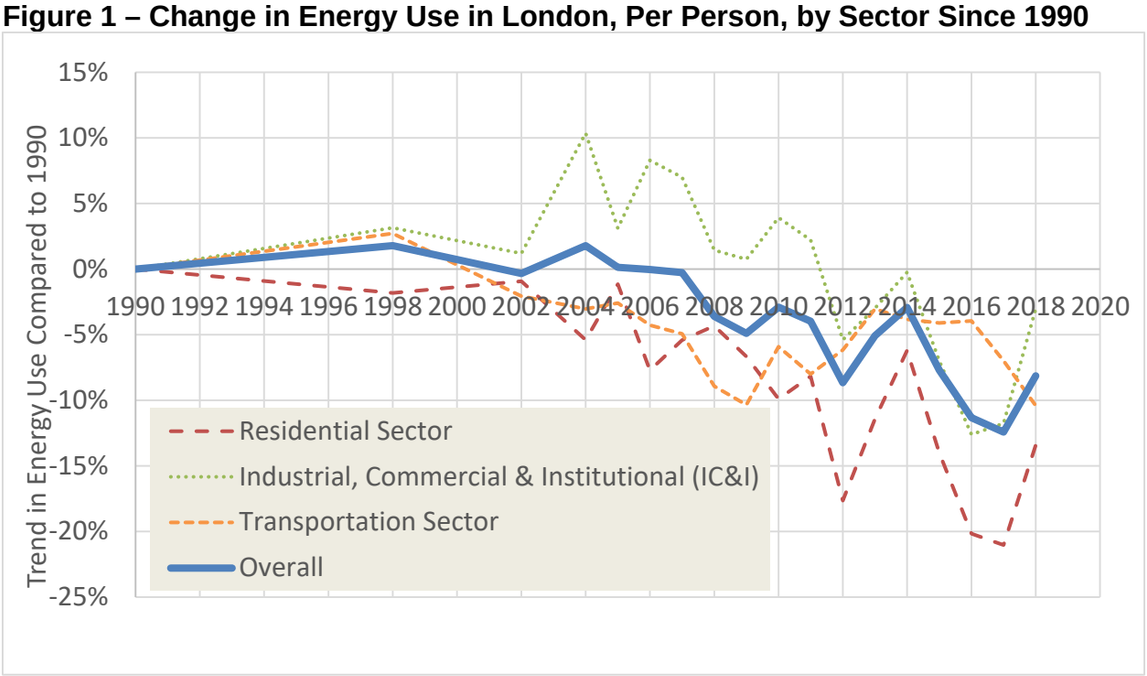
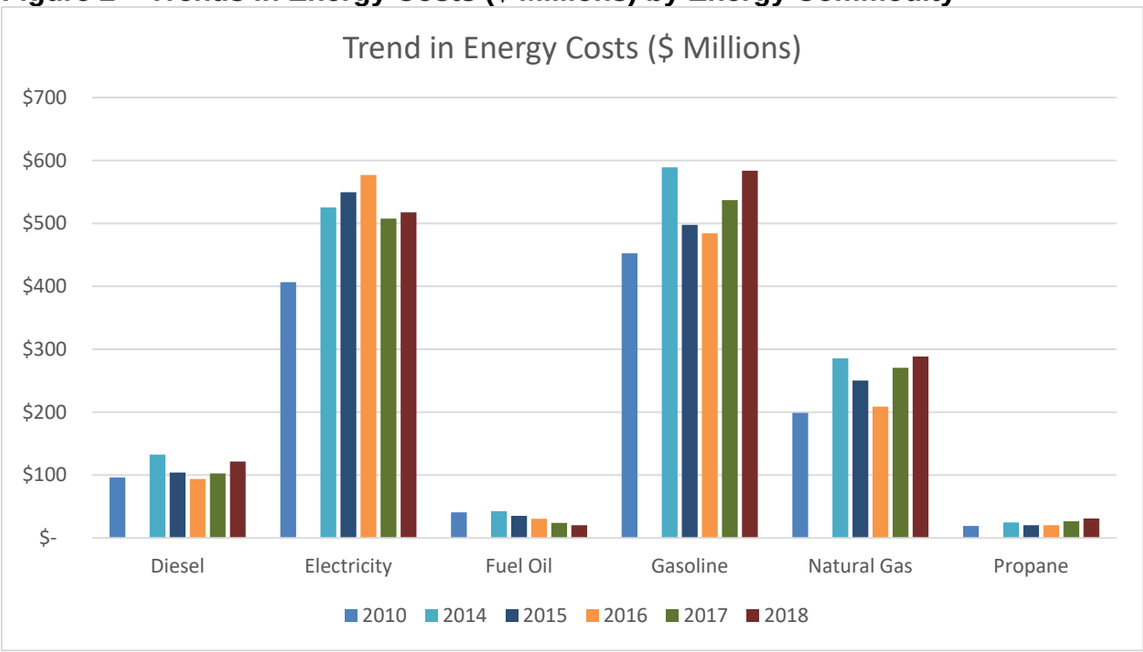


Figure 2 – Trends in Energy Costs ($ Millions) by Energy Commodity



2. <u>GHG Emissions, Trends, Reductions and Progress Towards Targets</u>

Total greenhouse gas emissions in 2018 were over 3.1 million tonnes of equivalent carbon dioxide, or nine percent lower than the 1990 level, which is above the trend line for the first time for meeting the 2020 goal. There were three primary reasons for the increase in emissions in 2018 of which the first two applied to many cities in eastern North America:

- Colder weather in the winter and spring seasons of 2018, compared to 2017, resulted in an increased demand for natural gas for space heating;

- Hotter summer temperatures in 2018, compared to 2017, increased demand for electricity for air conditioning. This increased demand was met by Ontario's natural gas fuelled power plants, which resulted in higher emissions associated with electricity use; and

- Landfill gas emissions from the City of London's W12A Landfill were also higher in 2018 due to operational challenges with the W12A Landfill's gas flare system.

Using a three-year rolling average smooths out the impact of annual variations in weather in order to determine trend directions. One year spikes in GHG emissions have occurred in previous years in London. Although total GHG emissions for 2018 were above the trend line for meeting the 2020 target, the three-year rolling average total GHG emissions for the 2016-2018 period (13 percent below 1990 levels) was still below the trend line for meeting the 2020 target.

In summary:

- **Total GHG emissions in 2018 were over 3.1 million tonnes of equivalent carbon dioxide** – the top three sources in 2018 were personal vehicles (30%), single-family homes (19%), and local industry (14%).

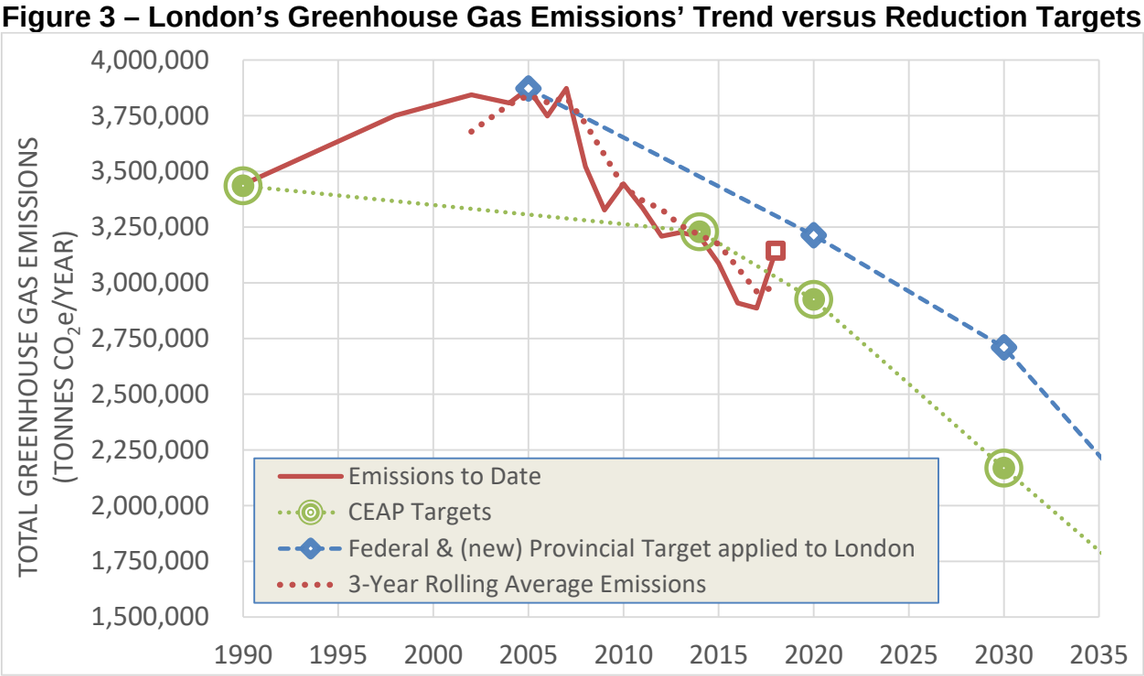
- **London's total GHG emissions in 2018 were 9% below 1990 levels** – the colder winter and a hotter summer increased the use of natural gas for heating and electricity generation, which resulted in higher GHG emissions. In comparison, GHG emissions in 2017 were the lowest to date at 17% below 1990 levels.

- **London's 3-year rolling average for total GHG emissions in 2018 were 13% below 1990 levels** – the rolling average is determined by averaging the last three years (2016, 2017 and 2018). London's CEAP goal is to reach 15% reduction from 1990 levels by 2020.

- **Londoners' per-person GHG emissions are significantly lower** – on a per person basis, Londoners and London businesses released 30 percent fewer greenhouse gas emissions in 2018 than they did in 1990.

Figure 3 illustrates the trends to date for GHG emissions compared to London's CEAP targets as well as targets set by senior levels of government.

Figure 3 – London's Greenhouse Gas Emissions' Trend versus Reduction Targets



Whether emissions continue to decrease depends upon the impact of energy and fuel conservation efforts, provincial and federal climate change policies, climate trends, economic growth, and consumer choices. It is also important to note that these actions also contribute to reductions in air pollution emissions (e.g., nitrogen oxides, volatile organic compounds) from fossil fuel use.

Household-Level Energy Use and Greenhouse Gas Emissions

The average household in London, living in a single-family home, spent over $450 every month on energy. Over half of this, about $260, was spent on gasoline. Electricity accounted for about $100 per month, while natural gas was under $80 per month.

In terms of household GHG emissions, the average household emitted 10.8 tonnes per year. As with cost, about half (49%) of this came from burning gasoline. Natural gas used for space heating and water heating accounted for 40 percent of emissions. Organic waste in the landfill accounted for about eight percent. Given Ontario's clean electricity grid, electricity use in the home only accounts for under two percent of household GHG emissions.

PART B: Launching the Development of the 2019-2023 Community Energy Action Plan

Background - Challenges and Opportunities for Increased Actions

As previously noted, Londoners, London businesses, and institutions spent almost $1.6 billion on energy in 2018, and almost 90 percent of this money leaves London (i.e., leaves the local economy). Every percentage that Londoners and London businesses reduce energy use keeps about $13 million from leaving the local economy. Money saved through energy efficiency and conservation can be used for other purposes, whether that's paying down debts faster or purchasing other local goods and services.

Investing in energy-saving retrofits, sustainable energy projects, and local energy production creates local jobs. Examples of the above include:

- Energy retrofits of existing buildings, as well as the design and construction of high-performance new buildings, are primarily carried out by London area builders, contractors, and service providers and can also generate demand for London area suppliers of energy-saving products.

- Replacing older appliances with new, energy efficient (Energy Star) appliances also helps to reduce energy use and supports the local and regional economy.

- Increasing distributed (i.e., "local") electricity generation and biofuel production keeps energy-related expenditures in London, as well as builds local capacity to develop these projects.

The investments that the City of London is planning to make on its transportation system, particularly through bus rapid transit, London's Cycling Master Plan and other transportation demand management (TDM) solutions, will play a key role in reducing London's use of transportation fuels. Developing the means to measure the contribution that these investments make towards reducing fuel use will be challenging, yet important.

With over 90 percent of Ontario's electricity now coming from emissions-free sources (e.g., nuclear, hydro, wind and other renewable), the role of electricity in London's climate change actions is shifting towards encouraging the use of electricity to replace fossil fuels. Examples could include purchasing electric vehicles to reduce gasoline use, and installing heat pumps to reduce natural gas use for space heating. However, given the reliance on the use of natural gas to meet peak power generation needs, conserving electricity will remain important for reducing energy costs as well as emissions, especially during peak demand periods.

The impact of Londoner's consumer choices on GHG emissions outside of London, referred to as "Scope 3 Emissions" will be an area of future study for the City of London. Through tools such as Project Neutral, Londoners are already able to estimate the "upstream" impact of food production from their diet choices on their GHG emissions at a household level, which helps to highlight the importance of reducing food waste.

What are Some Quick Actions for London?

Based on current data and experience in London (e.g., the information outlined in the 2018 Community Energy Use and Greenhouse Gas Emissions Inventory, information from other municipalities and related sources), the following "Top Five Actions" are very applicable for the majority of Londoners, London's businesses and employers, and senior levels of government for reducing energy use and GHG emissions. These also represent actions that can be and/or are being implemented now and should be strongly encouraged. Actions like these immediately reduce the consumption of fossil fuel.

What can Londoners do immediately?

- Drive less (or not at all) – make more trips by walking, cycling, transit, carpooling
- If you must own a vehicle, own an electric or hybrid vehicle, or a very fuel efficient one
- Make your home more energy efficient – and work towards net-zero energy
- Reduce food waste, especially for high-impact foods such as red meat and dairy
- Go local – for food, for products, for vacations

What can London's Businesses & Employers do immediately?

- Invest in energy efficiency measures for buildings and processes
- Apply green procurement strategies to the supply chain
- Invest in green fleet measures
- Reduce business travel, especially by air, through webinars and video conferences. If business travel is required, consider carbon offsetting
- Reduce employee commuting – promote cycling, transit, carpooling, telework

What can Senior Levels of Government do in the short to medium terms?

- Maintain carbon pricing (or an equivalent method) to help reduce fossil fuel use
- Assist Londoners and London's businesses & employers with their actions
- Keep Ontario's electricity GHG emissions as low as they are today, if not lower
- Start investing in regional public transportation for Southwestern Ontario
- Set a timeline for phasing out internal combustion engine only vehicles

What are the Next Steps?

We need to get started and elevate activity quickly. To achieve the CEAP's current 2030 goal, Londoners and London businesses will need to double their collective pace for reducing GHG emissions from the two percent per person per year reductions seen over the last five years (2013-2018) to four percent per person per year over the 2020-2030 period. Changing the timeframe of the goals to increase actions is doable but requires additional commitment and desire from residents and the business community. That is one key aspect of community engagement.

Over the next nine months, City staff will be undertaking the following:

Major Activity	Preliminary Timeframe
Complete steps of the community engagement process, background documents and finalize discussions with other City Service Areas	November – December 2019
Launch the development of the 2019-2023 Community Energy Action Plan	November 19, 2019
Undertake a broad community engagement process that evolves to meet the needs of the community – from residents through to businesses	Late November 2019 to June 2020
Discussions with London's key energy stakeholders and community leaders	December 2019 to March 2020
Develop Draft 2019-2023 CEAP	June to July 2020
Submit Draft 2019-2023 CEAP to Civic Works Committee	August 2020

In Summary

The results as demonstrated in the 2018 Community Energy Use and Greenhouse Gas Emissions Inventory Report continue to tell a positive story for London. Ontario's actions to replace coal-fired power plants with cleaner power generation have played a significant role in this reduction. Londoners have also taken action by reducing the amount of energy they use at home and at work.

Transportation fuel use remains an area where progress is needed. This highlights the importance of City-led measures outlined in the 2030 Transportation Master Plan and the London Plan to shift Londoners towards sustainable transportation choices.

Working with residents and businesses to development the 2019-2023 Community Energy Action Plan, with a focus on reducing our consumption and reliance on fossil fuels, is essential to moving forward.

PREPARED BY:
JAMIE SKIMMING, P. ENG. MANAGER, COMMUNITY ENERGY INITIATIVES

PREPARED AND SUBMITTED BY:	**RECOMMENDED BY:**
JAY STANFORD, M.A., M.P.A. DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**

Appendix A Additional Background Details

Documents found on the City of London website (www.london.ca) are:
2018 Community Energy and Greenhouse Gas Inventory – Executive Summary
2018 Community Energy and Greenhouse Gas Inventory

c Anna Lisa Barbon, Managing Director, Corporate Services and City Treasurer, Chief Financial Officer
Sandra Datars Bere, Managing Director - Housing, Social Services and Dearness Home
John Fleming, Managing Director, City Planning and City Planner
George Kotsifas, Managing Director, Development & Compliance Services & Chief Building Official
Cheryl Smith, Managing Director, Neighbourhood, Children & Fire Services
Scott Stafford, Managing Director, Parks & Recreation

Appendix A
Additional Background Details

Why is the Community Energy Use and Greenhouse Gas Emissions Inventory Important and How Will Londoners and London Businesses Benefit?

Providing community energy use and greenhouse gas inventory data in a timely fashion helps to inform City staff on what progress is being made to reduce energy use and GHG for the major energy-using sectors in London. This helps City staff to reassess priority projects, determine which energy-using sectors to work with and which energy commodities to focus on.

Providing these inventory data in a timely fashion also provides Londoners and London businesses and institutions with both information and feedback on the impact that their collective actions have made to date. These inventory data are also the foundation for many of the community engagement tools developed to date, such as the Trouble with Bubbles greenhouse gas visualization video as well as energy infographics.

What is the Connection with Other City of London Programs?

The information within the Community Energy Use and Greenhouse Gas Emissions Inventory report supports a number of important strategies, plans and programs including, but not limited to (in alphabetical order):

- Active transportation and transportation demand management activities
- Active & Green Communities program
- Corporate Energy Conservation & Demand Management (CDM) Plan including Green Fleet initiatives
- Cycling Master Plan
- The London Plan (including sustainability, resiliency strategies, completion of remaining Green Strategies, as well as Community Improvement Plans for Downtown, Old East, and SoHo)
- NeighbourGood London: London Strengthening Neighbourhoods Strategy
- Regeneration Plan for community housing, including the Affordable Housing Development Strategy and Affordable Housing Community Improvement Plan
- Smart City Strategy
- Smart Moves Transportation Master Plan (including higher-order transit projects and related initiatives)
- Urban Forest Strategy
- Waste management (including the Waste Disposal Strategy, the London Waste to Resources Innovation Centre, and the 60% Waste Diversion Action Plan)

How are the Data Acquired and Funded?

The community energy use and greenhouse gas inventory data is maintained in-house by City staff, with utility data being provided by London Hydro and Enbridge (without charge), retail sales of fuel data provided by Kent Marketing (purchased), and other data provided by Statistics Canada. Data analyses and interpretation is completed in-house by City staff. The methodology used to develop the community energy use and greenhouse gas inventory has been reviewed by ICLEI Canada as part of the Partners for Climate Protection Program, as well as HDR Incorporated as part of the CDP Cities program.

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**CONTRACT AWARD: RFP 19-27 ADVANCED TRAFFIC MANAGEMENT SYSTEM AND TRAFFIC SIGNAL CONTROLLERS**

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the procurement of an Advanced Traffic Management System and new traffic signal controllers:

(a) Parsons Corporation, **BE APPOINTED** the Contractor to complete the project, in the amount of $4,425,695.91 (excluding HST) in accordance with Section 12.2(b) of the Procurement of Goods and Services Policy;

(b) the financing for this project **BE APPROVED** in accordance with 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 approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract with the Contractor for the work; and,

(e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

For additional information, please refer to the following committee reports:

- Civic Works Committee – October 24, 2017, II, 9. Intelligent Transportation System – Appointment of Consulting Engineer;
- Civic Works Committee – April 17, 2018, II, 10. Transportation Intelligent Mobility Management System – Waze Connected Citizens Program Agreement; and
- Civic Works Committee – May 28, 2018, II, 12. Connected and Autonomous Vehicles Technology Strategy.

COUNCIL'S 2019-2023 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of **Building a Sustainable City**. By continuing to improve the traffic signal system for the benefit of all road users and implementing infrastructure improvements and programs this will have the effect of managing congestion and travel times and improving safety for all modes of transportation, including transit.

BACKGROUND

Purpose

This report seeks the approval of Municipal Council to retain the contractor to provide a commercial-off-the-shelf (COTS) solution for the supply and installation of an Advanced Traffic Management System (ATMS) and associated new traffic signal controllers.

Context

Each traffic signal has a microcomputer to control the operation of the signal (i.e. the traffic signal controller) and the microcomputers are managed by a traffic signal system that was installed in 2003. The current traffic signal control system (TSCS), has been kept up-to-date since its installation; however, the existing system no longer meets the needs of the City to be more responsive to changing traffic patterns.

The ATMS and traffic signal controller component will support related initiatives as part of the overall Transportation Intelligent Mobility Management System (TIMMS) project to modernize and future-proof the City's traffic signal system and other municipal strategic priorities including:

- Rapid transit implementation and transit signal priority (TSP);
- Active and responsive transportation management during peak travel periods through the upcoming Transportation Management Centre (TMC);
- Real-time traveller information through enhanced sensors and mobile apps, such as the City's recent agreement with Waze; and
- Preparation for the emergence of connected and automated vehicles (CAVs).

