

Agenda

Advisory Committee on the Environment

The 1st Meeting of the Advisory Committee on the Environment

December 4, 2019, 12:15 PM

Committee Room #4

The City of London is committed to making every effort to provide alternate formats and communication supports for Council, Standing or Advisory Committee meetings and information, upon request. To make a request for any City service, please contact accessibility@london.ca or 519-661-2489 ext. 2425.

Pages

1. Call to Order

- 1.1 Disclosures of Pecuniary Interest
- 1.2 Election of Chair and Vice Chair for the term ending November 30, 2020

2. Scheduled Items

- 2.1 12:15 PM M. Stone, Accessibility Specialist – Accessibility for Ontarians with Disabilities Act Training
- 2.2 12:30 PM M. Fabro, Manager, Sustainability and Resiliency – Introduction

3. Consent

- 3.1 10th Report of the Advisory Committee on the Environment 3
- 3.2 Municipal Council resolution from its meeting held on November 26, 2019 with respect to the 10th Report of the Advisory Committee on the Environment 6
- 3.3 Notice of Planning Application - Official Plan Amendment - City-Wide Urban Design Guidelines 8
- 3.4 Public Meeting Notice - Zoning By-law Amendment - 21 Norlan Avenue 25
- 3.5 Allowing "Farm Gate Sales" on Lands Within the Urban Growth Boundary 28
- 3.6 Bird-Friendly Development Report and Working Group Representative 36
- 3.7 Climate Change Emergency - Update 51
- 3.8 Cycling Advisory Committee Cycling Master Plan Review Working Group Report 90

4. Sub-Committees and Working Groups

5. Items for Discussion

- 5.1 Pollinator Friendly Gardens Flyer 92
- 5.2 Zero Waste Conference 2019 - R. Sirois
- 5.3 June Waste Conference - R. Sirois

5.4 Climate Action Presentation by D. Saxe at Green in the City Event - R. Sirois

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6. Adjournment

Next Meeting Date: January 8, 2020

Advisory Committee on the Environment

Report

10th Meeting of the Advisory Committee on the Environment
November 6, 2019
Committee Room #4

Attendance PRESENT: M. Bloxam (Chair), J. Howell, K. May, M. Ross, M.D. Ross, R. Sirois, K. Soliman, D. Szoller, A. Thompson and A. Tipping and J. Bunn (Committee Secretary)

ALSO PRESENT: Councillor M. van Holst; S. Arnos, S. Cheng, A. Dunbar, J. Grinstead

The meeting was called to order at 12:16 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 Gas Tax Distribution

That the following actions be taken with respect to Gas Tax Distribution:

a) the '8.0 - Recommendations' section of the Cycling Master Plan Review Working Group Report of the Cycling Advisory Committee, dated October 16, 2019, BE ADDED to the December 2019 agenda of the Advisory Committee on the Environment (ACE) for discussion;

b) a representative from Financial Planning and Policy BE INVITED to attend the ACE meeting in January 2020 to give a brief outline of the City of London budget process and the new business cases that are being brought forward; and,

c) the ~~attached~~ presentation, from A. Dunbar, Manager, Financial Planning and Policy, with respect to Gas Tax Distribution, BE RECEIVED.

3. Consent

3.1 9th Report of the Advisory Committee on the Environment

That it BE NOTED that the 9th Report of the Advisory Committee on the Environment, from its meeting held on October 2, 2019, was received.

3.2 10th Report of the Trees and Forests Advisory Committee

That it BE NOTED that the 10th Report of the Trees and Forests Advisory Committee, from its meeting held on October 23, 2019, was received.

3.3 10th Report of the Transportation Advisory Committee

That it BE NOTED that the 10th Report of the Transportation Advisory Committee, from its meeting held on October 22, 2019, was received.

3.4 11th Report of the Environmental and Ecological Planning Advisory Committee

That it BE NOTED that the 11th Report of the Environmental and Ecological Planning Advisory Committee, from its meeting held on October 17, 2019, was received.