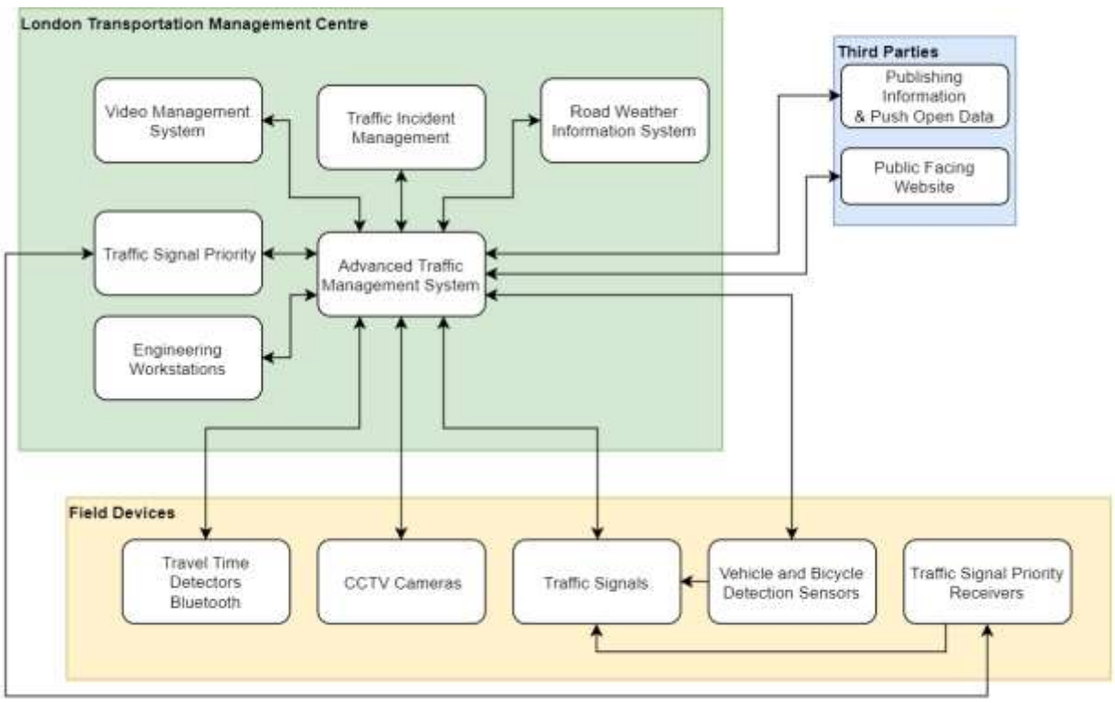
DISCUSSION

Background

The City currently has 403 traffic signals with two to four new traffic signals added each year. As part of TIMMS, various projects are underway in parallel to the Request for Proposals (RFP) for an ATMS and traffic signal controllers. Other features of TIMMS include a data communications upgrade to support the higher volume of data being transmitted from the intersection, the development of the TMC, integration of enhanced TSP, a pilot adaptive signals corridor (i.e. self-adjusting traffic signals), and other traffic operations enhancements.

Scope of Work

The ATMS will provide the necessary tools to assist the City's transportation management group by providing a system that will allow the City to effectively and efficiently manage the flow of traffic within the City of London. The management of the traffic signal system includes the typical Time of Day timing plans while allowing the City to proactively change timing plans based on real-time events, scheduling timing plans in anticipation of events or emergencies, and the ability to automatically rollback to previous timing plans.



System Procurement

On June 27, 2019 a Request for Proposals (RFP19-27) was issued to call for proposals for the procurement of an ATMS and traffic signal controllers. Three (3) proponents submitted proposals for evaluation.

These proposals were evaluated by a team with representation from Roads and Transportation and Information Technology Services with the assistance of the Purchasing and Supply Division. On August 29, 2019, the proponents were invited to the City for an all-day session to further present their ATMS solution and answer technical questions from Municipal Staff to aid in the evaluation process.

The review and evaluation was scored based on criteria including the company profile, proponent experience, project understanding and approach, interview and product demonstration, and the cost proposal.

Based on the evaluation criteria and selection process identified in the Request for Proposals, the evaluation committee unanimously concluded that the proposal from Parsons Corporation provides the best value to the City. Parsons Corporation's past proven experience on similar projects of this nature combined with a project proposal that demonstrated a thorough understanding of the goals and objectives demonstrated their suitability for the undertaking.

Parsons proposed ATMS, known as iNET, has been implemented in several other Canadian municipalities including:

- The City of Mississauga (2015);
- Halifax Regional Municipality (2014);
- The Regional Municipality of Peel (2016); and
- The City of Vancouver (2013).

The iNET ATMS will interface with traffic controllers on the street so that the status of signals and associated field equipment can be monitored remotely in real-time. The iNET ATMS provided has the ability and flexibility to include other modules, features, or integration of other systems to assist the City with effectively managing traffic and transportation needs now and in the future, including transit signal priority , traffic video monitoring systems and adaptive traffic control systems (i.e. self-adjusting).

CONCLUSION

Based on the technical evaluation of the proposals, it is recommended that Parsons Corporation be awarded the contract for the supply and installation of an ATMS and the installation of 404 traffic signal controllers in the amount of $4,425,695.91 (excluding HST) in accordance with Section 12.2(b) of the Procurements of Goods and Services Policy.

PREPARED BY:	**REVIEWED AND CONCURRED BY:**
SHANE MAGUIRE, P. ENG. **DIVISION MANAGER,** **ROADWAY LIGHTING AND TRAFFIC CONTROL**	**DOUG MACRAE, P.ENG., MPA** **DIRECTOR, ROADS AND TRANSPORTATION**
CONCURRED BY:	**RECOMMENDED BY:**
MAT DALEY **DIRECTOR, INFORMATION TECHNOLOGY SERVICES**	**KELLY SCHERR, P.ENG., MBA, FEC** **MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**

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October 11, 2019/jdk

Attach: Appendix A: Sources of Financing Report

cc: Purchasing and Supply Division
Transportation Advisory Committee

APPENDIX 'A'

#19146

Chair and Members
Civic Works Committee

October 22, 2019
(Award Contract)

RE: Contract Award: RFP 19-27
Advanced Traffic Management System and Traffic Signal Controllers
(Subledger TF190019)
Capital Project TS180519 Transportation Intelligent Mobility Management System (ICIP)
Capital Project TS1430-1 - RT1: Wellington Rd-Bradley Ave to Horton St (PTIF)
Capital Project TS1430-2 - RT2: Richmond St-Fanshawe Park Rd to Raymond Ave (PTIF)
Capital Project TS1430-3 - RT3: Highbury Ave-Dundas St to Oxford St E (PTIF)
Capital Project TS1430-6 - RT6: Oxford St W-Hyde Park Rd to Richmond St (PTIF)
Parsons Corporation - $4,425,695.91 (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 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:

SUMMARY OF ESTIMATED EXPENDITURES		Approved Budget	Committed to Date	This Submission		Balance for Future Work
TS180519 - Transportation Intelligent Mobility Management System (ICIP)						
Construction		$2,356,200		$2,356,200		$0
TS1430-1 - RT1: Wellington Rd - Bradley Ave to Horton Street (PTIF)						
Engineering		2,623,899	2,189,338			434,561
Construction		76,504	59,446			17,058
Traffic Signals		789,322	42,191	644,216		102,915
City Related		818,867	683,726			135,141
		4,308,592	2,974,701	644,216		689,675
TS1430-2 - RT2: Richmond St - Fanshawe Park Rd to Raymond Ave (PTIF)						
Engineering		2,500,000	2,205,725			294,275
Construction		64,500	64,282			218
Traffic Signals		920,875	48,529	751,586		120,760
City Related		1,150,874	767,503			383,371
		4,636,249	3,086,039	751,586		798,624
TS1430-3 - RT3: Highbury Ave-Dundas St to Oxford St E (PTIF)						
Engineering		1,291,103	1,132,443			158,660
Construction		50,000	45,715			4,285
Traffic Signals		658,000	11,932	536,847		109,221
City Related		869,227	545,312			323,915
		2,868,330	1,735,402	536,847		596,081
TS1430-6 - RT6: Oxford St W-Hyde Park Rd to Richmond St W (PTIF)						
Engineering		882,396	818,357			64,039
Construction		20,000	18,286			1,714
Traffic Signals		265,000	9,411	214,739		40,850
City Related		351,005	223,813			127,192
		1,518,401	1,069,867	214,739		233,795
NET ESTIMATED EXPENDITURES		**$15,687,772**	**$8,866,009**	**$4,503,588**	**1)**	**$2,318,175**
SUMMARY OF FINANCING:						
TS180519 - Transportation Intelligent Mobility Management System (ICIP)						
Debenture		$62,840	$0	$62,840		$0
Drawdown from City Services - Roads Reserve Fund (Development Charges)	2)	565,559		565,559		0
Federal ICIP (Investing in Canada Infrastr. Plan)		942,480		942,480		0
Provincial ICIP (Investing in Canada Infrastr. Plan)		785,321		785,321		0
		2,356,200	0	2,356,200		0
TS1430-1 - RT1: Wellington Rd - Bradley Ave to Horton Street (PTIF)						
Capital Levy		274,605	199,048	33,499		42,058
PTIF (Public Transit Infrastructure Fund)		1,668,159	1,060,782	322,108		285,269
Drawdown from City Services - Roads Reserve Fund (Development Charges)	2)	2,365,828	1,714,871	288,609		362,348
		4,308,592	2,974,701	644,216		689,675

APPENDIX 'A'

#19146

Chair and Members
Civic Works Committee

October 22, 2019
(Award Contract)

RE: Contract Award: RFP 19-27
Advanced Traffic Management System and Traffic Signal Controllers
(Subledger TF190019)
Capital Project TS180519 Transportation Intelligent Mobility Management System (ICIP)
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Capital Project TS1430-3 - RT3: Highbury Ave-Dundas St to Oxford St E (PTIF)
Capital Project TS1430-6 - RT6: Oxford St W-Hyde Park Rd to Richmond St (PTIF)
Parsons Corporation - $4,425,695.91 (excluding H.S.T.)

		Approved Budget	Committed to Date	This Submission	Balance for Future Work
TS1430-2 - RT2: Richmond St - Fanshawe Park Rd to Raymond Ave (PTIF)					
Capital Levy		212,399	145,652	28,936	37,811
PTIF (Public Transit Infrastructure Fund)		1,877,826	1,194,449	375,793	307,584
Drawdown from City Services - Roads Reserve Fund (Development Charges)	2)	2,546,024	1,745,938	346,857	453,229
		4,636,249	3,086,039	751,586	798,624
TS1430-3 - RT3: Highbury Ave-Dundas St to Oxford St E (PTIF)					
Capital Levy		111,915	68,788	18,790	24,337
PTIF (Public Transit Infrastructure Fund)		1,269,542	752,718	268,424	248,400
Drawdown from City Services - Roads Reserve Fund (Development Charges)	2)	1,486,873	913,896	249,633	323,344
		2,868,330	1,735,402	536,847	596,081
TS1430-6 - RT6: Oxford St W-Hyde Park Rd to Richmond St W (PTIF)					
Capital Levy		83,794	59,870	10,522	13,402
PTIF (Public Transit Infrastructure Fund)		663,358	458,947	107,370	97,041
Drawdown from City Services - Roads Reserve Fund (Development Charges)	2)	771,249	551,050	96,847	123,352
		1,518,401	1,069,867	214,739	233,795
TOTAL FINANCING		**$15,687,772**	**$8,866,009**	**$4,503,588**	**$2,318,175**

1) **FINANCIAL NOTE:**

	TS180519	TS1430-1	TS1430-2	TS1430-3	TS1430-6	Total
Contract Price	$2,315,448	$633,074	$738,587	$527,562	$211,025	$4,425,696
Add: HST @13%	301,008	82,300	96,016	68,583	27,433	575,340
Total Contract Price Including Taxes	2,616,456	715,374	834,603	596,145	238,458	5,001,036
Less: HST Rebate	260,256	71,158	83,017	59,298	23,719	497,448
Net Contract Price	$2,356,200	$644,216	$751,586	$536,847	$214,739	$4,503,588

2) Development Charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2019.

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Alan Dunbar
Manager of Financial Planning & Policy

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**NOMINATION TO THE LAKE ERIE REGION SOURCE PROTECTION COMMITTEE**

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, that Lloyd Perrin, Director of Asset Management and Development, Municipality of Central Elgin **BE NOMINATED** as that the City of London's selection for the municipal representative for the Lake Erie Region Source Protection Committee.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- Environment and Transportation Committee - July 9, 2007 - Drinking Water Source Protection: Committee Formation

2019-23 STRATEGIC PLAN

This report supports the Strategic Plan in the following areas:

- Building a Sustainable City: robust infrastructure; strong and healthy environment; responsible growth.

BACKGROUND

Purpose

The purpose of this report is to nominate a candidate as the municipal representative for the Lake Erie Region Source Protection Committee.

Context

Source Water Protection Plans have been prepared across the Province as a result of provincial legislation that came into effect after the drinking water tragedy in Walkerton in 2000. The Lake Erie Region Source Protection Committee is responsible for four of these plans including:

- Catfish Creek Source Protection Plan,
- Grand River Source Protection Plan,
- Kettle Creek Source Protection Plan, and
- Long Point Region Source Protection Plan

These plans were created to safeguard drinking water resources 'at their source' and to identify potential threats. The Kettle Creek Source Protection Plan, includes the protection of the Elgin Area Primary Water Supply System which is a key source of London's municipal drinking water.

DISCUSSION

The Lake Erie Region Source Protection Committee is a 24 member multi-stakeholder committee comprised of seven members representing municipalities, seven members representing the economic sector, and seven members representing the public sector. The committee also includes two representatives from Six Nations of the Grand River and one representative from the Mississaugas of the New Credit First Nation.

Ontario Regulation 288/07 Section 2. (1.) states that the municipal members appointed by the Source Protection Authority must represent the interests of the municipalities that are located, in whole or in part, in the Source Protection Region. Section 3. (3.) requires that the Source Protection Authority must appoint the person jointly submitted by the municipalities in a group. If the municipalities do not submit a joint nomination, then the Source Protection Authority can select the person to be appointed.

Terms are for four years and there are no term limits for members of the Source Protection Committee. The term of appointment for the incumbent Lloyd Perrin, Director of Asset Management and Development with Municipality of Central Elgin expires in fall 2019 (Appendix 'A': Nomination Request Letter"). Lloyd was appointed by the Grand River Source Protection Authority in 2007 and represents Elgin County, Township of Malahide, Municipality of Central Elgin, Township of Southwold, City of St. Thomas, Middlesex County, Township of Thames Centre, Township of Middlesex Centre and the City of London.

It is the recommendation of Staff that Lloyd Perrin continue in his role as the municipal member representing the City of London at the Lake Erie Region Source Protection Committee. Our recommendation is based on the following

- Lloyd Perrin has successfully and dutifully held this position for over 12 years.
- Lloyd represents a municipality that owns and operates multiple water systems in the Lake Erie Region Source Protection area.
- Lloyd has over twenty years of experience in the municipal field in Norfolk and Elgin counties.

The Kettle Creek Conservation Authority has confirmed that Aylmer, Thames Centre, Central Elgin, Malahide and Southwold have all confirmed that they will be recommending Lloyd's continued representation. If Council endorses the recommendation of Staff for this nomination the next step will be to provide our selection to the Lake Erie Region Source Protection's Source Protection Program Manager, Martin Keller, by the selection deadline of November 1st, 2019.

CONCLUSION

The Lake Erie Region Source Protection Steering Committee continues to oversee implementation of the Source Water Protection Plan and future amendments to the Plan. It is recommended that the incumbent Lloyd Perrin, Director of Asset Management and Development with Municipality of Central Elgin continue his work on this committee as the City of London's nominee for the municipal member position.

PREPARED AND SUBMITTED BY:	**RECOMMENDED BY:**
SCOTT MATHERS, MPA, P. ENG. **DIRECTOR** **WATER & WASTEWATER**	**KELLY SCHERR, P.ENG., MBA, FEC** **MANAGING DIRECTOR** **ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER**

Appendix 'A': Nomination Request Letter

cc: Martin Keller, Source Protection Program Manager, Lake Erie Source Protection Region

Appendix 'A': Nomination Request Letter

Grand River Conservation Authority

Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

July 12, 2019

300 Dufferin Avenue
London PO Box 5035
ON N6A 4L9

Re: Lake Erie Region Source Protection Committee Municipal Member Nomination

Dear Ms. Saunders,

The term of appointment for Lloyd Perrin, Lake Erie Region Source Protection Committee municipal representative, is scheduled to expire in the fall 2019. Lloyd was appointed by the Grand River Source Protection Authority in 2007 and represents Elgin County, Township of Malahide, Municipality of Central Elgin, Township of Southwold, City of St. Thomas, Middlesex County, Township of Thames Centre, Township of Middlesex Centre and the City of London. Lloyd is the Director of Physical Services for the Municipality of Central Elgin. The municipal groups were established by the Grand River Source Protection Authority in August 2007 as per Ontario Regulation 288/07 and detailed in Report SPA-08-07-04 (attached).

The Lake Erie Region Source Protection Committee is a 24 member multi-stakeholder committee comprised of seven members representing municipalities, seven members representing the economic sector, and seven members representing the public sector. The committee also includes two representatives from Six Nations of the Grand River and one representative from the Mississaugas of the New Credit First Nation.

Ontario Regulation 288/07 Section 2. (1.) states that the municipal members appointed by the Source Protection Authority must represent the interests of the municipalities that are located, in whole or in part, in the Source Protection Region. Section 3. (3.) requires that the Source Protection Authority must appoint the person jointly submitted by the municipalities in a group. If the municipalities do not submit a joint nomination, then the Source Protection Authority can select the person to be appointed.

Appendix ‘A’: Nomination Request Letter

Terms are for four (4) years and there are no term limits for members of the Source Protection Committee. Municipalities could select to nominate Lloyd Perrin or could nominate someone else.

We ask that your municipality confer with the other municipalities listed above and jointly nominate one representative. Although the regulation does not require it, we suggest that all municipal councils pass a resolution naming the jointly selected representative.

The decision naming the representative should be sent to the undersigned, no later than **Friday, November 1, 2019**. This would ensure the new municipal member can be appointed in time for the December 12, 2019 Lake Erie Region Source Protection Committee meeting.

The process by which a representative is selected for nomination is determined by the municipalities in the group. However, Lake Erie Region staff are available to assist in facilitating discussions among municipalities, if requested.

Additional details on the functions and obligations of members of the Source Protection Committee are attached to aid you in your selection of a representative.

If you have any further questions regarding the selection of a municipal committee representative, or would like assistance, please contact me. We look forward to receiving your joint nomination of a municipal representative for the Lake Erie Region Source Protection Committee.

Sincerely,

Martin Keller
Source Protection Program Manager
Lake Erie Source Protection Region
c/o Grand River Conservation Authority
400 Clyde Road, Box 729
Cambridge, ON N1R 5W6
mkeller@grandriver.ca

Encl.

Appendix 'A': Nomination Request Letter

GRAND RIVER SOURCE PROTECTION AUTHORITY

REPORT NO. SPA-08-07-04 **DATE:** August 31, 2007

TO: Members of the Grand River Source Protection Authority

SUBJECT: Groupings for Municipal Representation on the Source Protection Committee

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RECOMMENDATION:

THAT the Grand River Source Protection Authority approve the seven municipal groupings for municipal representation on the Lake Erie Region Source Protection Committee;

AND THAT the Grand River Source Protection Authority direct staff to send a notice of the municipal groupings to the clerk of each municipality in the Lake Erie Source Protection Region before the end of the day on September 4, 2007, with instructions to jointly select a municipal representative within each group.

SUMMARY:

Ontario Regulation 288/07 (O. Reg. 288/07) on Source Protection Committees under the *Clean Water Act, 2006* requires that the Lead Source Protection Authority (Conservation Authority) divide the municipalities in the Lake Erie Source Protection Region into groups and assign each group a number of members on the SPC. As required by the regulation, the Source Protection Authority consulted with municipalities from July 13 to August 15, 2007. The final list of groups must be sent to municipalities prior to September 4, 2007.

REPORT:

O. Reg. 288/07, *under the Clean Water Act, 2006* requires that the Lake Erie Region Source Protection Committee have 7 municipal representatives. Because there are more than 7 municipalities in the Lake Erie Region, the regulation requires that the Grand River Source Protection Authority, as the Lead SPA, divide municipalities in the Lake Erie Region into groups for the purposes of municipal representation on the Source Protection Committee.

On July 13, 2007 a letter was sent to all municipalities describing the proposed municipal groupings and the rationale used to develop them. Municipalities were asked to provide comments on the groupings to the Grand River Conservation Authority by August 15, 2007. The proposed municipal groupings are listed in Table 1 below, and shown on a map of the Lake Erie Region in Attachment 1.

The suggestions for municipal groups (as shown in previous reports) are based on the following principles:

- There are no well or wellhead protection area or intake protection zone issues across municipal boundaries within a group;
- Municipalities within a group have similar water supply sources (i.e. wells, river intakes, Great Lakes intakes);
- There is sufficient proximity that municipalities within a group have historically had opportunity to work together; and

- Municipalities within a group have good working relationships.

Table 1: List of Municipal Groupings

Group	Municipalities
1	Grey County, Township of Southgate Dufferin County, Township of Melancthon, Township of Amaranth, East Luther-Grand Valley, Township of East Garafraxa Wellington County, Township of Wellington North, Township of Mapleton, Township of Centre Wellington, Town of Erin, Township of Guelph-Eramosa, Township of Puslinch Halton Region, Town of Milton, Town of Halton Hills
2	City of Guelph
3	Region of Waterloo, Wilmot Township, Wellesley Township, Woolwich Township, North Dumfries Township, City of Waterloo, City of Kitchener, City of Cambridge
4	City of Brantford County of Brant City of Hamilton
5	Haldimand County Norfolk County
6	Perth County, Township of Perth East, Township of North Perth Oxford County, Township of Blandford-Blenheim, East-Zorra Tavistock, Township of Norwich, City of Woodstock, Township of Southwest Oxford, Tillsonburg
7	Elgin County, Municipality of Bayham, Township of Malahide, Town of Aylmer, Municipality of Central Elgin, Township of Southwold Middlesex County, Township of Thames Centre, Township of Middlesex Centre City of St. Thomas City of London

As of August 21, seventeen municipalities provided comments on the proposed groupings. Attachment 2 of this report provides a summary of the comments received to date. Of the 17 comments, 15 were supportive of the groupings as proposed. Two municipalities did not support being grouped with other municipalities. Norfolk County recognized the difficulty in developing the groupings and accepted the rationale provided, but continued to request that they have their own representative due to the complexity and diversity of drinking water sources in Norfolk and ongoing water quantity issues in the Norfolk Sand Plain. Additionally, water services staff at the City of Brantford requested that the City have its own representative because of the uniqueness of the Brantford surface water intake in the watershed.