3.5 Municipal Council Resolution - 8th Report of the Advisory Committee on the Environment

That it BE NOTED that the Municipal Council resolution, from its meeting held on October 4, 2019, with respect to the 8th Report of the Advisory Committee on the Environment, was received.

3.6 Public Meeting Notice - Zoning By-law Amendment - City-Wide - Allowing "Farm Gate" Sales on Lands Not Zoned Agriculture

That it BE NOTED that the Public Meeting Notice, dated October 30, 2019, from C. Parker, Senior Planner, with respect to a Zoning By-law Amendment related to allowing farm gate sales on lands not zoned agriculture, was received.

3.7 (ADDED) Municipal Council Resolution - 9th Report of the Advisory Committee on the Environment

That it BE NOTED that the Municipal Council resolution, from its meeting held on October 29, 2019, with respect to the 9th Report of the Advisory Committee on the Environment, was received.

4. Sub-Committees and Working Groups

4.1 Energy Sub-Committee Update

That it BE NOTED that a verbal update from M. Bloxam, with respect to the Energy Sub-Committee, was received.

5. Items for Discussion

5.1 Green Municipal Fund

That it BE NOTED that the communication from K. May, as appended to the agenda, with respect to the Green Municipal Fund, was received.

5.2 Green in the City Series Update

That it BE NOTED that the communication from S. Ratz, as appended to the agenda, with respect to an update on the involvement of the Advisory Committee on the Environment with the Green in the City Series, was received.

5.3 ACE Terms of Reference

That the following actions be taken with respect to the Advisory Committee on the Environment (ACE) Terms of Reference:

- a) the City Clerk BE REQUESTED to fill the existing vacancies in the ACE membership in order to allow the ACE to fulfill its full potential given the short term of two years to make solid recommendations to the Municipal Council; and,

b) the City Clerk BE REQUESTED to remove the non-voting membership positions for the Institute of Catastrophic Research (Western University) and the Biodrome (Western University) and to replace them with a Representative from Western University, with no department specified.

5.4 ACE 2019 Budget

That it BE NOTED that the Advisory Committee on the Environment (ACE) held a general discussion with respect to the 2019 ACE Budget.

6. Adjournment

The meeting adjourned at 2:13 PM.



P.O. Box 5035
300 Dufferin Avenue
London, ON
N6A 4L9

November 27, 2019

C. Saunders
City Clerk

J. Davies
Manager III, Financial Planning and Policy

I hereby certify that the Municipal Council, at its meeting held on November 26, 2019 resolved:

That the following actions be taken with respect to the 10th Report of the Advisory Committee on the Environment, from its meeting held on November 6, 2019:

a) the following actions be taken with respect to Gas Tax Distribution:

- i) the '8.0 - Recommendations' section of the Cycling Master Plan Review Working Group Report of the Cycling Advisory Committee, dated October 16, 2019, BE ADDED to the December 2019 agenda of the Advisory Committee on the Environment (ACE) for discussion;
- ii) a representative from Financial Planning and Policy BE INVITED to attend the ACE meeting in January 2020 to give a brief outline of the City of London budget process and the new business cases that are being brought forward; and,
- iii) the presentation appended to the 11th Report of the Advisory Committee on the Environment, from A. Dunbar, Manager, Financial Planning and Policy, with respect to Gas Tax Distribution, BE RECEIVED for information;

b) the following actions be taken with respect to the Advisory Committee on the Environment (ACE) Terms of Reference:

- i) the City Clerk BE REQUESTED to fill the existing vacancies in the ACE membership in order to allow the ACE to fulfill its full potential given the short term of two years to make solid recommendations to the Municipal Council; and,

clause b) ii) BE REFERRED back to the Advisory Committee on the Environment for further consideration; it being noted that part b) ii) reads as follows:

“ii) the City Clerk BE REQUESTED to remove the non-voting membership positions for the Institute of Catastrophic Research (Western University) and the Biodrome (Western University) and to replace them with a Representative from Western University, with no department specified.”; and,

c) clauses 1.1, 3.1 to 3.7, inclusive, 4.1, 5.1, 5.2 and 5.4 BE RECEIVED for information. (4.1/19/PEC)