Although it is recognized that grouping Norfolk County with Haldimand County is not ideal due to differences in municipal drinking water sources, there are no cross-boundary drinking water issues to contend with between the two municipalities.

Similarly, grouping the City of Brantford with the County of Brant and the City of Hamilton presents fewer cross-boundary municipal drinking water issues than other groupings, and builds on the working relationships that the City of Brantford and the County of Brant have developed.

Having considered all comments received to date, the Lake Erie Region Management Committee recommends that the municipal groups be finalized as proposed.

FINANCIAL IMPLICATIONS:

Source Protection Committee members will be paid per diems and reimbursed for travel/mileage

expenses by the Grand River Conservation Authority, from the annual source protection funding received from the Ministry of Natural Resources.

The provincial government has committed to pay 100% of the cost of studies required to develop the first round of source protection plans and to build capacity in the Conservation Authorities to undertake their new roles.

OTHER DEPARTMENT CONSIDERATIONS:

Not Applicable

Prepared by:

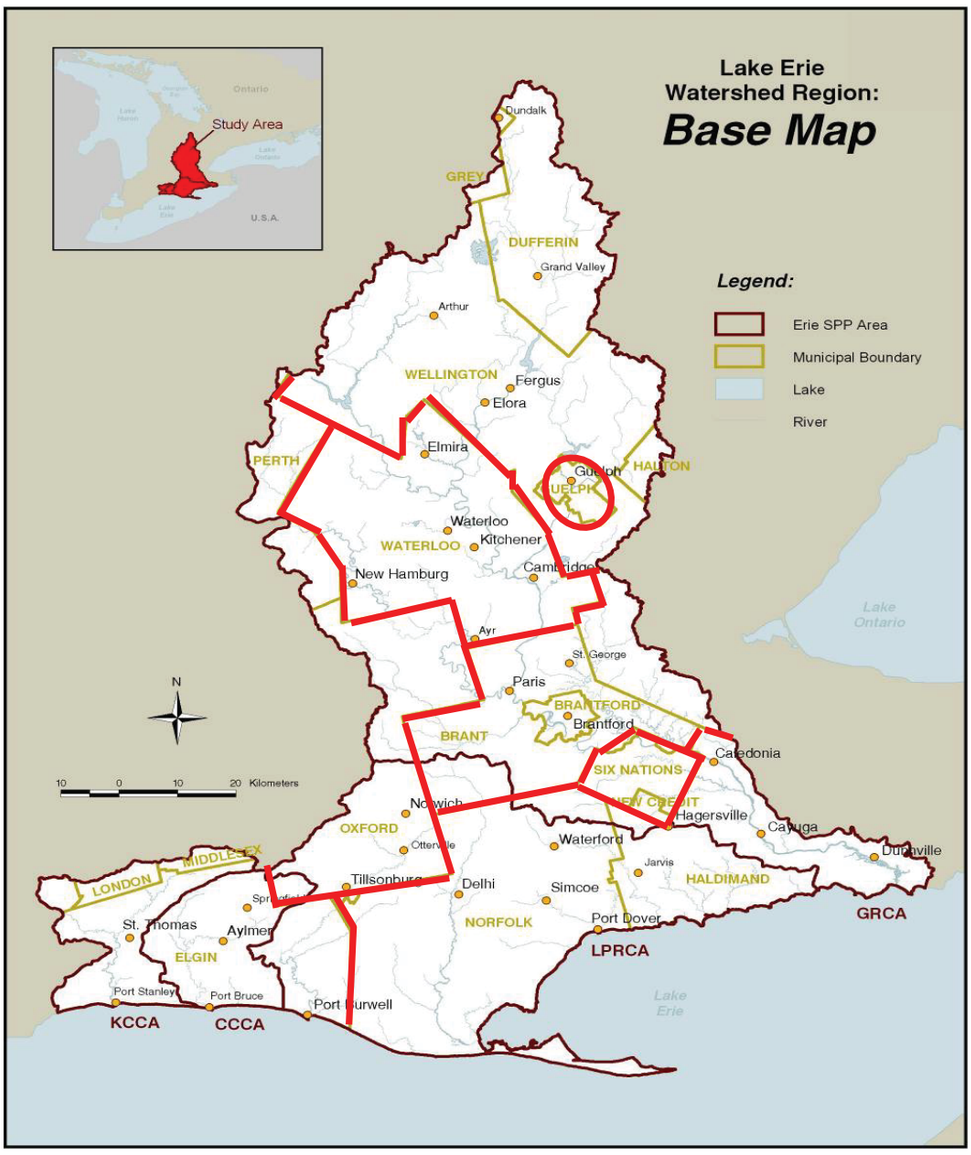
Lorrie Minshall
Source Protection Program Director

Approved by:

Paul Emerson
Chief Administrative Officer

Appendix ‘A’: Nomination Request Letter

Attachment 1: Municipal Source Protection Committee Representation Groups



Appendix 'A': Nomination Request Letter

Attachment 2: Summary of Municipal Comments on Municipal Groupings

Region/Municipality	Response		Actions/Recommendations/Comments
	Supportive	Not Supportive	
City of Guelph	X		Wanted to impress the importance that the City of Guelph have representation on the committee. See letter for details.
County of Brant	X		Requested that we advise of the process for the City of Hamilton, City of Brantford, and the County of Brant to determine its responsibilities. Letter to be sent.
County of Oxford	X		County would like to make the nomination of an individual to serve to represent the grouping of Perth and Oxford municipalities.
Elgin County	X		Supportive of Malahide's proposed approach to representative selection.
Middlesex County	X		As only a small part of Middlesex County is included in this Source Protection Region, they do not feel they need to be involved in the nominating process and wish only to be advised of who their representative is. Their response is to be forwarded to facilitator of the Elgin/Middlesex/London group.
Municipality of Bayham	X		That Wayne Casier be nominated as a potential Municipal representative for Elgin/Middlesex
Municipality of Central Elgin	X		Would respectfully like to request that a representative from Central Elgin fills the seat for reasons stated in the letter.
Township of Malahide	X		Council resolution recommending that the area representatives for the municipalities be appointed from Kettle Creek CA or Catfish Creek CA. Lorrie called CAO and advised per regs SPC members cannot be CA board member. Inquired about rotating the member every 3 or 4 years.
Township of Southwold	X		Staff call to inquire about eligibility (re Malahide Twps request)
County of Perth			
Town of North Perth			
Township of Perth East	X		Would like to work with Oxford to actively participate in nominating the individual who will represent the area.
Region of Halton	X		Small mun area in Region - do not intend to participate on SPC. Will participate on municipal water services working group. Encourage municipal reps to represent 'municipal interest' broadly rather than local interest.
Norfolk County		X	Norfolk would like to have their own representation, not a combined representation.
Haldimand County			Expect request to designate an "other" seat for the Grand Valley Water Board
City of Brantford		X	Water services staff at the City of Brantford requested that the City have its own representative because of the uniqueness of the Brantford surface water intake in the watershed. Staff inquired about rotating the member every 2 or 3 years.
Region of Waterloo			
City of Cambridge			
City of Kitchener			
City of Waterloo	X		Support the groupings. No further comments.
Township of Wellesley			Lorrie attended Council to answer questions.
Township of Wilmot			
Township of Woolwich			
Township of North Dumfries	X		CAO was concerned with disproportionate representation of smaller jurisdictions, but understands it is a diverse study area and is satisfied with the groupings.
Wellington County			
Township of Wellington North			
Township of Centre Wellington			
Township of Mapleton			
Township of Guelph/Eramosa			
Township of Puslinch	X		No further comments.
Town of Erin			
City of Hamilton			
City of London			
City of St. Thomas			
City of Woodstock			
County of Dufferin			
Township of Melancthon			L. Minshall attended Council to answer questions.
Township of Amaranth			
Township of East Garafraxa			
Township of East Luther Grand Valley			
Grey County			
Township of Southgate			
Norwich Township			
Town of Aylmer			
Town of Halton Hills			
Town of Milton	X		Supportive, but deferred comment to Halton Region.
Town of Tillsonburg			
Township of Blandford-Blenheim			
Township of East-Zorra Tavistock			
Township of South-West Oxford			
Township of Middlesex Centre			
Township of Thames Centre			

Appendix 'A': Nomination Request Letter

Summary of the Functions of the Lake Erie Region Source Protection Committee

The Lake Erie Region Source Protection Committee is responsible for guiding the development and update of four source protection plans, one for each source protection area within the Lake Erie Region: Grand River, Long Point Region, Catfish Creek and Kettle Creek. A map of the Lake Erie Region has been included at the end of this document.

The development and update of the plans involves municipalities, farmers, businesses, industry, residents, First Nations and others. The source protection committee's role is to guide the collaborative process that identifies the sources of municipal drinking water, the threats to both water quality and water supplies, and propose actions that can be taken to protect municipal drinking water supplies.

The committee oversees the preparation and updates of these major documents:

- **Terms of Reference**
  The terms of reference was the "work plan" of the process, outlining who is responsible for carrying out the work needed to develop source protection plans. The terms of reference included a plan to consult with potentially affected property owners, to involve the public and to resolve disputes. (Ontario Regulation 287/07 - Terms of Reference). The terms of reference for each source protection area was completed in 2009.

- **Assessment reports**
  The assessment reports identify municipal drinking water sources and potential threats to both water quality and water supplies for each watershed. As new information becomes available, e.g., new wells are planned, the assessment report needs to be updated. The assessment report forms part of the source protection plan.

- **Source protection plans**
  The source protection plans for each watershed set out policies on how significant drinking water threats will be reduced, eliminated or prevented, who is responsible for taking action, timelines and how progress will be measured. The plans propose a range of tools that can be used to accomplish these goals. The first Source Protection Plans for the Lake Erie Region's four source protection areas have been approved in 2014 and 2015. Source protection plans are updated on a regular basis as new information becomes available through plan implementation, and as assessment reports are updated.

Further information about the Lake Erie Source Protection Region can be found at www.sourcewater.ca.

Note: Under the Clean Water Act, 2006, the four conservation authorities in the Lake Erie Region have been designated "source protection authorities" e.g. Grand River Source Protection Authority (Grand River SPA). The four watersheds have been designated "source protection areas," e.g. the Grand River Source Protection Area.

Appendix 'A': Nomination Request Letter

Summary of the Obligations of Lake Erie Region Source Protection Committee Members

Qualifications of committee members

- demonstrated ability to understand source protection science, concepts and technical reports;
- proven ability to act as liaison for the sector being represented;
- problem-solving, analytical, communication and organizational skills;
- an openness to working together and with representatives from other sectors;
- knowledge of locals, communities and issues;
- demonstrated ability to work with group dynamics and team environments;
- conciliatory decision-making skills;
- willingness to travel around the source protection region
- Members of the Source Protection Committee must:
    - reside in, own or rent property within the source protection region, OR
    - be employed or operate a business within the source protection region, OR
    - be employed by a municipality that is in the source protection region,
- Members of the Source Protection Committee must not be a member or employee of a conservation authority in the Lake Erie Source Protection Region

Responsibilities of committee members

- participate fully and work positively toward a successful conclusion of the source protection planning process
- act as liaisons by bringing forward common concerns from their knowledge and experience in their sector to the committee and assist in communicating the committee's work;
- make decisions at the committee table;
- serve on province-wide committees on special issues or participate in events, as a representative of the committee, at the request of the chair;
- attend public information sessions and participate in pubic consultation forums;
- respect confidential information and abide by the process in place to safeguard confidential information.

Time commitment and remuneration

The Lake Erie Region Source Protection Committee meets about four times each year. Meetings are scheduled depending on workload and timelines. Meetings are typically held at the head office of the Grand River Conservation Authority (400 Clyde Road, Cambridge). Occasionally meetings are held in other parts of the Lake Erie Source Protection Region.

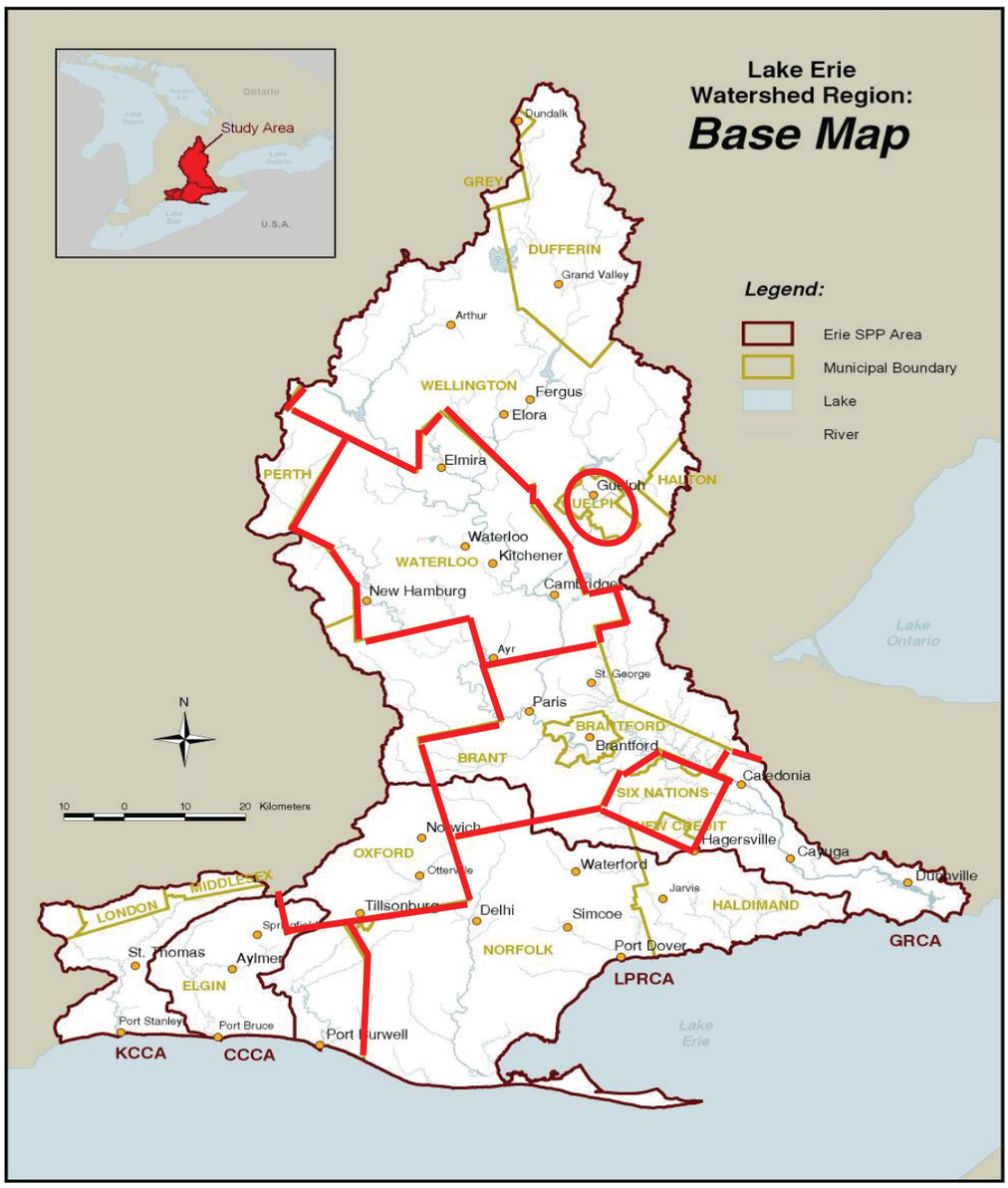
Committee members should expect to work about four days a year attending meetings and occasional public events.

Committee members are typically appointed for a four year term.

An honorarium and travel expenses will be paid at rates set by the Grand River Source Protection Authority.

Appendix 'A': Nomination Request Letter

Map 1: Municipal Groups for the Selection of Source Protection Committee Representation



TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 22, 2019**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT	**PROPOSED EXPANSION OF THE W12A LANDFILL SITE: UPDATED ENVIRONMENTAL ASSESSMENT ENGINEERING CONSULTING COSTS**

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the appointment of various Consulting Engineers for the Individual Environmental Assessment process for the proposed expansion of the W12A Landfill:

a) AECOM Canada Ltd. **BE APPOINTED** to carry out additional biology studies as part of the Individual Environmental Assessment process for the proposed expansion of the W12A Landfill, in the total amount of $9,500, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;

b) Dillon Consulting Ltd. **BE APPOINTED** to carry out additional hydrogeology studies and Aboriginal consultation as part of the Individual Environmental Assessment process for the proposed expansion of the W12A Landfill, in the total amount of $79,800, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;

c) Golder Associates Ltd. **BE APPOINTED** to carry out additional atmosphere studies, refinement of various study parameters and additional Aboriginal consultation as part of the Individual Environmental Assessment process for the proposed expansion of the W12A Landfill, in the total amount of $44,000, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;

d) the financing for the work identified in (a), above, **BE APPROVED** in accordance with the "Sources of Financing Report" attached hereto as Appendix "A";

e) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this work; and

f) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Relevant reports that can be found at www.london.ca under City Hall (Meetings – Council and Standing Committees) include:

- Update on the Environmental Assessment Process for the Proposed Expansion of the W12A Landfill Site (September 24, 2019 meeting of the Civic Works Committee (CWC), Item #2.3)
- Appointment of Consulting Engineer for Various Technical Studies as part of the Environmental Assessment Process for the Proposed Expansion of the W12A Landfill Site (July 17, 2017 meeting of the CWC, Item #6)

- Update and Next Steps – Resource Recovery Strategy and Residual Waste Disposal Strategy as Part of the Environmental Assessment Process (February 7, 2017 meeting of the CWC, Item #10)
- Appointment of Consulting Engineer Long Term Solid Waste Resource Recovery and Disposal Plans (May 24, 2016 meeting of the CWC, Item #10)

COUNCIL'S 2015-2019 STRATEGIC PLAN

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

Building a Sustainable City
London has a strong and healthy environment
- Build infrastructure to support future development and protect the environment

Growing our Economy
London is a leader in Ontario for attracting new jobs and investments
- Build infrastructure to support future development and retain existing jobs

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

This report seeks approval from Committee and Council to retain engineering consultants to undertake various studies, including associated Aboriginal consultation, for the environmental assessment (EA) of the proposed expansion of the W12A Landfill that are the result of commitments made in the Terms of Reference (ToR).

CONTEXT

In 2015, Council directed staff to develop a long term residual waste disposal plan. Part of the plan includes an Individual EA for the expansion of the W12A Landfill. The W12A Landfill is expected to reach capacity in 2024.

There are different classes (types) of EAs depending on the type and complexity of the undertaking (project). The most rigorous EA is an Individual EA. An individual EA is less prescribed than the more common class EAs and the level of work is not finalized until the ToR is approved by the Minister of the Environment, Conservation and Parks. The ToR becomes the framework (work plan) for completing the EA.

The ToR was approved on July 30, 2019. During the approval process, a number of additional work items were identified and built into the technical studies and overall process. The budgets for the studies have also been updated to include input received from aboriginal consultation that took place in August and September 2019. Consulting engineer's quotes were recently received for the additional work.

DISCUSSION

Budget
The budget for long term waste management planning, Capital Account SW6051, is summarized in Tables 1 and 2.

Table 1: Budget for Proposed W12A Landfill Expansion (SW6051)

Item	Budget[a]	Comment
Budget Breakdown		
EA for Long Term Residual Waste Disposal (Landfill Expansion)	$2,398,000	All costs associated with the EA approval of the expansion of the W12A Landfill.
Resource Recovery Initiatives & Strategy	$410,000	Preliminary planning for development of resource recovery area east of W12A Landfill.
Total	$2,808,000	

Table 2: Status of EA Budget

Item	Budget	Comment
Spent to date	$690,000	Cost to develop and obtain approval of ToR and undertake some work on the technical studies.
Committed to date - consulting	$700,000	Primarily consulting fees for remaining EA technical studies.
Revised consulting fees	$136,000	This submission (including HST).
Assigned to date (Future costs)	$770,000	Primarily consulting fees, project management costs, community engagement costs.
Contingency Available	$102,000	Funds available to cover future additional costs.
Total	$2,398,000	

Notes: a) Rounded to the nearest $1,000.

The approved Amended ToR contained over 20 commitments including commitments to consult with Indigenous groups, prepare detailed work plans for certain studies and refine the service area, study areas, criteria and alternative methods. These commitments are listed in Table 3 and will result in additional costs to complete the EA.

Table 3 – ToR Commitments

ID	ToR Commitment
4	The City will contact Indigenous groups to discuss their consultation needs and continue to involve them in the EA process.
5	Where described in the ToR for the environmental components, detailed work plans for the technical studies will be prepared and provided to the appropriate Government Review Team (GRT) agency for review and concurrence.
6	The City will share work plans with Indigenous Communities and post work plans on the project website.
8	During the EA, assumptions used in determining the projected residual waste from the existing service area will be refined and assessed. During the EA the proposed regional service area will be confirmed and further assessed. These will be described in the EA study report.
10	During the EA, the preliminary criteria and indicators for each of the environmental components will be refined and described in the EA study report.
11	The preliminary Study Areas will be reviewed and confirmed during the EA and described in the EA study report.
12	The individual Alternative Methods of expanding the W12A Landfill will be identified, refined and confirmed during the EA, and described in the EA study report.

Indigenous Consultation
A number of Indigenous communities have been actively participating in the EA process to-date and plan to continue to participate. The level of consultation with Indigenous communities is greater than what was originally anticipated prior to development of the ToR. Consultation to-date has included:

- meetings with individual groups
- having site monitors from Indigenous communities participate in archeological field work
- touring of the City's W12A Landfill and Material Recovery Facility (MRF)
- holding a workshop to review the detailed groundwater work plan.

Changes were made to the groundwater work plan to address concerns raised at the groundwater workshop. These changes include providing additional documentation and undertaking additional field work.

As part of the consultation process, financial support has been provided to cover the cost of various known as well as unexpected expenses of the Indigenous communities (e.g., site monitors, peer review of work plans, etc.). At this point in time, the requested and estimated funds can be accommodated within budget. However, should existing work requirements further increase or new work be introduced, City staff may be required to present Committee and Council with revised project costs.