B. Westlake-Power
Deputy City Clerk
/lm

cc: A. Dunbar, Manager III, Financial Planning and Policy
Chair and Members, Advisory Committee on the Environment
Chair and Members, Cycling Advisory Committee

NOTICE OF PLANNING APPLICATION

Official Plan Amendment

City-Wide Urban Design Guidelines

(DRAFT) City-wide

URBAN DESIGN GUIDELINES



(DRAFT) October 2019



File: O-9131

Applicant: City of London

What is Proposed?

Official Plan amendment to adopt the City-Wide Urban Design Guidelines as a guideline under The London Plan and the 1989 Official Plan.

What is a Guideline Document?

A guideline document is a more detailed but more flexible interpretation and implementation of The London Plan. It is an additional tool to assist City staff, the development community, streetscape and public space designers, and the public in designing and shaping the built form of the City.

LEARN MORE & PROVIDE INPUT

Please provide any comments by **December 20, 2019**

Amanda Lockwood

alockwood@london.ca

519-661-CITY (2489) ext. 0209

City Planning, City of London, 206 Dundas St., London ON N6A 1G7

File: O-9131

<https://getinvolved.london.ca/CityDesign>

**If you are a landlord, please post a copy of this notice where your tenants can see it.
We want to make sure they have a chance to take part.**

Application Details

Commonly Used Planning Terms are available at london.ca.

Requested Amendment to the Current Official Plan

To amend Section 19.2.2. of the Official Plan to adopt the City-Wide Urban Design Guidelines as a guideline document.

Requested Amendment to The London Plan (New Official Plan)

To amend the Our Tools section of The London Plan to adopt the City-Wide Urban Design Guidelines as a guideline document.

How Can You Participate in the Planning Process?

You have received this Notice because you are a party or stakeholder who has expressed interest in the City-Wide Urban Design Guidelines. A public planning process and Official Plan Amendment is required to add the City-Wide Urban Design Guidelines to the Official Plan and London Plan as a guideline document in accordance with the requirements of the *Planning Act*. The ways you can participate in the City's planning review and decision making process are summarized below. For more detailed information about the public process, go to the [Participating in the Planning Process](#) page at london.ca.

See More Information

You can review additional information and material about this application by:

- visiting City Planning at 206 Dundas Street, Monday to Friday between 8:30am and 4:30pm;
- contacting the City's Urban Designer listed on the first page of this Notice.

Reply to this Notice of Application

We are inviting your comments on the requested changes at this time so that we can consider them as we prepare a report that will include City Planning staff's recommendation to the City's Planning and Environment Committee.

Attend a Community Information Meeting

A community information meeting will be held at City Hall to present this proposal and obtain input from interested members of the public. The meeting has not yet been scheduled, but will be in advance of the Future Public Meeting described below. You will receive a separate notice inviting you to this meeting. The Community Information Meeting is not the public meeting required by the *Planning Act* and attendance at this meeting does not create a right to appeal the decision of Council to the Local Planning Appeal Tribunal.

Attend a Future Public Participation Meeting

The Planning and Environment Committee will consider the requested Official Plan changes on a date that has not yet been scheduled. The City will send you another notice inviting you to attend this meeting, which is required by the *Planning Act*. You will also be invited to provide your comments at this public participation meeting. The Planning and Environment Committee will make a recommendation to Council, which will make its decision at a future Council meeting.

What Are Your Legal Rights?

Notification of Council Decision

If you wish to be notified of the decision of the City of London on the proposed official plan amendment, you must make a written request to the City Clerk, 300 Dufferin Ave., P.O. Box 5035, London, ON, N6A 4L9, or at docservices@london.ca. You will also be notified if you speak to the Planning and Environment Committee at the public meeting about this application and leave your name and address with the Secretary of the Committee.

Right to Appeal to the Local Planning Appeal Tribunal

If a person or public body would otherwise have an ability to appeal the decision of the Council of the Corporation of the City of London to the Local Planning Appeal Tribunal but the person or public body does not make oral submissions at a public meeting or make written submissions to the City of London before the proposed official plan amendment is adopted, the person or public body is not entitled to appeal the decision.

If a person or public body does not make oral submissions at a public meeting or make written submissions to the City of London before the proposed official plan amendment is adopted, the person or public body may not be added as a party to the hearing of an appeal before the Local Planning Appeal Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to add the person or public body as a party.

For more information go to <http://elto.gov.on.ca/tribunals/lpat/about-lpat/>.

Notice of Collection of Personal Information

Personal information collected and recorded at the Public Participation Meeting, or through written submissions on this subject, is collected under the authority of the *Municipal Act*, 2001, as amended, and the *Planning Act*, 1990 R.S.O. 1990, c.P.13 and will be used by Members of Council and City of London staff in their consideration of this matter. The written submissions, including names and contact information and the associated reports arising from the public participation process, will be made available to the public, including publishing on the City's website. Video recordings of the Public Participation Meeting may also be posted to the City of London's website. Questions about this collection should be referred to Cathy Saunders, City Clerk, 519-661-CITY(2489) ext. 4937.

Accessibility – Alternative accessible formats or communication supports are available upon request. Please contact accessibility@london.ca or 519-661-CITY(2489) extension 2425 for more information.

(DRAFT) City-wide URBAN DESIGN GUIDELINES



Introduction

WHAT ARE URBAN DESIGN GUIDELINES?

City Council may adopt guideline documents to provide more detailed direction and context for the implementation of The London Plan policies.

These City-wide Urban Design Guidelines provide complementary written and visual information to assist with the implementation of the City Design policies of The London Plan. They are both more detailed, and more flexible in their interpretation and implementation than The London Plan policies. These guidelines should not be considered as new policy or regulation, but rather an additional tool to assist staff, the development community, streetscape and public space designers, and the public in designing and shaping the built form of the city.

This document does not reconsider the policies of The London Plan. It does not create new regulations or alter the existing regulations in the Zoning By-law, the Site Plan Control By-law, Engineering Standards, or the Complete Streets Manual. Where there is reference to specific dimensions, they are not meant to be regulatory but rather targets based on best practices.

STRUCTURE OF THESE GUIDELINES

This document shares the same structure as the City Design policies in The London Plan. The guidelines are meant to build on the City Design policies by offering more detail on how the policies may be implemented in different contexts. Sub-categories based on common themes and consideration are provided for ease of reference.

The guidelines are flexible in their interpretation, and provide creative and innovative design solutions to meet the intent of The London Plan.

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Policy Framework

There are various policy and regulatory documents that will apply to planning and development applications, as well as public works. These City Design Guidelines will be used in conjunction with the following documents:

THE PLANNING ACT

The *Planning Act* outlines matters of provincial interest that municipalities need to have regard for in carrying out their responsibilities. There is a provincial interest in promoting development that is designed to be sustainable, to support public transit and to be oriented to pedestrians, and, promoting a built form that is well-designed encourages a sense of place and provides for public spaces that are of high quality, safe, accessible, attractive and vibrant.

THE LONDON PLAN

The London Plan is the City's Official Plan and lays out City Council's vision and priorities for the short-term and long-term growth of the city. The London Plan provides direction on the allocation of land uses, the design of built form and the degree of intensity in different areas of the city. The London Plan includes policies related to City Design, which form the basis of these City-wide Urban Design Guidelines. All of the work and investment the City does is to be consistent with The London Plan.

SECONDARY PLANS

Secondary Plans may be established through a comprehensive study of specific existing or future neighbourhoods where it has been deemed important to coordinate the development (or redevelopment) of multiple properties. Secondary Plans provide more detailed policy guidance for that specific area. Where there is a conflict between the policies of a Secondary Plan and The London Plan, the Secondary Plan will prevail. Secondary Plans are identified in The London Plan, policy 1565.