The participation of the Indigenous communities has improved the overall EA process as well as the quality of individual studies such as archeology and groundwater. This should result in a smoother approval process when the EA documents are submitted to the Ministry of the Environment, Conservation and Parks (MECP) for approval.

Detailed Work Plans
General work plans for all technical studies were included in the Amended ToR. The MECP requested that detailed work plans be prepared for four technical studies and provided to the appropriate Government Review Team (GRT) agency for review and concurrence. The studies that require a detailed work plan are atmosphere (air quality, dust, noise and odour) biology, groundwater and surface water.

The original technical budgets did not include an allowance for the preparation of detailed work plans or additional work as a result of the review of the work plans by the GRT.

Refinement of Service Area, Study Areas, Criteria and Alternative Methods
Service area refers to the area that the landfill can receive waste from. The study area is the area that will be examined when looking at impacts from the landfill. Alternative methods refer to the various landfill expansion alternatives (e.g., combinations of vertical and/or lateral expansions). The criteria are the measures that will be used to compare the various landfill expansion alternatives in order to select the preferred expansion alternative.

It was originally anticipated that these parameters would be finalized in the ToR and require no further study in the EA.

Updated Consulting Engineering Costs
The cost of the additional consultation with Indigenous communities as well as the additional field work has been accommodated within the existing budget to-date but the budget of some of the consultants will need to be increased to provide the necessary resources going forward to address the commitments made in the ToR (Table 4).

Table 4 – Updated EA Costs

Study and Consultant	Additional Cost	Comments
Groundwater/ Dillon Consulting	$79,800	• Undertake preparation of detailed groundwater work plan for review and concurrence by GRT • Undertake additional field studies as a result of preparation of detailed work plan and stakeholder engagement. Additional field work includes further examination of the potential impact of fractures in the surficial till soils to impact the transport of contaminants from the landfill • Undertake additional Indigenous community consultation during EA
Biology/ AECOM	$9,500	• Undertake preparation of detailed biology work plan for review and concurrence by GRT • Undertake additional field studies as a result of preliminary investigations including assessment of local wetland feature
Archeology, Atmosphere, and overall EA Process/ Golder Associates	$44,000	• Undertake preparation of detailed atmosphere work plan for review and concurrence by GRT • Refinement of Service Area, Study Areas, Criteria and Alternative Methods • Undertaken additional Indigenous community consultation during EA

Summary
The additional consulting engineering fees of $133,300 to address the commitments made in the ToR can be accommodated within the existing budget. There may be additional costs in the future depending on what is found during the detailed EA studies and to address input from stakeholders and Aboriginal communities. Depending on these costs, the EA budget may need to be increased in the future.

PREPARED BY:	
WESLEY ABBOTT, P. ENG. **PROJECT MANAGER** **SOLID WASTE MANAGEMENT**	
PREPARED AND SUBMITTED BY:	**RECOMMENDED BY:**
JAY STANFORD, M.A., M.P.A. **DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE**	**KELLY SCHERR, P.ENG., MBA, FEC** **MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**

\\clfile1\esps$\shared\administration\committee reports\cwc 2019 10 updated ea consulting costs.docx

Attachment: Appendix A – Source of Financing

c: John Freeman, Manager, Purchasing and Supply
AECOM Canada Ltd. (50 Sportsworld Crossing Rd, Kitchener, ON N2P 0A4)
Dillon Consulting Ltd. (130 Dufferin Avenue Suite 1400, London, Ontario, N6A 5R2)
Golder Associates Ltd. (1931 Robertson Road, Ottawa, K2H 5B7)

APPENDIX 'A'

#19144

Chair and Members
Civic Works Committee

October 22, 2019
(Appoint Consulting Engineers)

RE: Proposed Expansion of the W12A Landfill Site:
Updated Environmental Assessment, Engineering Consulting Costs
(Subledger NT16LF03)
Capital Project SW6051 - Municipal Waste Study
AECOM Canada Ltd. - $9,500.00 (excluding H.S.T.)
Dillon Consulting Ltd. - $79,800.00 (excluding H.S.T.)
Golder Associates Ltd. - $44,000.00 (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 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:

SUMMARY OF ESTIMATED EXPENDITURES	**Approved Budget**	**Committed to Date**	**This Submission**		**Balance for Future Work**
Engineering	$2,607,638	$1,273,473	$135,645		$1,198,520
City Related Expenses	200,000	116,617			83,383
NET ESTIMATED EXPENDITURES	**$2,807,638**	**$1,390,090**	**$135,645**	**1)**	**$1,281,903**
SUMMARY OF FINANCING:					
Drawdown from Sanitary Landfill Reserve Fund	$2,807,638	$1,390,090	$135,645		$1,281,903
TOTAL FINANCING	**$2,807,638**	**$1,390,090**	**$135,645**		**$1,281,903**

1) **Financial Note:**	**AECOM Canada Ltd.**	**Dillon Consulting Ltd.**	**Golder Associates Ltd.**	**Total**
Contract Price	$9,500	$79,800	$44,000	$133,300
Add: HST @13%	1,235	10,374	5,720	17,329
Total Contract Price Including Taxes	10,735	90,174	49,720	150,629
Less: HST Rebate	1,068	8,970	4,946	14,984
Net Contract Price	$9,667	$81,204	$44,774	$135,645

JG

Jason Davies
Manager of Financial Planning & Policy

Cycling Advisory Committee

Report

The 9th Meeting of the Cycling Advisory Committee
September 18, 2019
Committee Room #4

Attendance

PRESENT: C. Linton (Chair), K. Brawn, B. Cowie, C. DeGroot, R. Henderson, B. Hill, J. Jordan, C. Pollett, E. Raftis, J. Roberts and O. Toth and H. Lysynski (Acting Secretary)

ALSO PRESENT: A. Giesen, P. Kavcic, Sergeant S. Harding, T. MacDaniel, D. MacRae, L. Maitland, A. Miller, M. Schulthess and S. Wilson

The meeting was called to order at 4:00 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 Cycling Infrastructure Plans and Cycling Master Plan Review

That a Working Group BE ESTABLISHED consisting of B. Cowie, C. DeGroot, R. Henderson, B. Hill, J. Jordan and J. Roberts, to review and to report back at the next Cycling Advisory Committee meeting with respect to Cycling Infrastructure Plans and the Cycling Master Plan; it being noted that the attached presentations and the attached maps from P. Kavcic, Transportation Design Engineering and A. Giesen, Senior Transportation Technologist, with respect to the above-noted matters, were received.

2.2 Adelaide Street North Environmental Assessment

That it BE NOTED that the attached presentation from M. Davenport, Engineer-In-Training, with respect to the Adelaide Street North Environmental Assessment, was received.

3. Consent

3.1 The 8th Report of the Cycling Advisory Committee

That it BE NOTED that the 8th Report of the Cycling Advisory Committee, from its meeting held on August 21, 2019, was received.

4. Sub-Committees and Working Groups

That it BE NOTED that a general discussion was held with respect to the Sport and Leisure Cycling Sub-Committee meeting.

5. Items for Discussion

5.1 Notice of Planning Application - Zoning By-law Amendment - 1395 Riverbend Road - Part of Block 1 Plan 33M-743

That, the following actions be taken with respect to the Notice of Planning Application, dated August 20, 2019, from L. Mottram, Senior Planner, with respect to a Zoning By-law Amendment for the property located at 1395 Riverbend Road:

a) the Civic Administration BE REQUESTED to ask the applicant to consider adding adequate bicycle parking including a secure indoor bicycle facility in a ratio of one car per one bicycle in the proposed development;

b) if the request is denied by the applicant, the applicant BE ASKED to provide a written response to the Cycling Advisory Committee advising of the reasons why this request cannot be undertaken; and,

c) the Civic Administration BE REQUESTED to attend the next Cycling Advisory Committee meeting to provide an overview of the Zoning By-law and site plan requirements for bicycle parking in the various forms of housing.

5.2 Notice of Planning Application - Zoning By-law Amendment - 943 Fanshawe Park Road West and 1800 Aldersbrook Gate

That it BE NOTED that the Notice of Planning Application, dated September 4, 2019, from C. Lowery, Planner II, with respect to a Zoning By-law Amendment for the properties located at 943 Fanshawe Park Road West and 1800 Aldersbrook Gate, was received.

5.3 Notice of Planning Application - Official Plan and Revised Zoning By-law Amendments - 1339-1347 Commissioners Road West

That it BE NOTED that the Notice of Planning Application, dated September 12, 2019, from B. Debbert, Senior Planner, with respect to Official Plan and Zoning By-law Amendments for the properties located at 1339 to 1347 Commissioners Road West, was received.

5.4 Notice of Planning Application - Zoning By-law Amendment - 1674 Hyde Park Road

That it BE NOTED that the Notice of Planning Application, dated September 5, 2019, from B. Debbert, Senior Planner, with respect to a Zoning By-law Amendment for the property located at 1674 Hyde Park Road, was received.

5.5 Education Campaign - Cycling Safety - Distance between Cyclist and Motor Vehicles

That, the following actions be taken with respect to a proposed education campaign relating to the distance between cyclists and motor vehicles:

a) the Civic Administration BE REQUESTED to advise the Cycling Advisory Committee at its next meeting of the current by-laws that are being enforced relating to parking, roadways and infrastructure;

b) London Police Services Board BE REQUESTED to ask a member of the Traffic Management Unit to attend the October Cycling Advisory Committee to provide an update on the September, 2019 blitz of

pedestrians, cyclists and motorists, including, but not limited to, the numbers of tickets issued, the successes and outcomes, the gender of the people who received tickets, the persons age, the location and available infrastructure (ie. bicycle lanes) where the tickets were issued; and,

c) the Committee Secretary BE REQUESTED to place the issue of a review of the London Road Safety Strategy on the next Cycling Advisory Committee Agenda;

it being noted that the Cycling Advisory Committee heard a verbal delegation from C. Dechand, with respect to these matters.

5.6 2019 Work Plan

That consideration of the 2019 Cycling Advisory Committee Work Plan BE POSTPONED to the next Cycling Advisory Committee meeting.

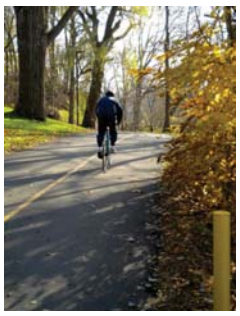
5.7 Glow Ride - Friday, September 27, 2019

That it BE NOTED that the pamphlet from London Cycle Link with respect to the Glow Ride to be held in Victoria Park on September 27, 2019, was received.

6. Adjournment

The meeting adjourned at 6:18 PM.

Cycling Infrastructure Plans & Cycling Master Plan Review



Cycling Advisory Committee – September 18, 2019

Meeting Topics

- Cycling Infrastructure Programs
- Planned Cycling Improvements
- Cycling Master Plan Technical review

Cycling Infrastructure

On Road Facilities

- Active Transportation Program
- Infrastructure Renewal Program
- Growth Program

Off Road Facilities

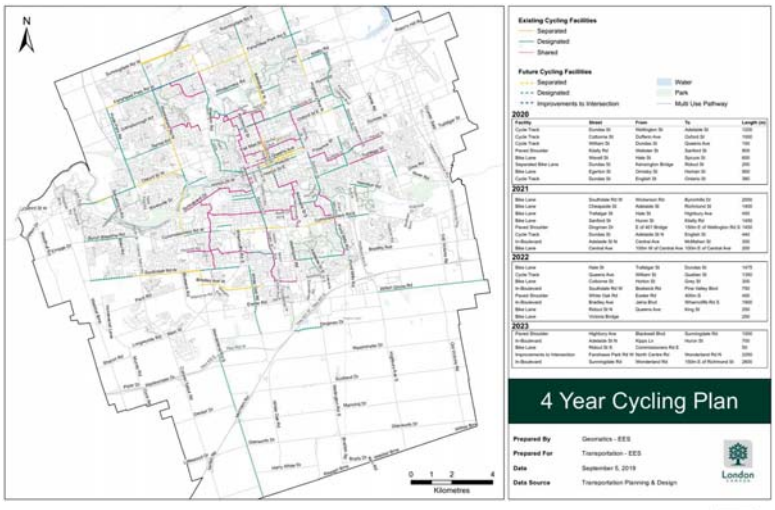
- Infrastructure Renewal Program & Operations
- Growth Program

3

4 Year Cycling Plan – On Roads

- Staff reviewed short term routes identified within Cycling Master plan to build a construction program from 2020 to 2023.
- Routes were strategically selected to improve connections to existing cycling infrastructure

4



5

4 Year Cycling Plan – On Roads

- A look at CMP short term predictions with planned short term actuals

	Facility Types (Roadway /Linear Pathway Km)					
	Designated				Separated	
Phase	Paved Shoulder	Bike Lane	Buffered Bike Lane	Buffered Paved Shoulder	Cycle Track	In-Boulevard Path
2016 - CMP Release	0	60	0	0	0	42
Existing - 2019	8.2	71.5	3.25	3.2	0.85	43
2020	0.8	1.5			2.93	
2021	1.45	5.5			0.44	0.3
2022	0.4	0.925			1.35	2.65
2023	1	0.05				3.3
Short Term Actuals (2017-2022)	10.85	19.425	3.25	3.2	5.57	3.95
Short Term Predictions	11	17	12	4	2	3

** Note: Table takes into account upgraded cycling facilities ie. 2022 Queens Avenue from bike lane to cycle track.

6

Multi-Use Pathway System Planned and Completed Projects

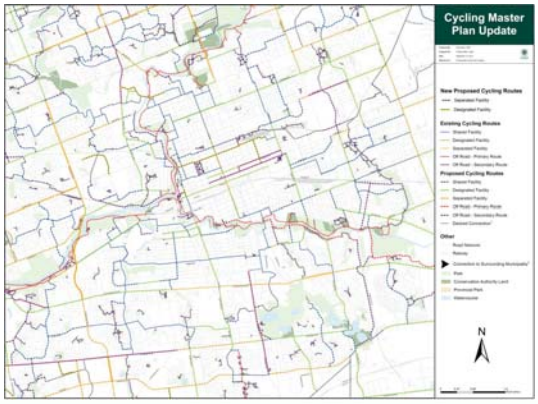
- Kiwanis CN Crossing - Completed
- South Branch TVP – Upgraded 2017
- Main Branch EA – 2020
- TVP North Branch – Fall 2020 Completion
- Multi-use pathways in new subdivision developments, and smaller neighbourhood routes which are not all captured within the CMP

Cycling Master Plan Review

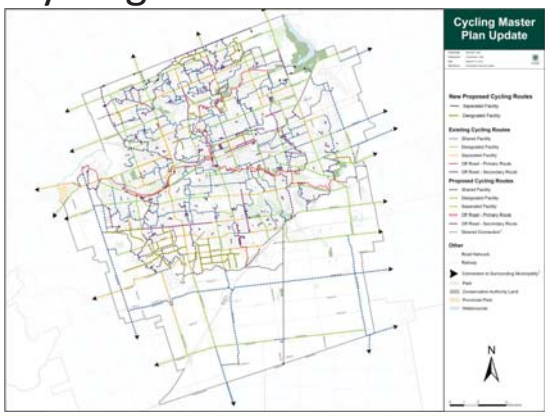
Cycling Master Plan Review

- Studies, & EA's impacting the CMP
  - BRT EA – Addition of more cycling infrastructure
  - Removal of Queens Ave as a result of BRT
  - DC By-law providing claim ability for developers to construct cycling facilities on collector roads
  - East-West Bikeway – addition of Dundas, Queens, & William
  - EA's – Adelaide CPR, Adelaide Street North, Clarke Road, Southdale Road, & Commissioners Road West

Cycling Master Plan Review



Cycling Master Plan Review



Cycling Master Plan Review

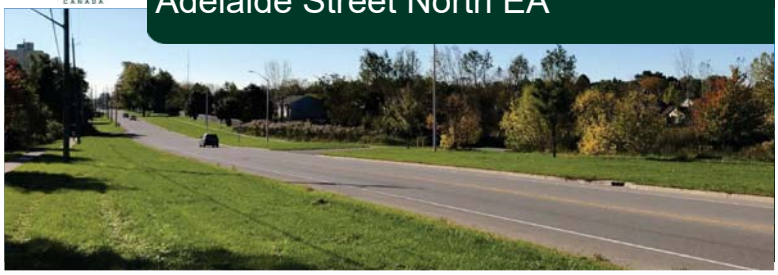
- Unique opportunity for priorities and best practice review
- Not intended to be a complete review of the CMP

Cycling Master Plan Review

- Timing
  - Staff are planning on providing a report and updated CMP to Committee and Council in Q1 of 2020

Questions?

Adelaide Street North EA



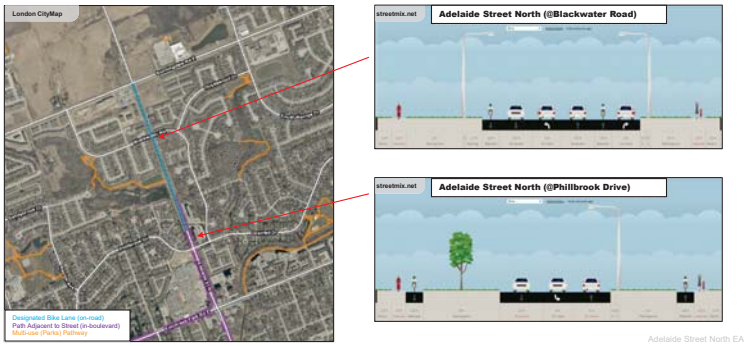
Presentation to the Cycling Advisory Committee | September 18, 2019

Matt Davenport, EIT & Andrew Giesen, CET

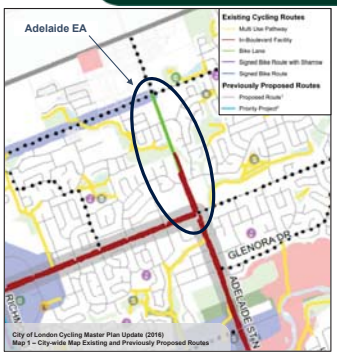
Project Overview

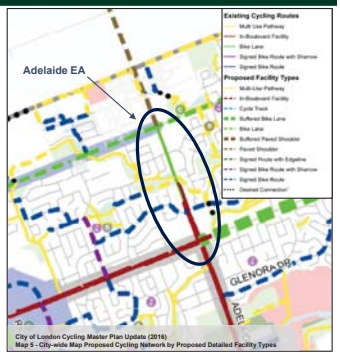
- Environmental Assessment (EA) for Adelaide Street North from Fanshawe Park Road East to 350m north of Sunningdale Road East. Includes Sunningdale Road East from Blackwater Road to the Stoney Creek Community Centre
- EA will confirm the need for widening Adelaide Street North to four lanes
- EA will identify improvements to the cycling network

Cycling Network – Existing Conditions



Cycling Master Plan Context Existing & Proposed Facilities



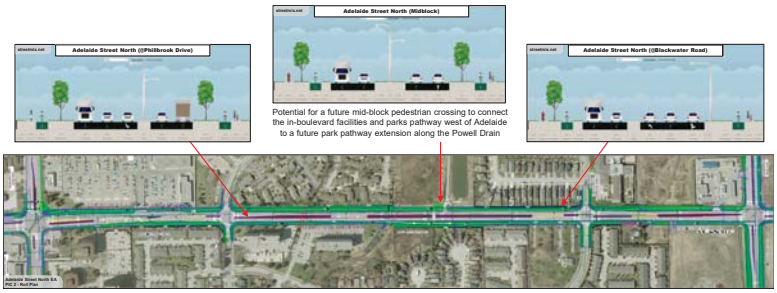


EA Status

- The second Public Information Centre was held on June 05, 2019 where the proposed cycling facilities for Adelaide were presented.
- The proposed cycling strategy will include connecting Adelaide from Fanshawe to Sunningdale with a 1.8m wide continuous in-boulevard path on both sides of the street, including cross-rides at intersections.
- The EA will protect the corridor for a proposed future midblock connection to a future multi-use parks pathway extension along the Powell Drain.