HERITAGE CONSERVATION DISTRICTS

Heritage Conservation Districts are designated pursuant to Part V of the Ontario Heritage Act to recognize and protect areas of the City that are identified as having significant cultural heritage value or interest. To help manage change in these areas, Heritage Conservation District Plans have specific policies and guidelines to ensure that what makes these areas of significant cultural heritage value or interest are conserved. Heritage Conservation Districts are also identified in The London Plan, policy 601. Heritage Alteration Permit approval may be required to make changes to a heritage designated property. Properties may be individually designated pursuant to Part IV of the Ontario Heritage Act. Heritage Alteration Permit approval may be required to make changes to a heritage designated property.

AREA SPECIFIC DESIGN GUIDELINES

Area-specific Design Guidelines may be established for areas or sites with unique contexts or circumstances which require specific direction for their longer-term development. Area-specific Design Guidelines provide detailed guidance on how the community or site should be designed including the site layout, built form and public realm components. These city-wide guidelines will be used to supplement area guidelines, where they exist, to provide a comprehensive picture of how development will fit into the larger city structure. Area-specific Design Guidelines are identified in The London Plan, policy 1716.

OTHER APPLICABLE DOCUMENTS

In addition to the above, planning and development applications need to meet the direction of various municipal policies and regulations including, but not limited to, the Zoning By-law, Site Plan Control By-Law, the Sign By-law, Access Management Guidelines, the Growth Management Implementation Strategy, Engineering Design Standards, the Ontario Building Code and the Complete Streets Manual. Other Guidelines Documents are identified in The London Plan, policy 1717 to 1722.

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NEIGHBOURHOOD CHARACTER

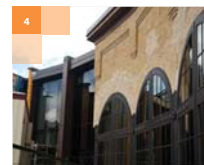
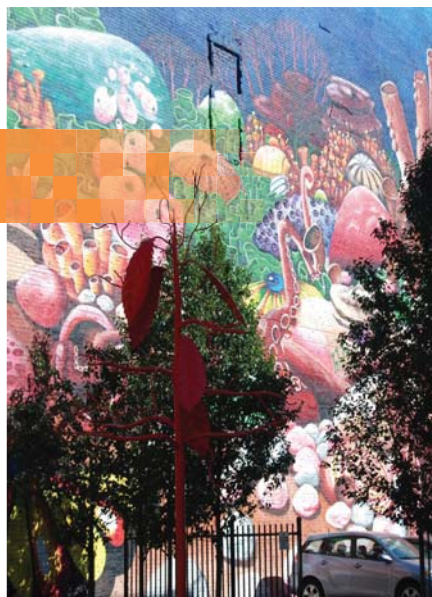
Each site and neighbourhood is unique and has different existing characteristics. The Place Types provide a planned vision for each area, but attention should also be paid to the existing features on the site and how they can contribute to the unique identity for the area and create a sense of place.

1. Strategically locate new parks, pathways and open spaces in central locations, adjacent to natural heritage features, at corners, view termini and adjacent to community facilities to form focal points and provide views throughout the neighbourhood.
2. Provide a cohesive and complementary architectural style throughout new development. Architectural style and form does not need to be the same but should be compatible to create a sense of place.
3. Consider the design of streetscapes, setbacks, façade rhythm, architectural datum lines, and landscaping, to contribute to the unique character of the neighbourhood for new or infill development.

4. Public art can be integrated into new neighbourhoods and development in the following ways:
 - i. creative lighting on buildings or within the public space
 - ii. gateway feature or focal point in unique districts or communities
 - iii. surface treatments and paving patterns
 - iv. into privately owned public spaces or integrated into building facades
 - v. street furniture, tree grates, transit stops and stations



Character



CULTURAL HERITAGE

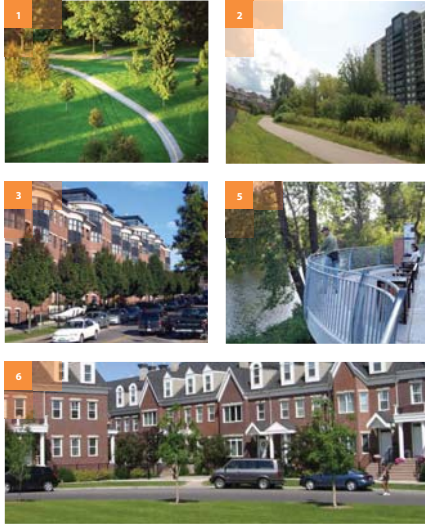
Protect and enhance existing cultural heritage resources through development that is compatible and highlights important heritage attributes.