Cycling Network – Proposed

1.8m wide continuous in-boulevard path adjacent to Adelaide from Fanshawe to Sunningdale



Project Timeline

Environmental Study Report (ESR)
- Targeted completion in January **2020**

Detailed Design
- Anticipated to begin by late **2027**

Construction
- Phase 1 (**2025**) - Sunningdale Road East Widening
- Phase 2 (**2029**) - Adelaide Street North Widening

Questions & Comments

Questions?

london.ca
Adelaide Street North EA

Existing Cycling Facilities

- Separated
- Designated
- Shared

Future Cycling Facilities

- Separated
- Designated
- Improvements to Intersection

- Water
- Park
- Multi Use Pathway

2020

Facility	Street	From	To	Length (m)
Cycle Track	Dundas St	Wellington St	Adelaide St	1200
Cycle Track	Colborne St	Dufferin Ave	Oxford St	1000
Cycle Track	William St	Dundas St	Queens Ave	150
Paved Shoulder	Kilally Rd	Webster St	Sanford St	800
Bike Lane	Wavell St	Hale St	Spruce St	600
Separated Bike Lane	Dundas St	Kensington Bridge	Ridout St	200
Bike Lane *	Egerton St	Ormsby St	Homan St	900
Cycle Track *	Dundas St	English St	Ontario St	380

2021

Bike Lane *	Southdale Rd W	Wickerson Rd	Byronhills Dr	2000
Bike Lane	Cheapside St	Adelaide St	Richmond St	1400
Bike Lane	Trafalgar St	Hale St	Highbury Ave	450
Bike Lane	Sanford St	Huron St	Kilally Rd	1450
Paved Shoulder *	Dingman Dr	E of 401 Bridge	150m E of Wellington Rd S	1450
Cycle Track *	Dundas St	Adelaide St N	English St	440
In-Boulevard *	Adelaide St N	Central Ave	McMahen St	300
Bike Lane *	Central Ave	100m W of Central Ave	100m E of Central Ave	200

2022

Bike Lane	Hale St	Trafalgar St	Dundas St	1475
Cycle Track *	Queens Ave	William St	Quebec St	1350
Bike Lane	Colborne St	Horton St	Grey St	300
In-Boulevard *	Southdale Rd W	Bostwick Rd	Pine Valley Blvd	750
Paved Shoulder *	White Oak Rd	Exeter Rd	400m S	400
In-Boulevard *	Bradley Ave	Jalna Blvd	Wharncliffe Rd S	1900
Bike Lane *	Ridout St N	Queens Ave	King St	250
Bike Lane *	Victoria Bridge			250

2023

Paved Shoulder	Highbury Ave	Blackwell Blvd	Sunningdale Rd	1000
In-Boulevard	Adelaide St N	Kipps Ln	Huron St	700
Bike Lane	Ridout St S	Commissioners Rd E		50
Improvements to Intersection	Fanshawe Park Rd W	North Centre Rd	Wonderland Rd N	2250
In-Boulevard *	Sunningdale Rd	Wonderland Rd	150m E of Richmond St	2600

* - Denotes a cycling project planned with another program. Date is dependent on this program

4 Year Cycling Plan

Prepared By	Geomatics - EES
Prepared For	Transportation - EES
Date	September 5, 2019
Data Source	Transportation Planning & Design

London CANADA

DEFERRED MATTERS

CIVIC WORKS COMMITTEE
(as of October 11, 2019)

Item No.	Subject	Request Date	Requested/ Expected Reply Date	Person Responsible	Status
1.	**Options for Increased Recycling in the Downtown Core** 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: b) the Civic Administration BE DIRECTED to report back to the Civic Works Committee in May 2017 with respect to: i) the outcome of the discussions with Downtown London, the London Downtown Business Association and the Old East Village Business Improvement Area; 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; iii) the future role of municipal governments with respect to recycling services in Downtown and Business Areas; and, iv) the recommended approach for increasing recycling in the Downtown area.	Dec 12/16	3rd Quarter 2019	K. Scherr J. Stanford	
2.	**Rapid Transit Corridor Traffic Flow** 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.	Dec 12/16	2nd Quarter 2019	K. Scherr J. Ramsay	

3.	**Garbage and Recycling Collection and Next Steps** 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: ~~i) 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,~~ ii) an Options Report for the introduction of a semi or fully automated garbage collection system including considerations for customers and operational impacts.	Jan 10/17	3rd Quarter 2019	K. Scherr J. Stanford	2nd Quarter 2019
4.	**Public Notification Policy for Construction Projects** 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.	Nov 21/17	3rd Quarter 2019	U. DeCandido	

5.	**Environmental Assessment** That the Managing Director, Environmental and Engineering Services & 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.	July 25, 2018	2nd Quarter 2019	S. Mathers P. Yeoman	
6.	**Bike Share System for London - Update and Next Steps** That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the potential introduction of bike share to London: that Civic Administration BE DIRECTED to finalize the bike share business case and prepare a draft implementation plan for 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; it being noted that a communication from C. Butler, dated August 8, 2019, with respect to the above matter was received.	August 12, 2019	January 2020	K. Scherr	
7.	**Area Speed Limit Program** That the staff report dated September 24, 2019, with respect to an Area Speed Limit Program, BE REFERRED back to the Civic Administration in order to consult with the London Transit Commission and report back at a future meeting of the Civic Works Committee regarding the effect a change to speed limits would have on transit service; it being noted that the attached presentation from S. Maguire, Division Manager, Roadway Lighting and Traffic Control, with respect to this matter, was received; it being pointed out that at the public participation meeting associated with this matter the individuals indicated on the attached public participation meeting record made oral submissions regarding this matter.	September 24, 2019	TBD	K. Scherr S. Maguire	

8.	**Parking Changes** That the Civic Administration BE DIRECTED to bring forward a report to a future meeting of the Civic Works Committee with details on potential impacts and recommendations on implementing the following changes to parking restrictions: a) the overnight parking ban program be amended to be in force from November 1st until April 30th annually; b) the issuing of overnight parking permits during the ban period be expanded to allow residents to purchase additional passes beyond the current 15 free uses for a fee; and, c) the current 12hr limit on occupying a specific on street non metered parking location be amended to 18hrs; it being noted that a communication, dated September 12, 2019, from Councillor S. Lewis, was received with respect to this matter.	September 24, 2019	TBD	K. Scherr	

Cycling Advisory Committee

Report

The 10th Meeting of the Cycling Advisory Committee
October 16, 2019
Committee Room #4

Attendance

PRESENT: C. Linton (Chair), B. Cowie, C. DeGroot, R. Henderson, J. Jordan, C. Pollett, E. Raftis and J. Roberts and D. Turner (Secretary)

ABSENT: K. Brawn, B. Hill and O. Toth

ALSO PRESENT: A. Giesen, Sgt. S. Harding, T. MacDaniel, D. MacRae, L. Maitland, A. Miller, C. Saunders, J. Stanford and S. Wilson

The meeting was called to order at 4:00 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 Transportation Demand Management Cycling Activities – Introduction and Update

That it BE NOTED that the attached presentation from A. Miller, Transportation Demand Management Coordinator and J. Stanford, Director, Environment, Fleet and Solid Waste, with respect to an introduction and update on Transportation Demand Management Cycling Activities, was received.

2.2 Bicycle Parking By-laws and Regulations

That the Civic Administration BE REQUESTED to attend a future meeting of the Cycling Advisory Committee to bring forward information related to the quality of bicycle parking in the City of London as it relates to the planning process; it being noted that the attached presentation, from L. Maitland, Site Development Planner, with respect to this matter, was received.

2.3 Cycling Counts Webpage

That it BE NOTED that the attached presentation from A. Giesen, Senior Transportation Technologist, with respect to the Cycling Counts Webpage, was received.

3. Consent

3.1 9th Report of the Cycling Advisory Committee

That it BE NOTED that the 9th Report of the Cycling Advisory Committee, from its meeting held on September 18, 2019, was received.

3.2 Municipal Council Resolution - Area Speed Limit Program

That the following actions be taken with respect to the Municipal Council Resolution from its meeting held on October 1, 2019, with respect to the Area Speed Limit Program:

a) the Civic Administration BE REQUESTED to investigate methods and practices that could be undertaken to promote compliance with speed limits; and,

b) the Civic Administration BE REQUESTED to further review the potential implementation of 30 km/h speed limits on local and connecting streets and a suggested time frame for implementation;

it being noted that the above-noted Municipal Council resolution letter was received.

3.3 Notice of Planning Application - Zoning By-law Amendment - 21 Norlan Avenue

That it BE NOTED that the Notice of Planning Application, dated September 18, 2019, from C. Parker, Senior Planner, with respect to a Zoning By-law Amendment for the property located at 21 Norlan Avenue, was received.

3.4 Notice of Planning Application - Official Plan and Zoning By-law Amendments - 84-86 St. George Street and 175-197 Ann Street

That the following actions be taken with respect to the Notice of Planning Application, with respect to Official Plan and Zoning By-law Amendments for the properties located at 84-86 St. George Street and 175-197 Ann Street:

a) the Civic Administration BE REQUESTED to consider adding additional bicycle parking spots based on a .75 ratio per bedroom rather than per unit, and that these proposed additional bicycle parking spots be secure, indoor and located at ground-level; and,

b) the above-noted Notice of Application BE RECEIVED.

3.5 Notice of Planning Application - Official Plan and Zoning By-law Amendments - 332 Central Avenue and 601 Waterloo Street

That it BE NOTED that the Notice of Planning Application, dated October 2, 2019, from M. Vivian, Planner I, with respect to Official Plan and Zoning By-law Amendments for the properties located at 332 Central Avenue and 601 Waterloo Street, was received.

4. Sub-Committees and Working Groups

4.1 Sport and Leisure Cycling Sub-Committee Report

That it BE NOTED that the Sport/Leisure Cycling Working Group Report, as appended to the agenda, was received.

4.2 Cycling Master Plan Review Working Group Report

That the revised attached '8.0 - Recommendations' section of the Cycling Master Plan Review Working Group Report BE FORWARDED to the Municipal Council for their consideration; it being noted that the remainder

of the above-noted working group report was received; it being noted that the attached presentation from C. DeGroot with respect to this matter was received.

5. Items for Discussion

5.1 London Road Safety Strategy Review

That the City of London Road Safety Strategy 2014-2019 BE DEFERRED to the next meeting of the Cycling Advisory Committee.

5.2 2019 Work Plan

That the following actions be taken with respect to the 2019 Cycling Advisory Committee (CAC) Work Plan:

a) the following expenditure from the 2019 CAC budget BE APPROVED to promote community cycling engagement:

i) $500.00 for bicycle safety light kits; and,

ii) $300.00 for bicycle safety bells;

b) the 2019 CAC Work Plan BE DEFERRED to the next meeting of the CAC.

6. Adjournment

The meeting adjourned at 7:02 PM.

TDM CYCLING ACTIVITIES: INTRODUCTION & UPDATE

Cycling Advisory Committee
October 16, 2019

Jay Stanford, Director, Environment, Fleet & Solid Waste

Allison Miller
TDM Coordinator

WHAT IS TRANSPORTATION DEMAND MANAGEMENT?

- Strategies that result in more efficient use of a transportation system
- Encouraging Londoners to use options other than driving alone or . . . . *driving at all!*
- More than just weekday peak trips
- Part of an active lifestyle

Cycling is just one part of this. Over the last few years it has taken up a lot of time.

GOALS OF TDM

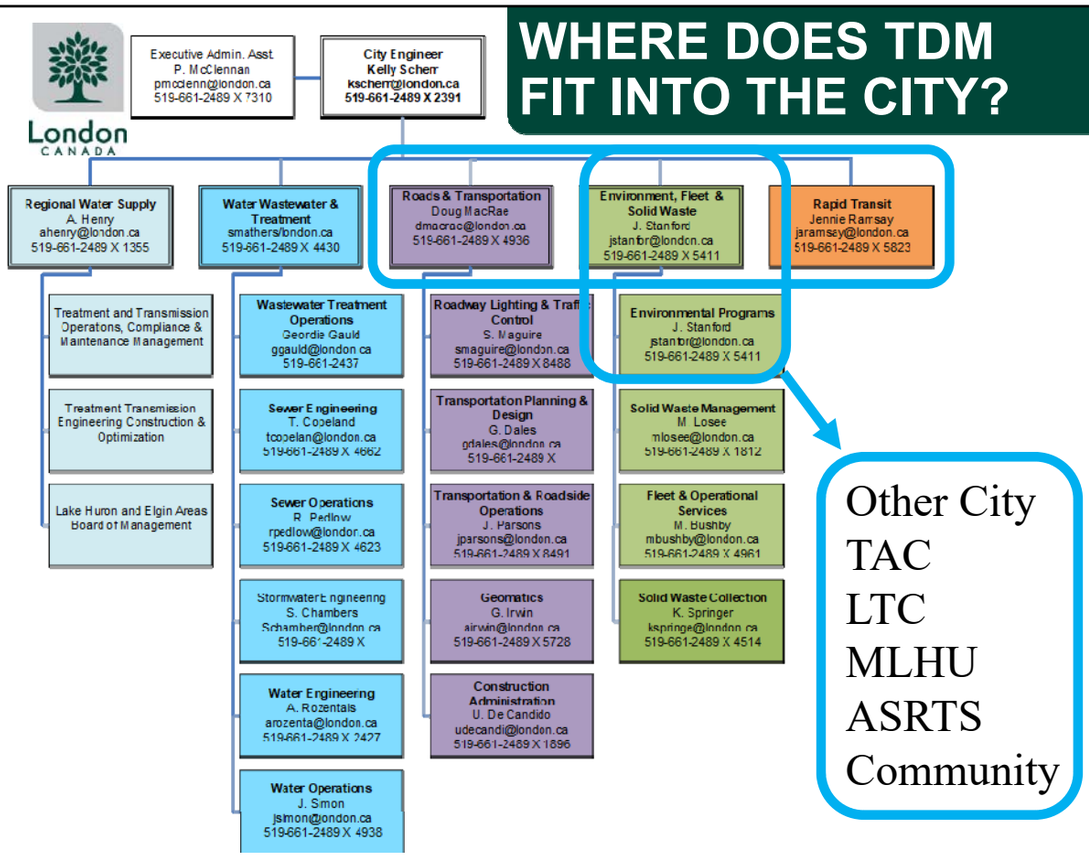
✓ Reduce

- Reliance on single occupancy vehicles (SOV)
- Vehicle kilometres travelled (VKT)
- Capital expenditures
- Maintenance costs
- Traffic congestion
- GHG emissions

✓ Improve

- Traffic safety
- Air quality
- Health

WHERE DOES TDM FIT INTO THE CITY?



WHERE DOES TDM FIT INTO CAC?

Mandate: The CAC will advise and support City Council in the implementation of . . . . the cycling component of Active Transportation and Transportation Demand Management by:

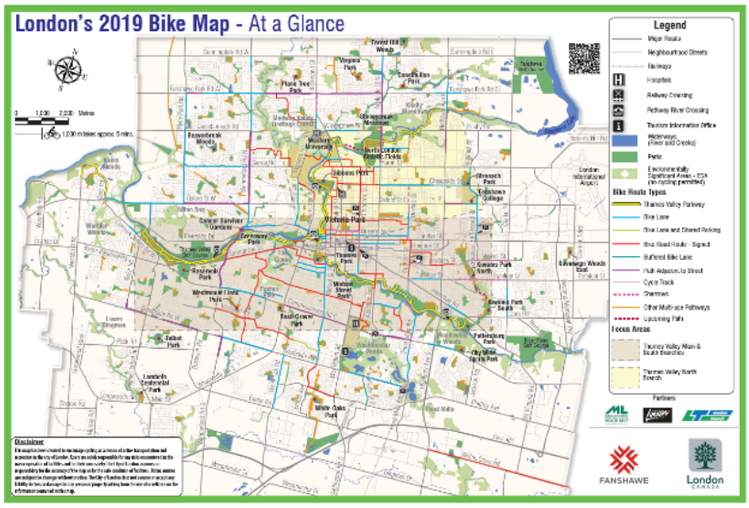
- publicizing the benefits and importance of the initiatives designed to achieve the objectives of the BMP, TMP and LRSS;
- assisting in the development of new cycling policies, strategies and programs;
- encouraging public participation in the initiatives. . . . . ;
- advising on measures required to implement the City's commitment to cycling;
- recommending and advising on new cycling initiatives in the context of available approved budgets and under future potential budget allocations; and
- assisting in monitoring the effectiveness of cycling facilities and support programs.

TDM PROJECTS – CYCLING FOCUS

- Updates on 7 of 14 Actions from 2016 Cycling Master Plan
- Feasibility Study for a Transportation Management Association & Commute Ontario
- Greenhouse gas emissions from burning fossil fuel

UPDATED BIKE MAP

CMP Action #3 - Identifying Touring Loop Routes

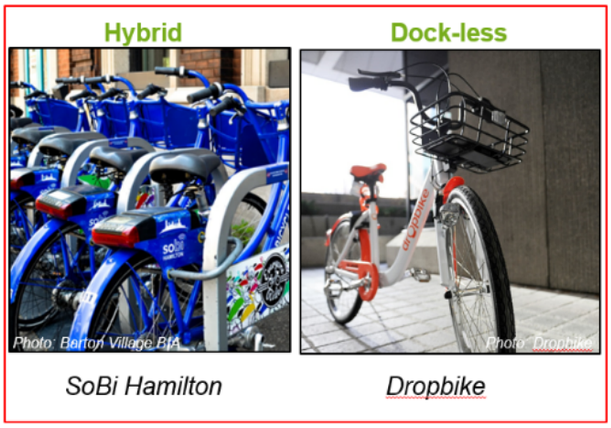


- In progress
- Focus has been TVP routes
- More routes identified for spring 2020

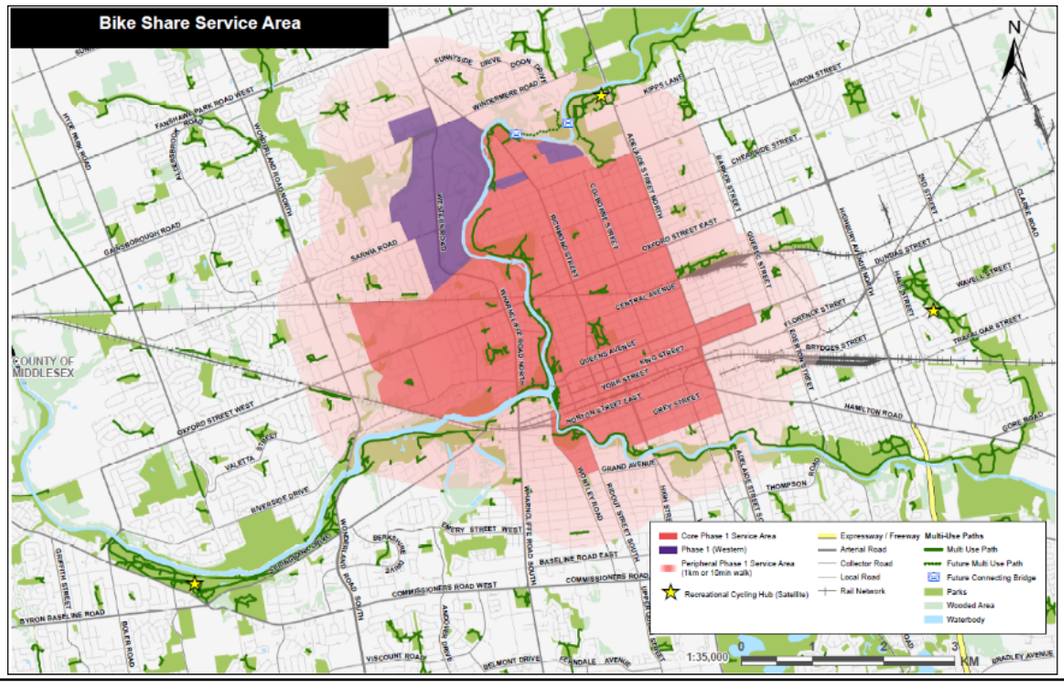
BIKE SHARE BUSINESS CASE

CMP Action #4 - Exploring a Bike Share System

- Background details and preliminary analysis completed
- Implementing a RFP to obtain pricing and a vendor
- Proposed launch Spring/Summer 2020



BIKE SHARE – SERVICE AREA



AWARENESS AND EDUCATION

CMP Action #6 - Creating a Cycling Specific Web Presence

- In progress
- Updated cycling information on City website
- Produced how-to/safety videos

https://www.youtube.com/watch?v=gA0J3lZ-iC8&feature=youtu.be

BICYCLE PARKING

CMP Action #8 - Enhancing Bicycle Parking

- Adding short-term bike racks in spring 2020
- Doubling number of bike corrals
- Festival bike parking system for events
- Developing Business Bike Rack Program

BICYCLE PARKING

- Secure Public Bike Parking Downtown Pilot
- Neighbourhood Bike Parking Concepts
- Listed in Strat Plan - Undertake background details and community engagement on bike parking challenges, opportunities, priorities and implementation plans.

City of Portland

City of Toronto

MEASURING

CMP Action #9 – Establishing Performance Measures

- **In progress.** Measures include:
  - Counts
  - Facility length
  - New measures (connectivity, safety, travel time, etc.)
- Listed in the Strategic Plan - Prepare background methodology, an approach to monitoring and implement

AWARENESS AND EDUCATION

CMP Action #11 Enhancing Enforcement

- In progress
- Working with LPS, Fanshawe, Western Police on promotions **(upcoming)**

SPECIAL EVENTS AND PARTNERS

CMP Action #12 - Establishing High Profile Events

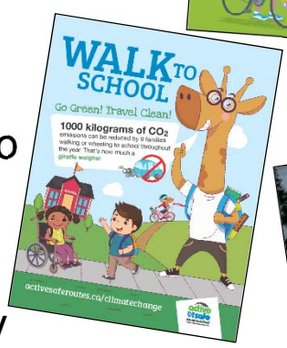
1. London Celebrates Cycling:

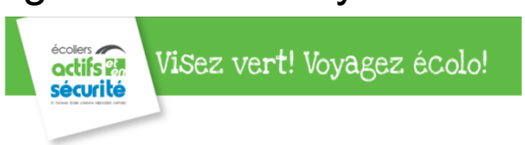
- Every June (last 3 years)
- Partnership event
- Goal to celebrate those who ride and reach new cycling audiences (to encourage to ride)
- Event is evolving and growing

SPECIAL EVENTS AND PARTNERS

2. Partner Event Support

- CAN Bike
- ELMO ASRTS: Climate Change campaign & Bike to School Week support
- Big Bike Giveaway





CYCLING IN LONDON SURVEY

Tied to all CMP actions and Promoting Sustainable Travel for All Time Periods

- Part of Western University Doctoral research
- First dedicated, comprehensive cycling survey in London
- Supported by EES
- Results on the facilitators and barriers to further uptake of cycling will be used when considering future infrastructure and programs

TRANSPORTATION MANAGEMENT ASSOCIATION

- TMA is usually a non-profit, member-controlled organization that provides transportation services in a particular area or areas
- Feasibility Study just started; based in part on past work in the Oxford East business area
- Define location(s), governance models, and current context and programming

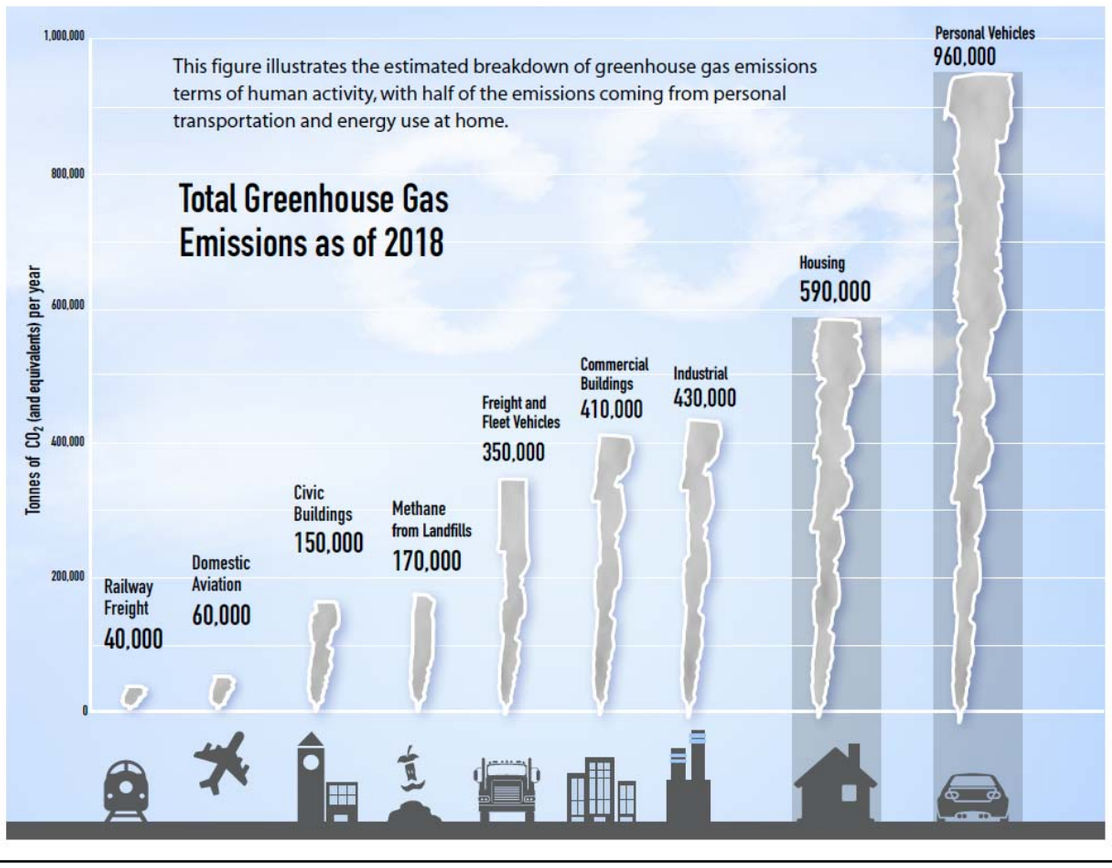
London CANADA

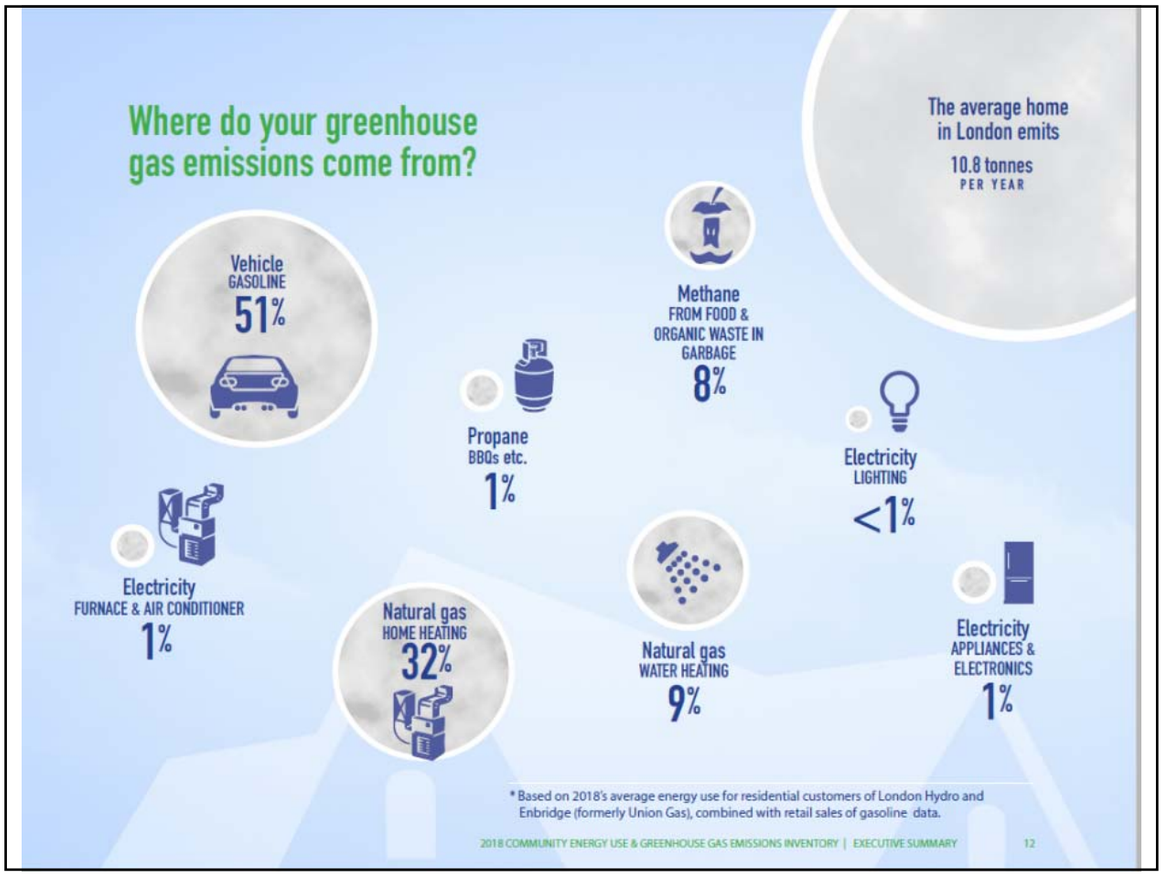
- Ontario Trillium Foundation-funded project
- Lead is SustainMobility – delivers TMA programs in GTA
- 6 other municipalities
- Commuter programs and supports to be Londonized
- Includes a Guaranteed Ride Home Program (stumbling block to more commuter cycling)

COMMUTE ONTARiO

BE PART OF THE SOLUTION

ONTARIO'S COMMUNITIES ARE COMING TOGETHER TO REDUCE 20,000,000 KM OF VEHICLE TRAVEL!





GHG REDUCTION ACTIONS - CLIMATE EMERGENCY

From 2018 Community Energy Use & GHG Inventory Report to CWC, October 22/19

What can Londoners do immediately?

- **Drive less (or not at all)** – make more trips by walking, **cycling**, transit, carpooling
- If you must own a vehicle, own an electric or hybrid vehicle, or a very fuel efficient one
- Make your home more energy efficient – and work towards net-zero energy
- Reduce food waste, especially for high-impact foods such as red meat and dairy
- Go local – for food, for products, for vacations

GHG REDUCTION ACTIONS - CLIMATE EMERGENCY

What can London's Businesses & Employers do immediately?

- Invest in energy efficiency measures for buildings and processes
- Apply green procurement strategies to the supply chain
- Invest in **green fleet measures**
- Reduce business travel, especially by air, through webinars and video conferences. If business travel is required, consider carbon offsetting
- Reduce employee commuting – **promote cycling**, transit, carpooling, telework

QUESTIONS

- Now
- Next CAC
- At a Sub-committee or Working Group meeting

Bicycle Parking Regulations (and Policies)

City of London

Cycling Advisory Committee – October 16, 2019

london.ca

Policy Framework

- Official Plan – *The London Plan*
  - Zoning By-law – Z.-1 Zoning By-law
    - Site Plan Control By-law
- Complete Streets Design Manual
- Parks and Recreation Design Standards

london.ca

London Plan Policies

- (City Design) 280_ Secure, covered and non-covered bicycle parking should be incorporated into multiple-unit residential, commercial, retail, institutional, and recreational developments.
- (Mobility) 353_ *The Cycling Master Plan* should identify cycling infrastructure such as secure bicycle parking, bike racks on buses and change rooms and shower facilities to support cycling and multi-modal forms of mobility.
- (Public Facilities) 434_ To support active forms of mobility, public facilities should provide for secure bicycle parking and adequate shower and locker facilities for employees.

London Plan Policies

- Downtown specific policies

  799_5 Prepare a parking strategy to coordinate municipal parking supply and provide for public parking at strategically advantageous locations. Plan for, and integrate, bicycle parking, bikesharing, and carsharing through this strategy.

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

- Transit Village specific policies

  814_ 12 Shared car and bicycle parking facilities and carshare/bikeshare programs will be encouraged within Transit Villages. Public change rooms and bicycle facilities will be encouraged.

London Plan Policies

- Methadone Clinics

  1097_ The Zoning By-law will identify standards for new and expanded methadone clinics and methadone pharmacies to ensure all of the following:

  1. Adequate automobile parking.
  2. Adequate bicycle parking facilities.
  3. Adequate waiting room floor areas.

- Bonus Zoning

  1652_10. Large quantities of secure bicycle parking, and cycling infrastructure such as lockers and change rooms accessible to the general public.

London Plan Policies

- Site Plan policies requiring items to be shown and addressed.
  - 1678_e. The sustainable design elements on any adjoining street, including without limitation trees, shrubs, hedges, plantings or other ground cover, permeable paving materials, street furniture, curb ramps, waste and recycling containers and bicycle parking facilities.
  - 1681_15. The sustainable design elements on any adjoining street under the City's jurisdiction, including trees, shrubs, hedges, plantings or other ground cover, permeable paving materials, street furniture, curb ramps, waste and recycling containers, and bicycle parking facilities.

Zoning By-law Regulations

4.19 PARKING

16) NUMBER OF BICYCLE PARKING SPACES

1) Residential Development:

Apartment buildings and lodging houses (with five or more residential units) shall be required to provide 0.75 longterm bicycle parking space per residential unit.

Zoning By-law Regulations

2) Residential Care Facilities:

Short-term bicycle parking spaces shall be provided at a rate of 7% of the required number of automobile parking spaces, as specified in the Zoning By-law, for the following residential care facilities:

a) senior citizen apartment buildings;
b) nursing homes;
c) rest homes;
d) retirement lodges;
e) retirement homes;
f) handicapped persons apartment buildings;
g) continuum-of-care facility;
h) chronic care facility;
i) foster homes;
j) group home type 1 and type 2;
k) supervised residence;
l) correctional and detention centre;
m) emergency care establishment.

Zoning By-law Regulations

3) Residential Development Exemptions: bicycle parking shall not be required for:

a) Conversions of existing space to residential units;
b) Single detached dwellings;
c) semi-detached dwellings;
d) duplex dwellings;
e) triplex dwellings;
f) fourplex dwellings;
g) townhouse dwellings;
h) stacked townhouse dwellings;
i) street townhouses;
j) cluster townhouses;
k) farm dwellings.

Zoning By-law Regulations

4) Non-Residential Development:

Short-term bicycle parking spaces shall be provided at a rate of 7% of the required number of automobile parking spaces, as specified in the Zoning By-law, for all non-residential development except as specified below:

Zoning By-law Regulations

5) Non-Residential Development Exemptions:

a) where the required number of automobile parking spaces specified in the Zoning By-law is 9 or fewer spaces, no bicycle parking is required;

b) No bicycle parking requirement applies for the following uses specified in the Zoning By-law: Abattoir; aggregate reprocessing; aggregate storage area; agricultural service establishment; agricultural supply establishment; agricultural use; agricultural use, intensive; agricultural use, non-intensive; agriculturally related commercial use; agriculturally related industrial use; batching plant, asphalt; batching plant, concrete; channel composting facility; construction and demolition recycling facility; crushing plant; driving range; drive-through facility; farm; farm cluster; farm equipment sales and service; farm foods and products market; farm market; feedlot; forestry use; grain elevator; greenhouse, commercial; in-vessel composting facility; kennel; landing strip; livestock; livestock facilities; managed woodlot; manure storage facilities; pit; propane transfer facility; quarry; resource excavation; residential and other source recycling facility; resource extraction operation; salvage yard; specialized recycling facility; stockpiling; travel plaza/truck stop; truck stop; theatre, drive-in; wayside pit or wayside quarry; windrow composting facility.

c) No bicycle parking requirement will apply to the conversion of existing buildings for residential or non-residential uses in all Downtown Area 1 and 2 Zones. Major redevelopment involving property consolidation and new construction is required to provide for bicycle parking facilities at the mandated standard.

d) No bicycle parking requirement will apply to the conversion of existing buildings for residential or non-residential uses in all Business District Commercial 1 and 2 Zones. Major redevelopment involving property consolidation and new construction is required to provide for bicycle parking facilities at the mandated standard.

e) For CLINIC, METHADONE or PHARMACY, METHADONE uses, notwithstanding any provisions of this by-law, the number of bicycle parking spaces provided shall be no less than 5 spaces.

Zoning By-law Regulations

6) Municipally-owned Parking lots and structures:

Municipally-owned parking lots in the Downtown Area zones and defined Business District Commercial Area zones shall provide for short-term bicycle parking facilities equal to 7% of the total vehicular parking spaces provide.

Zoning By-law Regulations

7) Bicycle Parking Incentives:

Notwithstanding Section 4.19 of this By-law to the contrary, the required number of motor vehicle parking spaces for non-residential uses may be reduced to provide for additional short or long-term bicycle parking spaces beyond those mandated by this by-law provided, however, the reduction in motor vehicle parking spaces shall not exceed 10% of the required motor vehicle parking spaces. Individual vehicular parking stalls shall be required to provide for a minimum of five bicycle parking spaces. This incentive shall not apply to CLNIC, METHADONE or PHARMACY, METHADONE uses.

Site Plan Control By-law

14. BICYCLE PARKING FACILITIES

(a) Objectives:

- To encourage the use of bicycles as an alternative means of transportation, bicycle parking facilities shall be provided at the residential base and at destination locations such as the workplace, convenience and destination and commercial and institutional facilities. Bicycle parking shall be provided in facilities that are convenient, safe, secure and functional for the intended use.

(b) Number of Bicycle Parking Spaces:

- To be provided in accordance with the regulations set out in the current Zoning By-law.

(c) Design Characteristics

- When required in association with a development, bicycle parking spaces shall be provided in accordance with the design characteristics as set out in Table 6.10.

(d) Long and Short-term Bicycle Parking Facilities:

- Long-term bicycle parking is required for apartment buildings and lodging houses with five or more residential units to store bicycles for several hours or days at a time. The facility must be protected from the weather and should be enclosed within a secure space.
- Subject to the provisions of the Z.-1 Zoning By-law, short-term bicycle parking is required for all non-residential development requiring 10 or more vehicular parking spaces. Short-term bicycle parking spaces should be as accessible as possible and should be visible to discourage theft. Short-term bicycle parking facilities typically consist of a rack or a post where the frame and wheels of the bicycle can be secured by a user supplied lock.

(e) Change Room and Shower Facilities:

- Change room and shower facilities for cyclists are encouraged to enhance the use of bicycles for work based travel.

Site Plan Control By-law

1. Location

Long-Term Bicycle Parking:

Apartment buildings and lodging houses (with five or more residential units) shall be required to provide for long-term bicycle parking opportunities in an accessible, secure and weather protected area. Subject to the design characteristics set out below, long-term bicycle parking spaces may be provided in the following locations;

(a) in a bicycle room or bicycle compound located within a building or motor vehicle parking structure

(b) within an individual bicycle locker

(c) within an accessory building

For the purpose of this By-law, long-term bicycle parking shall not be provided within a dwelling unit or a balcony thereof.

Short-Term Bicycle Parking:

Short-term bicycle parking spaces may be provided within an exterior space (covered or uncovered) designated for the parking of bicycles.

Large scale developments may spatially disperse the required number of short-term bicycle parking spaces throughout the site in accordance with the locational considerations detailed under 4, 5, 6, and 7 noted below.

Site Plan Control By-law

2. Size of a Bicycle Parking Space

Minimum horizontal dimensions of 0.6 metres by 1.5 metres and a height of at least 1.9 metres

3. Aisle Width

Where more than one row of bicycle parking spaces is provided, a minimum aisle width of 1.5 metres shall be provided

Site Plan Control By-law

4. Location for Accessibility

Less than 15 metres from the entrance used by cyclists or if located within a building in a location easily accessible to bicycles

Should not be farther from the entrance than the closest motor vehicle parking space (excluding parking spaces for persons with disabilities)

In a separately designated area that does not impede the movement of pedestrians

In an easy to find location directly visible from the street and if not directly visible from the street directional information signs shall be installed to direct cyclists to the bicycle parking facility

Site Plan Control By-law

5. Location for Natural Surveillance

Located within constant visual range of persons within the adjacent building or within well traveled pedestrian areas

Within unobstructed view from the adjacent municipal roadway

6. Security Lighting

Night lighting shall be provided in a manner to ensure that the entire bicycle parking area is well lit

7. Covered Bicycle Parking

If covered motor vehicle parking is provided, the required bicycle parking shall also be covered.

Links

- *The London Plan*
- Zoning By-law
- Site Plan Control By-law

Cycling Counts Webpage “Bike Data”

Cycling Advisory Committee – October 16, 2019

Meeting Topics

- Implementing the Cycling Master Plan
- Existing permanent cycling count infrastructure
- Future permanent cycling count infrastructure
- Cycling counts web page

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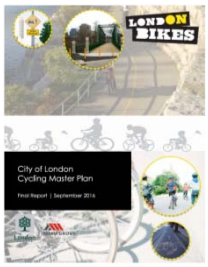
Implementing the Cycling Master Plan

- Action item #6
  - "Creating a Cycling Specific Web Presence"
- Action item #9
  - "Establishing Performance Measures"



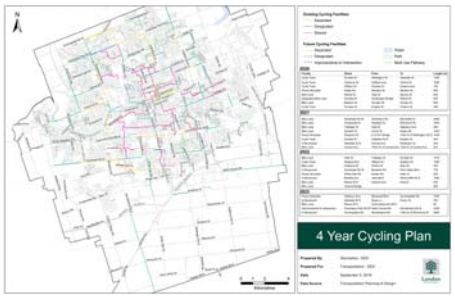
Existing Permanent Cycling Count Infrastructure

- 14 located within the parks pathway system
- 6 permanent counters located on roadways

4

Future Cycling Count Infrastructure

- Egerton Street -2020
- Dundas Street – 2020
- Southdale -2021
- Cheapside -2021
- Queens Ave -2022
- Bradley Ave- 2022
- Sunningdale Road -2023
- Adelaide Street North -2023



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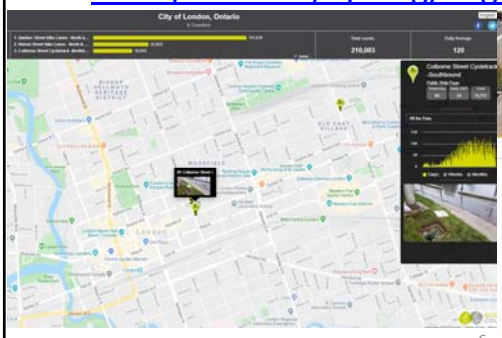
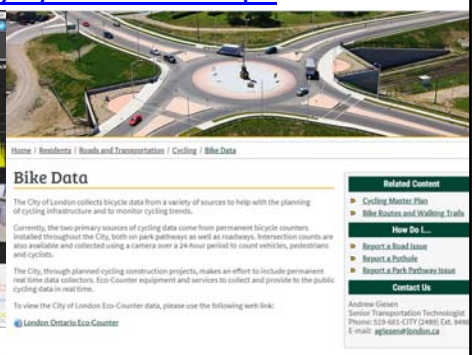
City Web Page

- Dedicated web page, with access to count data in real time
- https://www.london.ca/residents/Roads-Transportation/cycling/Pages/Bike-Data.aspx





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Questions?

8.0 - Recommendations

Based on our assessment of new policies London ON Bikes **does not** meet City of London policy goals of:

1. Declaration of Climate Emergency
2. Vision Zero

Additionally, the Cycling Master Plan falls short in many areas compared to other cities in terms of its infrastructure design, and evaluation metrics. We therefore make the following recommendations:

1. We recommend that council request that staff conduct a detailed assessment of climate emergency implications of the Transportation Master Plan, and The London Plan. Transportation and Land Use are the two largest contributing factors to climate emergency within the city, and examining these through the lens of Climate Emergency may reveal essential changes in outcome. We believe this report is the first assessment of ANY City of London policy through this lens, and given our findings, believe it prudent to examine all relevant documents from a climate perspective.
2. We recommend that council direct staff to overhaul the existing London ON Bikes plan, with major revisions to meet climate informed modal splits by 2030. The new plan should aim for transportation equity by only using modern Vision-Zero compliant design approaches and by building exclusively All Ages and Abilities infrastructure.
3. We recommend funding the creation of an Active Transportation Strategy at a funding rate of $50/person/year, or ~$20M annually. This is consistent with funding in high mode-share cities throughout the world.
4. We recommend that council direct construction of a temporary city-wide bike grid to be constructed by July 1, 2021. This emergency network should rapidly deploy inexpensive materials, while retaining All Ages and Abilities design principles. Full implementation of permanent AAA infrastructure should be completed during regular life cycle renewal of these streets to minimize ongoing costs.
5. We request that staff initiate consultation with Vision Zero Canada for a frank assessment of our Vision Zero progress. We request Vision Zero Canada’s continued

involvement in our trajectory toward zero deaths or serious injuries on our road system for cyclists, pedestrians, and motorists alike.

6. We recommend a moratorium on all planned and future road widening, unless required for transit and/or cycling infrastructure improvements, due to there being no climate informed transportation mode split scenario that permits for anything less than 50% decrease in total driving. Funding currently allocated to road widening ($75M per year) should be used to fund transit and cycling infrastructure for maximum climate emergency mitigation effect.
7. We recommend that the City of London decrease all residential speed limits to 30 km/h commensurate with safe practices as defined by NACTO. This will immediately facilitate safe cycling in all neighbourhoods, including school routes, city-wide. While we acknowledge that design, not speed limit, is the essential factor in decreasing speeds on roads, neighbourhood streets should be re-designed for 30 km/h design speeds during life cycle renewal.

"We have presented governments with pretty hard choices. We have pointed out the enormous benefits of keeping to 1.5C, and also the unprecedented shift in energy systems and transport that would be needed to achieve that. We show it can be done within laws of physics and chemistry. Then the final tick box is political will. We cannot answer that. Only our audience can – and that is the governments that receive it."

- Jim Skea, Professor of Sustainable Energy at Imperial College London, co-chair of the United Nations Intergovernmental Panel on Climate Change working group on mitigation.

City of London
Cycling Master Plan Review

Master Plan Review Working Group

Timeline of Key Events

The Need to Review the CMP

Based on the timeline of events since the CMP was adopted, the CMP requires a detailed review based on:

➔ **Climate Emergency**

Are the mode share targets upon which the CMP is based consistent with the need for 45% reduction in CO2 emissions? If not, what mode split targets are required? Is the CMP consistent with achieving these targets?