1. Highlight distinctive heritage elements by maintaining views to these elements.
2. Design additions to heritage buildings that do not detract from the heritage features. This may include setting back the addition from the heritage resource, or using complementary materials and architectural style.
3. Incorporate materials and architectural cues (rhythm, massing and form) from the surrounding neighbourhood into the design of new buildings, additions and landscapes.
4. Continue visual datum lines from heritage buildings into new adjacent development, including floor, fenestration and cornice heights.
5. Design new development and neighbourhoods around existing cultural heritage resources and landscapes to create focal points and landmarks.

NATURAL HERITAGE

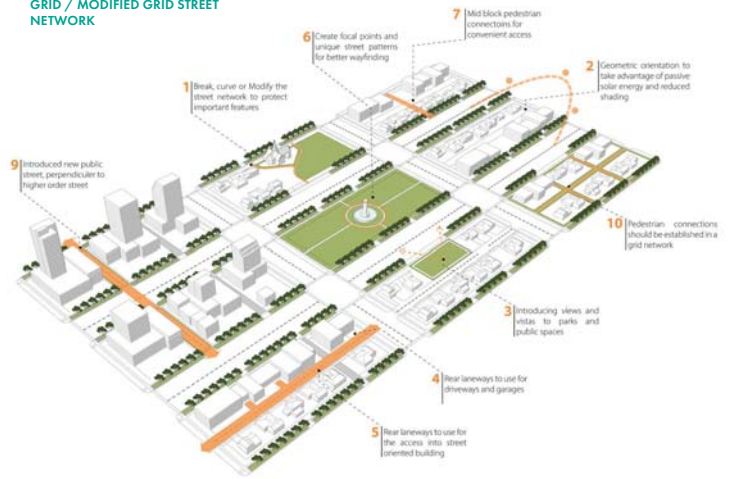
Consistent with the policies of The London Plan, protect and enhance existing natural heritage features by integrating them into the design and layout of the site or neighbourhood.

1. Lay out the street networks and development patterns to provide access and views to natural heritage features, such as creeks and woodlands. Use window streets and strategically locate buildings to provide views to natural features.
2. Locate park space next to natural features to increase views and allow for a buffer from development.
3. Choose building forms and configurations that utilize the existing topography on the site and make efforts to avoid clearing or flattening sites.
4. Resolve changes in elevation within the building form by stepping down across the building length or utilizing techniques such as walkout basements to minimize the use of retaining walls.
5. Integrate the pathway network to provide convenient access and views to natural features.
6. Utilize privately-owned rear driveways or laneways to allow for buildings to front onto natural features.



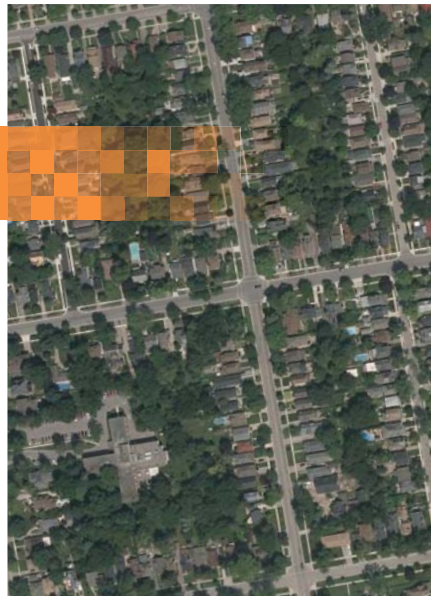
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GRID / MODIFIED GRID STREET NETWORK



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Street Network



A grid network of streets provides the most direct, convenient and easy to navigate neighbourhood configuration. Sometimes the grid can be broken or modified to respond to natural features or topography, or to optimize views and access to public spaces, transit and landmarks.

1. Break, curve or modify the street network to protect and enhance natural heritage features, cultural heritage resources and landmarks.
2. Consider the geographic orientation of streets relative to the sun to take advantage of passive solar energy and reduce shading impact on adjacent properties.
3. Protect and introduce views and vistas to parks and public spaces.
4. Use privately-owned rear laneways to reduce the impact of garages and driveways on the streetscape.
5. Along higher-order streets, consider privately-owned rear lanes to access street-oriented built form as a first priority, and window streets only where this cannot be achieved.
6. Strategically locate landmarks and focal points within neighbourhoods to help with wayfinding.
7. Introduce mid-block pedestrian connections for convenient access to transit, destinations and public space.
8. In new Neighbourhoods, the street network should protect for street connections to future development.
9. In Transit Villages, Corridors and Shopping Areas, new public streets should be introduced perpendicular to the higher-order streets to break down large blocks.
10. Where public streets are not possible, private streets or pedestrian connections can be established in a grid network.
11. Rear laneways, pedestrian connections and other private vehicle and pedestrian routes should be located and designed to ensure clear sightlines for safety.
12. Provide through streets instead of cul-de-sacs and crescents.
13. Consistent with the London Plan, a connectivity ratio of 1.5 or higher must be achieved in new neighbourhoods. The connectivity ratio is measured by dividing the number of street segments by the number of nodes, dead ends and cul-de-sacs.

(DRAFT) October 2019

BLOCK / LOT SIZING AND CONFIGURATION

Block and lot sizes and configuration should be appropriate for the scale and intensity of the development on them. Block configuration should promote street-oriented parking form and accommodate all required parking and servicing on site. Block and lot sizing should also promote a mix of housing forms.

1. Blocks should be small and walkable, targeting a maximum perimeter of 600m. Block sizes adjacent to the arterial road network will be determined by minimum intersection spacing in the Access Management Guidelines.
2. Design block depths adjacent to higher-order streets to accommodate more intense built form with rear access and parking.
3. Orient lots to front higher order streets.
4. Provide a variety of lot sizes to accommodate a mix of building forms throughout new neighbourhoods.
5. Design corner lots, lots at T-intersections and lots at the end of view termini to be appropriately sized to accommodate enhanced design features, such as glazing, canopies, or height elements, and street-orientation.



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PEDESTRIAN / CYCLING NETWORKS

Consistent with the City of London Cycling Master Plan, pedestrian and cycling routes should be integrated into the street network. Off-road options may also be provided to supplement the primary cycling routes and allow for convenient access to public spaces, destinations and the trail network.

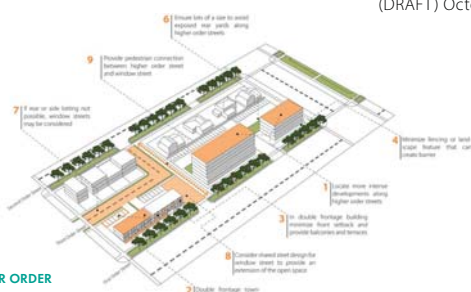
1. Provide pedestrian and cycling connections mid-block on long blocks, to reduce the travel distance between key destinations, such as transport stops.
2. Mid-block connections may be provided for convenient access from rear parking areas to the fronts of buildings in Transit Villages, Corridors and Shopping Areas.
3. Minimize curves and blind spots when introducing mid-block connections.
4. Design mid-block connections to be wide enough to allow for clear sightlines to and from streets and public spaces.
5. Size and orient lots adjacent to mid-block connections so that development can front onto the connection and reduce the need for blank walls and fencing.