➔ **Vision Zero**

Is the CMP consistent with the Vision Zero principles that no loss of life is acceptable, that we all make mistakes, and that traffic fatalities and serious injuries are preventable and that eliminating them is a shared responsibility between road users and those that design/maintain them?

Climate Emergency

UN Special Report on Global Warming of 1.5°C (SR15)

- *Global net human-caused emissions of carbon dioxide (CO2) would need to fall by about 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050*

Canada's Changing Climate Report 2019

- *Both past and future warming in Canada is, on average, about double the magnitude of global warming*
- *Canada and the rest of the world reduce carbon emissions to near zero early in the second half of the century and reduce emissions of other greenhouse gases substantially*

City of London Statement on Climate Emergency

1. Acknowledgement of the Situation

Whereas climate change is currently contributing to billions of dollars in **property and infrastructure damage** worldwide, **stressing local and international economies**; Whereas climate change is currently **jeopardizing the health and survival** of many species and other natural environments worldwide, **stressing local and international eco systems**; Whereas climate change is currently harming human populations through **rising sea levels** and other extraordinary phenomena like **intense wildfires** worldwide, stressing local and international communities;

City of London Statement on Climate Emergency

2. The Need for Action

Whereas recent **international research** has indicated a need for **massive reduction in carbon emissions in the next 11 years** to avoid further and **devastating economic, ecological, and societal loss**; Whereas the climate in **Canada is warming at twice the rate of the rest of the world**, as per Canada's Changing Climate report; **Whereas current initiatives such as the green of the city's fleet and energy reduction initiatives are not sufficient to meet the targets as defined by the IPCC scientists**

City of London Statement on Climate Emergency

3. The Declaration of Climate Emergency

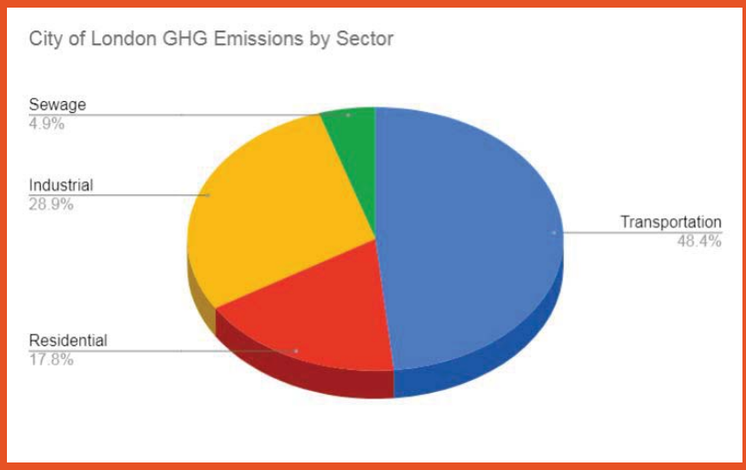
Whereas an emergency can be defined as "an often dangerous situation requiring immediate action"; Whereas municipalities such as Kingston, Vancouver and Hamilton have already declared climate emergencies; Therefore, **a climate emergency BE DECLARED by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change**.

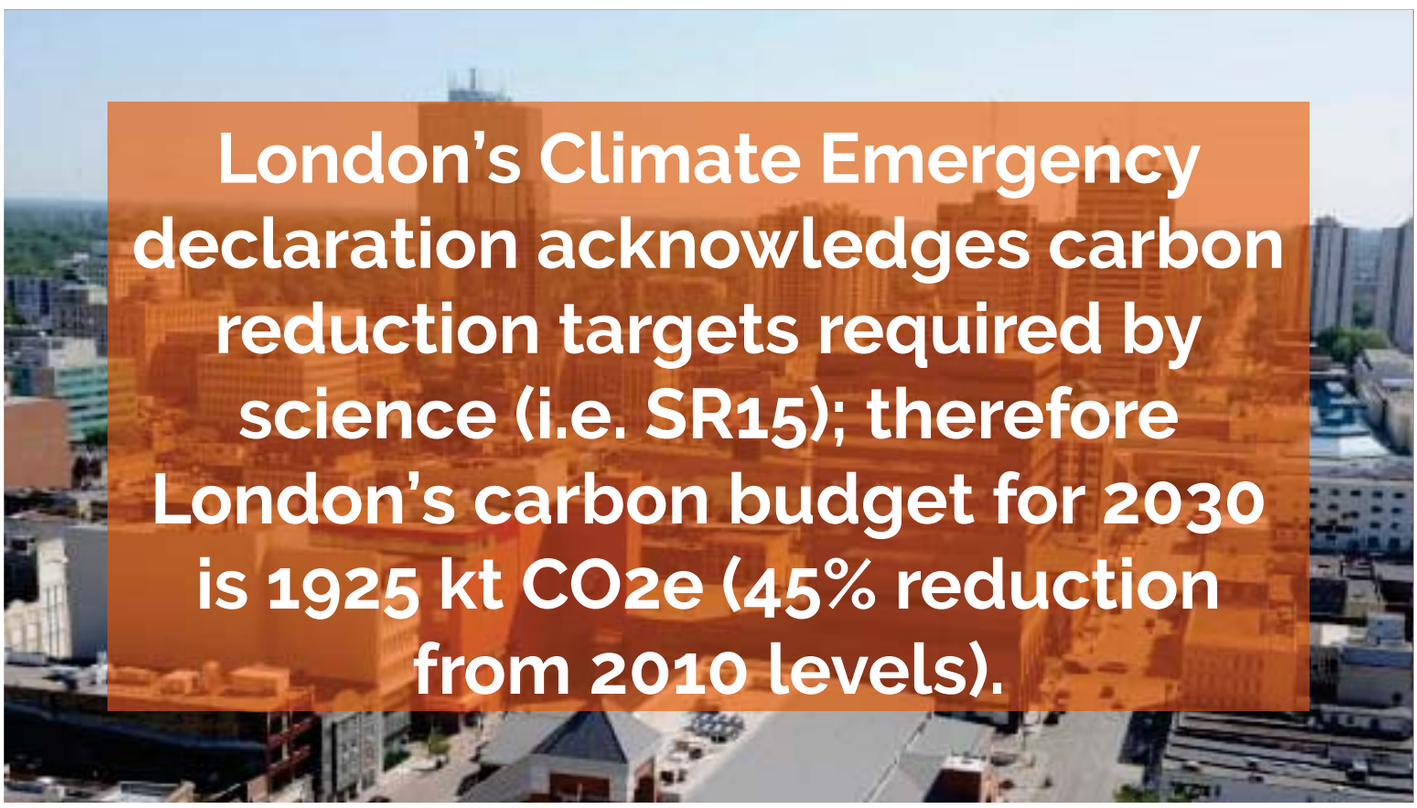
2017 Community Energy and Greenhouse Gas Report

London's total carbon emissions in 2017 were 2870 kilotonnes (kt) CO_2 equivalent (CO_2e)

Largest source of emissions is transportation sector

Around 70% of transportation sector emissions is from personal vehicles





London's Climate Emergency declaration acknowledges carbon reduction targets required by science (i.e. SR15); therefore London's carbon budget for 2030 is 1925 kt CO_2e (45% reduction from 2010 levels).

Scenario Analysis of Carbon Emissions

Methodology

Different scenarios are analyzed, considering:

- Variable electrification of the automotive sector
- Complete electrification of the transit sector
- Variable mode split scenarios
- No changes in residential, industrial, and sewage emissions are assumed due to longer lifecycles of equipment, which is unlikely to be significantly changed by 2030 (also outside our scope as a committee)

Scenario Analysis of Carbon Emissions

TMP-Based Mode Split

TMP considers scenarios with two different growth patterns:

- **Scenario A:** population growth of 73,800 to a total population of ~430,000 by 2030 (21% increase from 2007)
- **Scenario B:** population growth of 140,000 to a total population of ~493,000 by 2030 (39% increase from 2007)
- No change in vehicle electrification assumed

Transportation Master Plan (TMP) Mode Split Targets

Mode	2009 Mode Split	2030 Target
Automobile	76%	60%
Transit	11%	20%
Active Transportation	**9%**	**15%**
- Cycling	~1%	5%
- Walking	~8%	10%
Other	5%	5%

TMP-Based Mode Split Analysis

	Scenario A (pop 430,000)	Scenario B (pop 493,000)
Change in transportation emissions (kt CO_2e)	-61	+133
% Change in transportation emissions relative to 2010	-4%	+10%
Total 2030 Carbon Budget kt CO_2e	1925	1925
Residential kt CO_2e	510	510
Industrial kt CO_2e	830	830
Sewage kt CO_2e	140	140
Transportation as % of allowable GHG in 2030	68%	78%
Total Emissions (% of 2030 Target)	**145%**	**155%**

Scenario Analysis of Carbon Emissions

TMP-Based Mode Split with Electrification

The effects of electrification are examined:

- Full electrification of transit fleet assumed
- Variable electrification of vehicles considered
- International Energy Agency estimates ~30% electrification of personal vehicles by 2030
- Lifecycle emissions of EVs are on average 50% of conventional vehicles (potentially as low as 30% for carbon-free energy supply)

TMP-Based Analysis with Electrification

	100% EVs (pop 430,000)	50% EVs (pop 430,000)	25% EVs (pop 430,000)
Change in transport emissions (kt CO2e)	-716	-388	-225
% Change in transport emissions relative to 2010	-52%	-28%	-16%
Total 2030 Carbon Budget kt CO2e	1925	1925	1925
Residential kt CO2e	510	510	510
Industrial kt CO2e	830	830	830
Sewage kt CO2e	140	140	140
Transportation as % of allowable GHG in 2030	34%	51%	59%
Total Emissions (% of 2030 Target)	111%	128%	136%

Scenario Analysis of Carbon Emissions

Variable Mode Split without Electrification

The effects of mode split are examined:

- Reduce vehicle mode split
- Assume 5% “other” mode split
- Assume remaining share is equally split between active transportation and transit
- Assume Scenario A for population growth
- No change in vehicle electrification assumed

Variable Mode Split Analysis without Electrification

Parameter	Mode Split 5	Mode Split 15	Mode Split 30	Mode Split 45	Mode Split 60
Automobile Mode Share (%)	5	15	30	45	60
Transit Mode Share (%)	45	40	30	25	20
Active Transport Mode Share (%)	45	40	30	25	15
Other Transport Mode Share (%)	5	5	10	5	5
Transportation GHG (kt CO2e)	109	327	654	982	1309
GHG Non-Transport (kt CO2e)	1480	1480	1480	1480	1480
GHG-All (kt CO2e)	1589	1807	2134	2462	2462
Change in GHG from 2009	-92%	-76%	-52%	-28%	-4%
2030 Emissions Budget (kt CO2e)	1925	1925	1925	1925	1925
Transport Fraction of 2030 C Target	6%	17%	34%	51%	68%
Total GHG Relative to Target (kt CO2e)	**-336**	**-118**	**209**	**537**	**864**
Total Emissions (% of 2030 Target)	**83%**	**94%**	**111%**	**128%**	**145%**

Scenario Analysis of Carbon Emissions

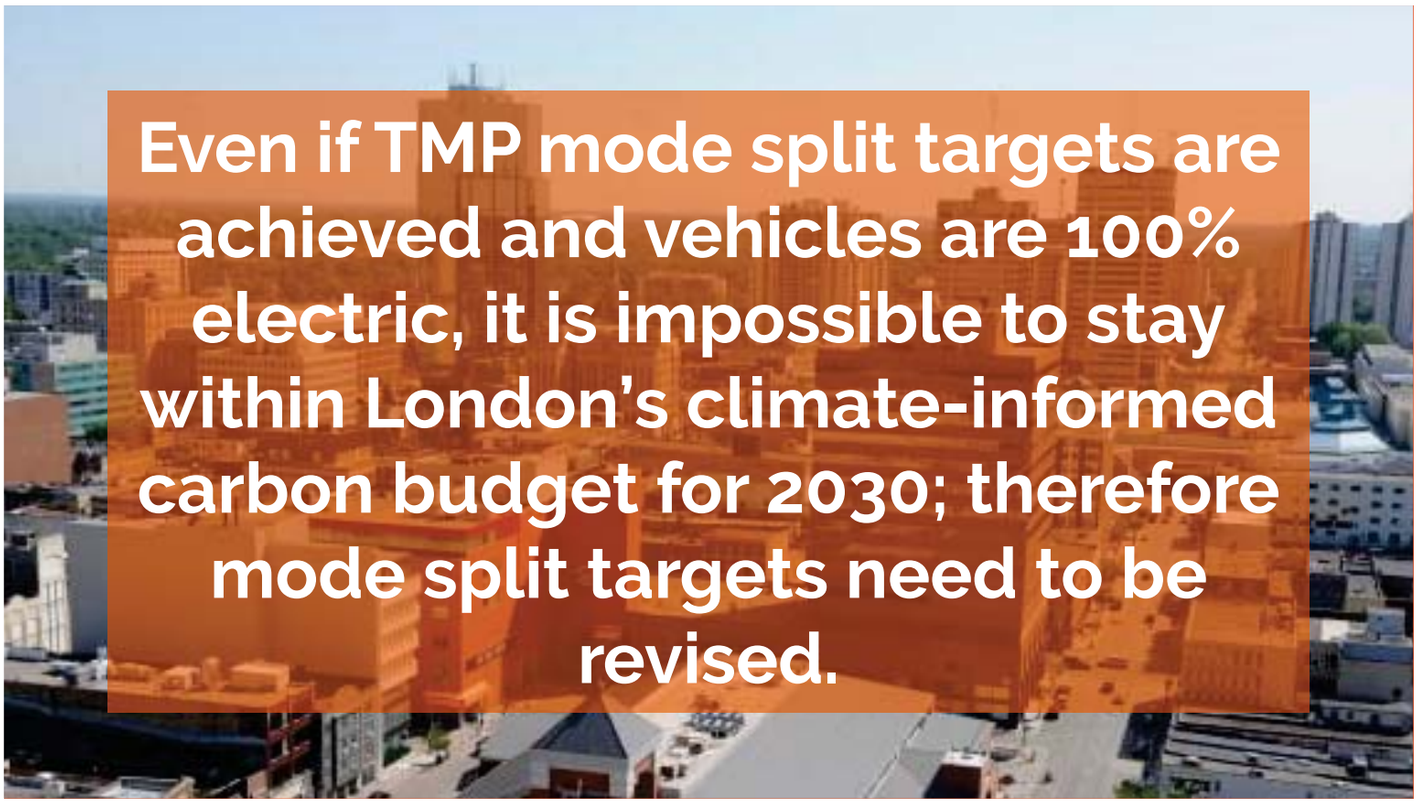
Variable Mode Split with Electrification

The effects of mode split are examined:

- This analysis represents “best of both worlds”; significant mode split changes with variable electrification
- Considers Scenario A for population growth

Variable Mode Split Analysis with Electrification

Parameter	TMP (Mode Split 60)	Mode Split 30 0% EV	Mode Split 30 25% EV	Mode Split 30 100% EV	Mode Split 45 25% EV
Automobile Mode Share (%)	60	30	30	30	45
Transit Mode Share (%)	20	35	35	35	25
Active Transport Mode Share (%)	15	30	30	30	25
Other Transport Mode Share (%)	5	5	5	5	5
Transportation GHG (kt CO2e)	1309	654	573	327	859
GHG Non-Transport (kt CO2e)	1480	1480	1480	1480	1480
GHG-All (kt CO2e)	2462	2134	2053	1807	2339
Change in GHG from 2009	-4%	-52%	-58%	-76%	-37%
2030 Emissions Budget (kt CO2e)	1925	1925	1925	1925	1925
Transport Fraction of 2030 C Target	68%	34%	30%	17%	45%
Total GHG Relative to Target (kt CO2e)	**864**	**209**	**128**	**-118**	**414**
Total Emissions (% of 2030 Target)	**145%**	**111%**	**107%**	**94%**	**121%**


Even if TMP mode split targets are achieved and vehicles are 100% electric, it is impossible to stay within London's climate-informed carbon budget for 2030; therefore mode split targets need to be revised.


While it is absolutely clear that the existing TMP mode split targets are insufficient, we can rapidly address some of these needs through the Cycling Master Plan. To achieve GHG reduction goals, the current Cycling Master Plan requires an increase in planned cycling mode split from 5% to ~25% or greater.

Climate-Informed Mode Split Target

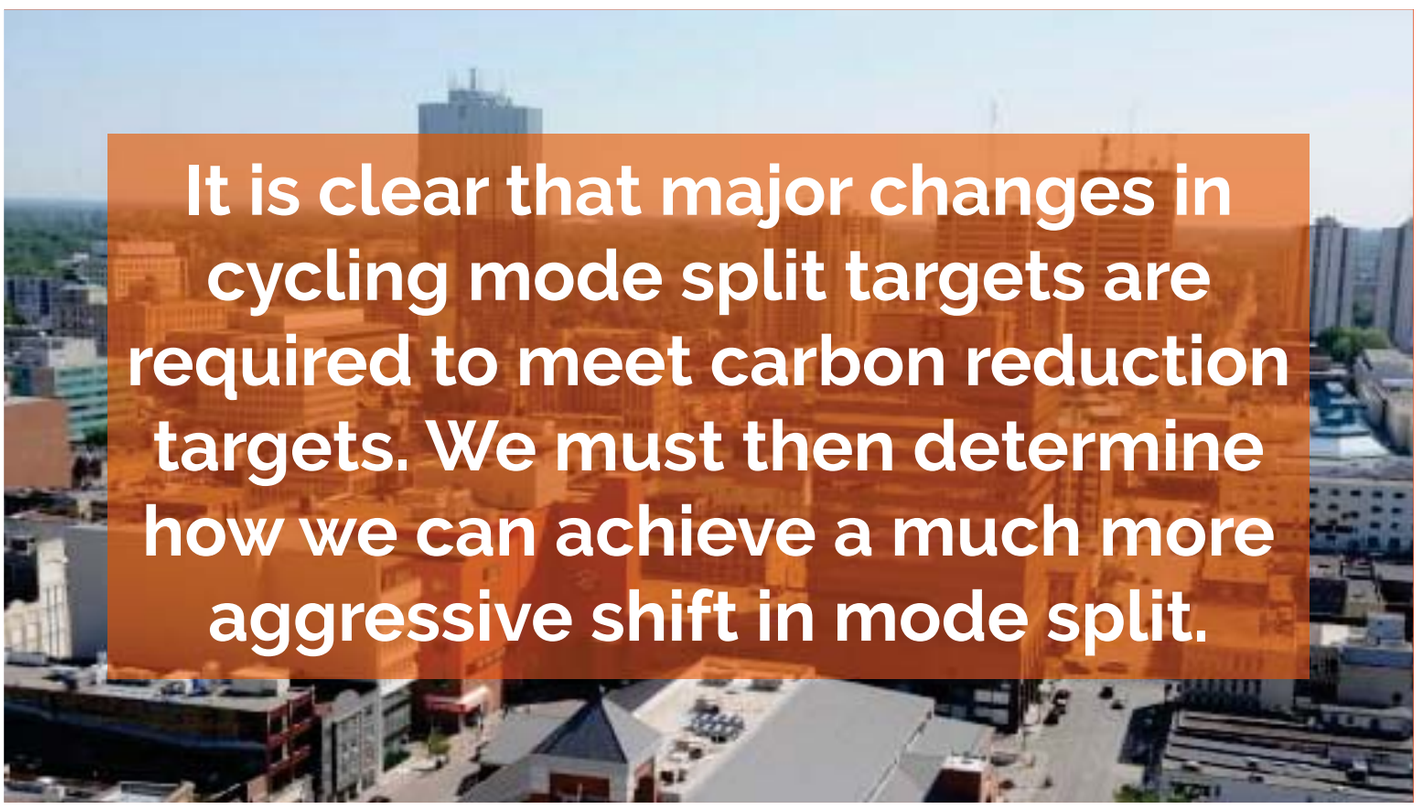
- 100% Electrification of London Transit Vehicles
- 25% Electrification of Private Cars and City Vehicles
- Mode Split:
  - 25% Automobile
  - 35% Transit
  - 35% Active Transportation (walking 10%, cycling 25%)
  - 5% Other
- Net GHG Emissions for this outcome: 1957 kt CO2e, ~102% of permitted emissions

Financial Benefit of Acting Now

- With a rising price on emitting carbon in Canada, London will benefit economically from acting sooner rather than later on climate emergency
- Canada's price on carbon is not a tax, but a fee and dividend system, which charges excessive polluters and reward those who cut emissions faster and deeper
- As individuals and as a city we can collect dividend payments by lowering our overall carbon footprint
- If London acts earlier than other cities on decreasing emissions, it will represent a significant wealth injection into the city on the order of tens of millions of dollars per year

TMP-Based Analysis with Electrification

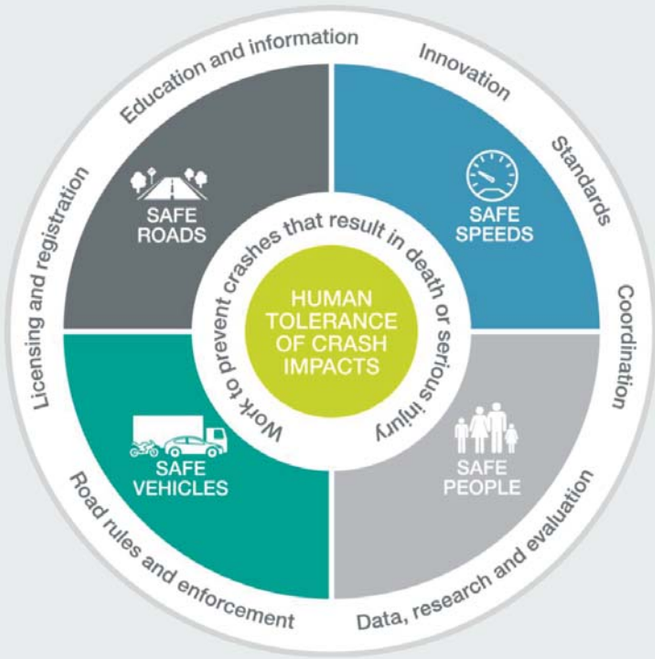
Price of 1t CO2e emitted in 2022:	$50
Price of 1t CO2e emitted in 2030 (PBO estimate):	$102
Current emissions (tonnes CO2e):	2,870,000
TMP emissions (tonnes CO2e):	2,789,000
Mode Split 30 emissions + 25% EV (tonnes CO2e):	2,053,000
Difference [MS30-ev25 - TMP] (tonnes CO2e):	736,000
2022 [MS30-ev25 - TMP] Difference x Carbon Dividend (annual):	$36,800,000
2030 [MS30-ev25 - TMP] Difference x Carbon Dividend (annual):	$75,072,000



Vision Zero

On May 16, 2017, Municipal Council adopted the following principles as its Vision Zero declaration:

- No loss of life is acceptable
- Traffic fatalities and serious injuries are preventable
- We all make mistakes
- We are all physically vulnerable when involved in motor vehicle collisions
- Eliminating fatalities and serious injuries is a shared responsibility between road users and those who design and maintain our roadways



Vision Zero vs. London Road Safety Strategy

Vision Zero

Traffic deaths are preventable, and the loss of life is not negotiable

London Road Safety Strategy

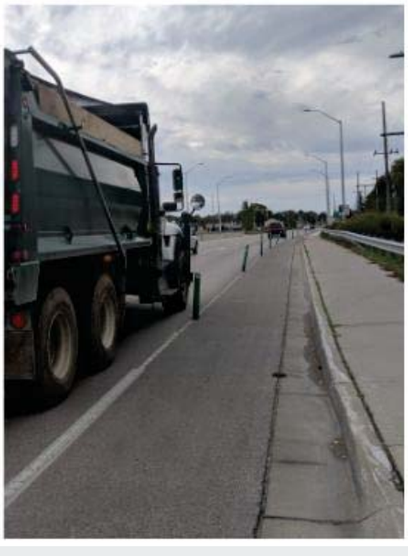
Reduce injury and death on roads by 10% within five years

Vision Zero holds transportation systems designers and policy-makers accountable and responsible for road safety, rather than individual road users

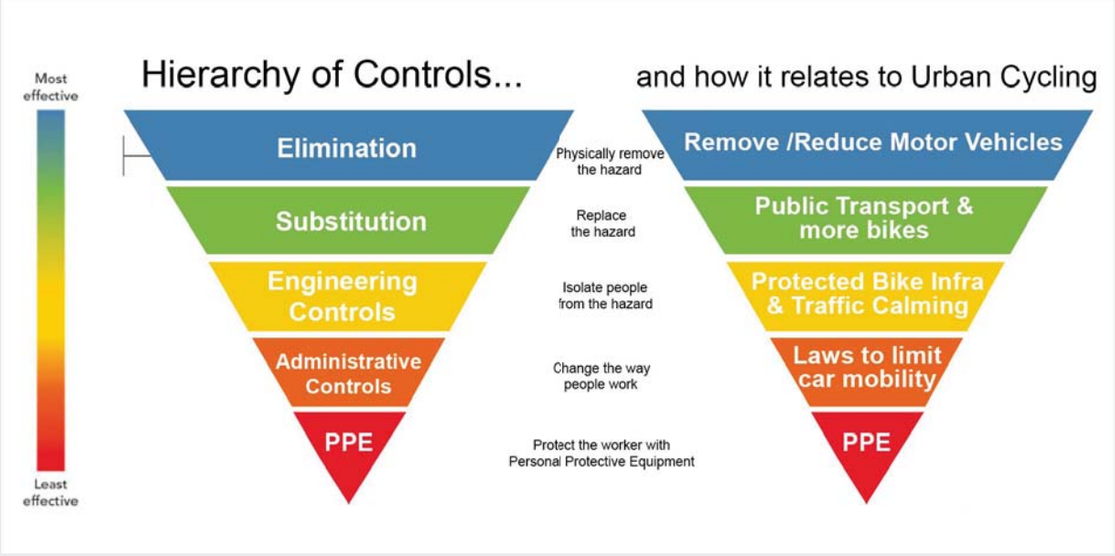
London's Interpretation of Vision Zero

- London's goal accepts:
  - More than 1000 injuries and deaths on our roads are inevitable
  - Programs (i.e. not safe systems) will reduce injury and death
- Vision Zero requires focus on **system failure**
- Safe system design focuses on building better roads, improving vehicle safety technologies, and managing kinetic energy (speed reduction) to reduce risk of injury
- Strives to create road system designs that anticipate human error, and that are forgiving when errors are made

Representative Non-Safe Systems

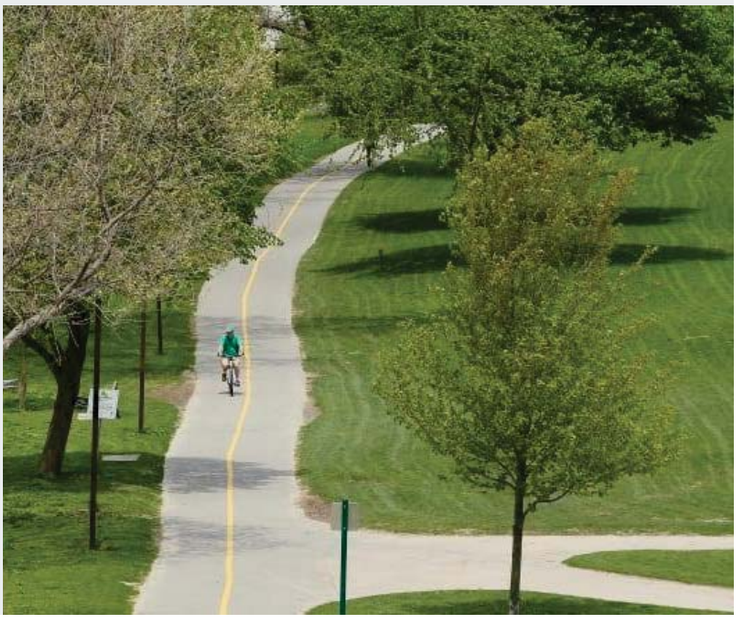


Hierarchy of Controls



Of the major initiatives in the CMP, the majority of planned initiatives are considered to be Administrative or Behavioural Controls. Less than 1% of planned interventions (protected bike lanes, 7.5 km out of 799 km of "facilities") could be considered Engineering controls, and 0% of the CMP could be considered Substitution or Elimination.

Cycling Infrastructure Assessment



Achieving the required GHG reductions is possible, and other cities of similar size have already done this

- It is important to note the role of great transit and land use policy in achieving these goals
- Here, we focus on how cycling infrastructure plays a role in achieving GHG reduction goals

Mode Split in Winter Cities

City	Population	Area (km²)	Bike Share (%)	Transit Share (%)
London, CAN	***355,000***	***232 sub/urban 402 incl. south rural***	***~1%***	***11%***
Montreal, CAN	1,780,000	431	3%	19%
Toronto, CAN	2,930,000	630	1%	24%
Vancouver, CAN	675,000	115	12%	17%
Copenhagen, DEN	602,000	88	62%	27%
Utrecht, NL	1,285,000	99	33%	28%
Uppsala, SWE	168,000	49	28%	20%
Munster, GER	**310,000**	**302**	**39%**	**11%**
Freiburg, GER	227,000	153	13%	12%
Bremen, GER	**557,000**	**326**	**25%**	**24%**

Achieving High Cycling Mode Split

- Attaining high modal splits for cycling and transit is possible in winter cities
- Attaining high modal split in relatively lower density cities is also possible (e.g. Bremen, Munster)
- High transit usage and high cycling mode split are not necessarily coincident (e.g. Munster); both require different infrastructure investments that are complementary when done well (e.g. Utrecht)

The Four Types of Bicyclists

Strong and Fearless

People willing to bicycle with limited or no bicycle-specific infrastructure

Enthused and Confident

People willing to bicycle if some bicycle-specific infrastructure is in place

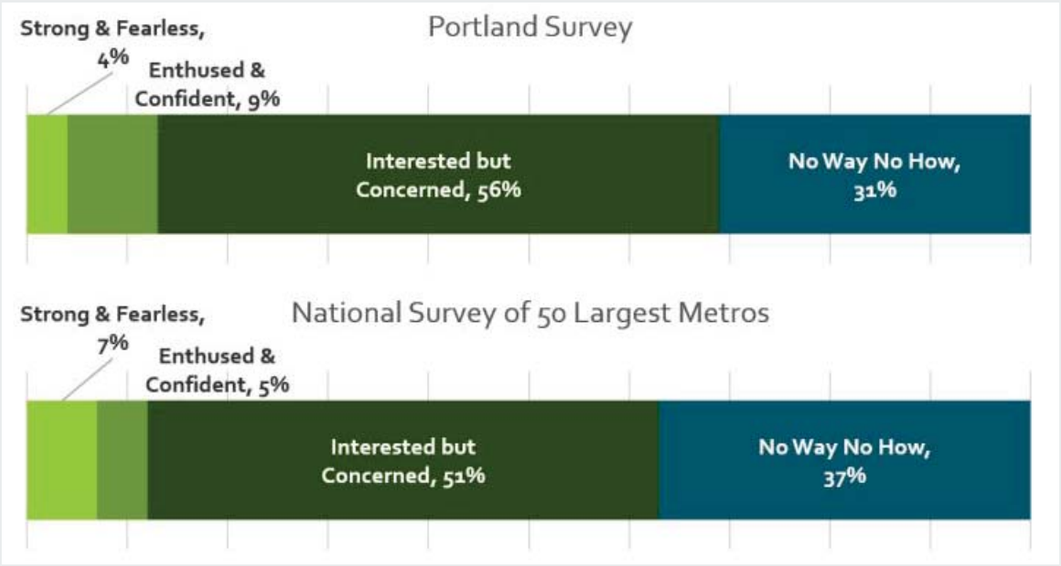
Interested but Concerned

People willing to bicycle if high-quality bicycle infrastructure is in place

No Way, No How

People unwilling to bicycle even if high-quality bicycle infrastructure is in place

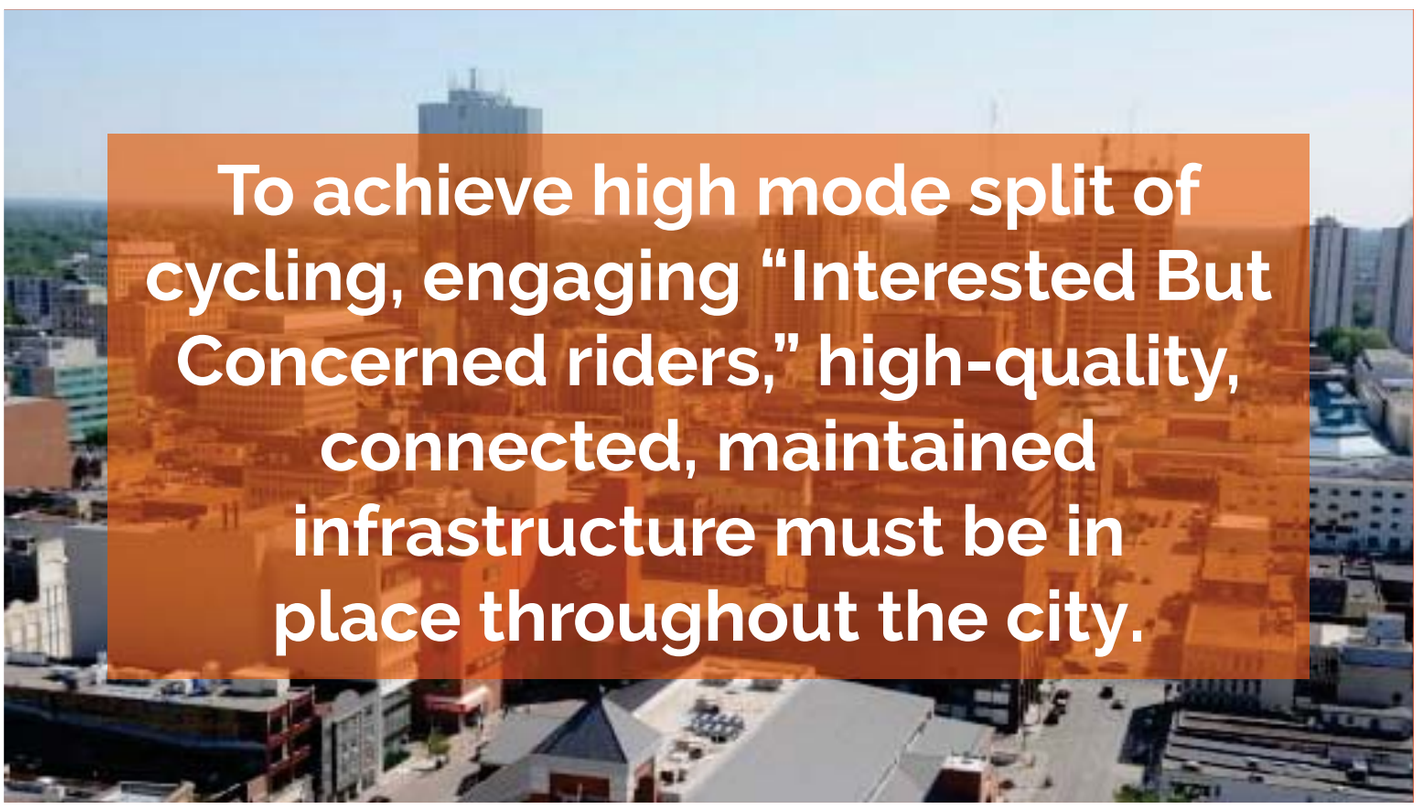
Distribution of the Four Types of Bicyclists



London, ON: A Major Outlier?

- "The market for commuter based cycling infrastructure is approximately 9% of the overall population" - City of London Transportation Master Plan
- London's CMP is based on the premise that only 9% of the general population has a willingness to cycle; this is suspiciously similar to the "Strong and Fearless" and "Enthused and Confident" groups
- It is with virtually certainty that we conclude that London's potential cycling market share is not a measly 9%, but given proper infrastructure, greater than 60% of the total population would choose cycling for many trips

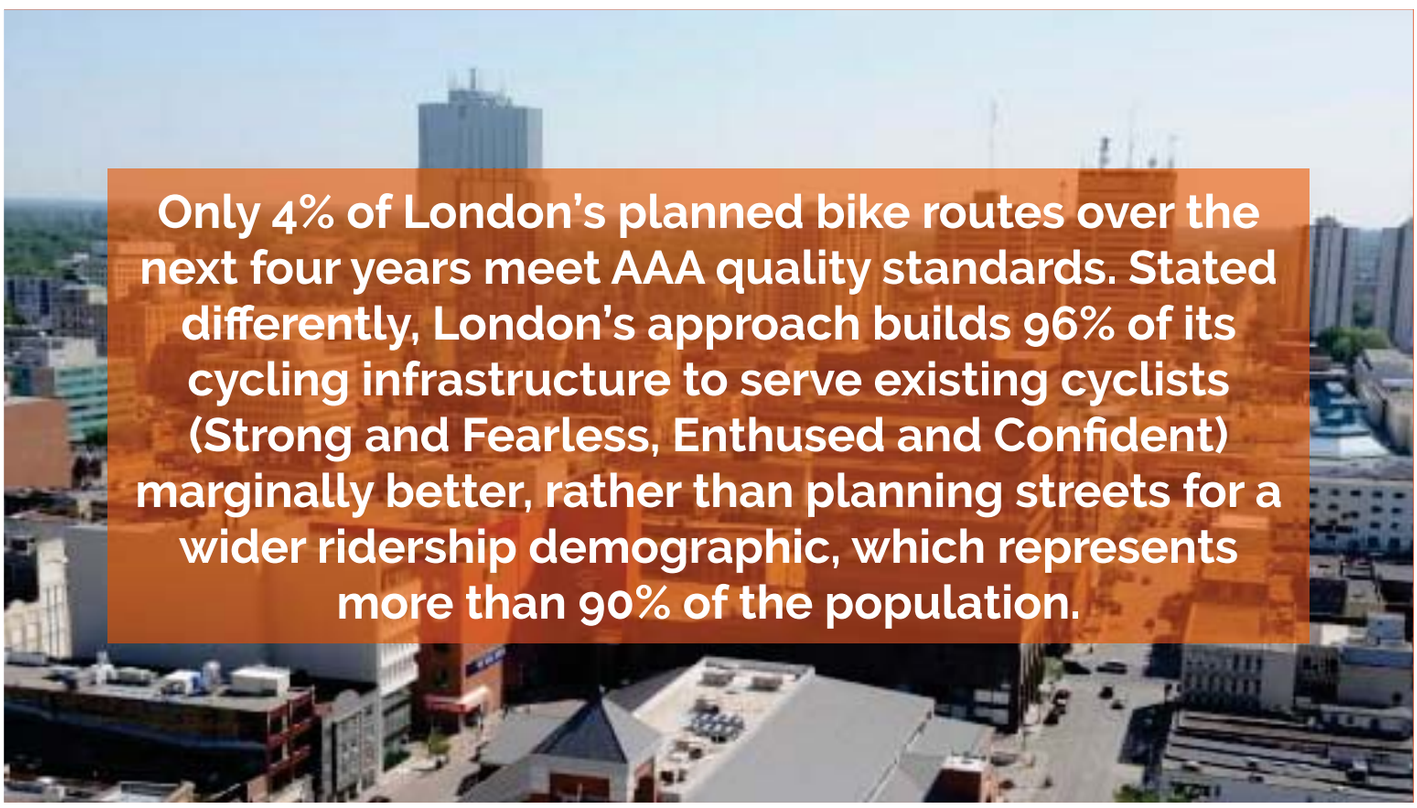
Infrastructure Requirements for AAA



AAA Infrastructure in the CMP

	Existing in 2016 (km)	Proposed in CMP (km)	Total (km)
Cycle Track (Protected Bike Lane)	0	7.5	**7.5**
In-Boulevard Multi-use Pathway	42	28.2	**70.2**
Multi-use Pathway	166	78.7	**244.7**
Total	**208**	**114.4**	**322.4**

- Of the 799 km of facilities proposed in the CMP, only 7.5 km (less than 1%) are cycle tracks
- This represents <1% of arterial road network
- The value of multi-use pathways is acknowledged for recreational cycling; however these are less effective for shifting mode share since they do not directly access many key destinations



Who Are We Building Bike Lanes For?

- Building for the “Fearless” and “Enthused and Confident” groups may allow London to meet the TMP-based 5% mode share goal
- However, it will never be able to grow beyond 5-10% mode share without accessing the “Interested but Concerned” group of riders
- Most people don’t consider cycling as an option for because they have never seen, let alone used, quality AAA bike infrastructure
- Once people see and try AAA infrastructure, they will choose a bike for many trips; until that point, citizens will never ask for it, because they don't know that it is even possible

Focusing on increasing cycling mode split is a cost effective and quick way of achieving GHG reduction targets as compared to transit, which is requires much larger infrastructure investments and longer timelines for completion.

Comparison with Other Cities

London's Cycling Master Plan was compared with the plans from similar cities around Canada: Halifax (2014), Waterloo Region (2014), Ottawa (2013), Waterloo (2011), Victoria Capital Regional District (2011), and K (2010)

City of Calgary

How Does London Differ?

- Addressing "Interested but Concerned" Cyclists
  - Each of the other cities recognizes this as an important group to target
- Identifying Goals and Expected Outcomes
  - Every other city identifies significantly increasing the cycling mode share and reducing cycling collisions as a metric for evaluating the cycling policies and actions
- Criteria for Evaluating the Success of Projects
  - The best plans consider methods for evaluating the success and gauging the potential for projects to increase mode share
- Data and Demographics Collection
  - Other cities address the need for and the means for collecting the data that their planning and evaluative processes require in order to facilitate data-driven decision-making

Conclusions

London's CMP states its vision of "providing infrastructure which is considered comfortable, safe, and convenient...for all Londoners."

➔ **Climate Emergency**
The target mode share of the CMP does not allow for sufficient reductions in GHG emissions

➔ **Vision Zero**
The current CMP is inconsistent with the Vision Zero safe systems design principles

➔ **Metrics of Success**
Kilometres of lanes is the metric of success in the current CMP; the degree to which it provides infrastructure that is "comfortable, safe, and convenient" is not evaluated

Recommendations

We RECOMMEND that council:

- request a detailed evaluation of the greenhouse gas emissions implications of the City of London Transportation Master Plan in accordance with the City of London's Declaration of Climate Emergency.
- request a detailed evaluation of the greenhouse gas emissions implications of the City of London Transit Master Plan in accordance with the City of London's Declaration of Climate Emergency.
- request a detailed evaluation of the greenhouse gas emissions implications of the City of London Official Plan or The London Plan in accordance with the City of London's Declaration of Climate Emergency.
- request a detailed evaluation of the greenhouse gas emissions implications of the City of London Parking Strategy in accordance with the City of London's Declaration of Climate Emergency.

Recommendations

We RECOMMEND that council:

- request a detailed evaluation of the greenhouse gas emissions implications of the City of London Accessibility Strategy in accordance with the City of London's Declaration of Climate Emergency.
- request a detailed evaluation of the City of London Road Safety Strategy in accordance with the City of London's Adoption of Vision Zero
- direct staff to undertake major revisions to the City of London's Cycling Master Plan infrastructure implementation in accordance with the Declaration of Climate Emergency. The revised plan should be singularly focused on building All-Ages-and-Abilities infrastructure to achieve climate-informed modal split targets, while achieving cost allocation and social equity for basic affordable transportation by 2030.

Recommendations

We RECOMMEND that council:

- direct staff to design and construct an emergency city-wide minimum grid of protected bike lanes designed for All-Ages-and-Abilities to be completed by July 1, 2021.
- enact a moratorium on all currently planned and future road widening. Presently budgeted funds for road widening ($75M/year) should be reallocated to transit and cycling for maximum mitigation of climate disruption.
- fund continued investment in active transportation (including walking, accessibility, and micro mobility) at a rate of $50/person/year, or ~$20M/year, comparable to the scale of investments in major cycling cities.
- decrease speed limits on all residential streets to 30 km/h.