6. Include trees, lighting and landscaping within mid-block connections in a manner that fits within the character of the Place Type.
7. Reduce the number of driveways and vehicle access points on streets that include cycling networks and primary pedestrian routes.
8. Provide benches, bike racks, landscaping and way-finding signage along cycling and primary pedestrian routes, particularly at transit stops and close to intersections.



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(DRAFT) October 2019



INTERFACE WITH HIGHER ORDER STREETS

Locate active building facades along the higher order street edge to promote safety, direct connections and animate the street.

1. Locate more intense forms of development, such as apartment buildings, along higher order streets to minimize vehicle access and parking between the building and the street.
2. In neighbourhoods, consider double frontage house forms and townhouse designs with rear parking.
3. In double-frontage building designs, minimize the front setback of buildings and deliver amenity space such as a front porch, upper level terrace or balcony, or a rear courtyard.

4. Minimize fencing or landscape features that create a barrier between the development and the higher order street. Ensure that any fence treatment is low and decorative, provides direct access to front doors, and allow for clear sight lines for pedestrians and vehicles.
5. Where side-lotting is necessary along higher order streets, locate the garage away from the higher order street and orient the front door and active building portions to the higher order street.
6. Design lots with a size and configuration that avoids exposed rear yards along higher order streets. Use the building to provide privacy and sound barrier as much as possible and reduce fencing next to the street. Side yard fencing should be setback behind the building wall and screened with landscaping.
7. Where rear or side lotting is not possible, window streets may be considered.
8. Consider a shared street design for window streets to provide an extension of the open space.
9. Provide pedestrian connections between the higher order street and the window street.

STREET NETWORK

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Streetscape



COMPLETE STREETS

The Complete Streets Design Manual provides specific guidance on how the right-of-way should be designed for different classifications of streets. These City Design Guidelines will provide additional guidance on the interface between development on private property and the public streets.

TRANSIT

Design streetscapes that are comfortable and convenient to access transit.

1. Locate transit stops close to intersections with safe pedestrian crossings, with consultation from the London Transit Commission.
2. Provide an adequately sized hard surface at transit stops between the sidewalk and the curb for accessibility.
3. Consider seating at all bus stops. Shelters should be provided at transit stops with high ridership.
4. Integrate sheltered areas into the design of development in Transit Villages, Corridors and Shopping Areas.
5. Where possible, provide refuge islands where transit stops are next to bike lanes to minimize conflicts.



VERTICAL ELEMENTS

Design streetscapes with coordinated vertical elements in the right-of-way to reduce clutter and contribute to the overall sense of place and unique character of each Place Type.

1. Locate trees, landscaping, signage, utilities and lighting between the curb and the sidewalk to reduce visual clutter and provide a buffer between pedestrians and vehicles.
2. Coordinate the location of the above elements to ensure trees do not block signage or lighting.
3. Landscaping should be low level to avoid blocking sightlines for pedestrians or vehicles, particularly at intersections.
4. Co-locate utilities and put them underground wherever feasible.
5. Wrap utility boxes in public art that adds to the character of the streetscape.



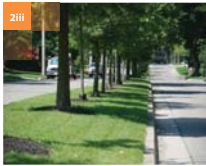
(DRAFT) October 2019



TRAFFIC CALMING

All streets should be comfortable and safe for pedestrians. Traffic-calming measures can be integrated to change the speed of vehicles and the character of the area.

1. The paved vehicle portion of roads should be as narrow as possible.
2. Integrate the following traffic-calming measures into new streets and as part of street reconstruction in Downtown, Transit Villages, Corridors, Main Streets, and Neighbourhoods:
 - i. Bump-outs
 - ii. Raised intersections
 - iii. Planted medians
 - iv. Streets trees
 - v. Wide boulevards
 - vi. On-street parking
 - vii. Speed Cushions
 - viii. Bike lanes



STREETSCAPE

(DRAFT) October 2019



LANDSCAPING

Trees and planting in the streetscape can have a big impact on the character and quality of the area. Landscaping on public streets should use native species, be low maintenance and consistent with the visions of the Place Type.

1. Provide street trees between the sidewalk and the curb on all public street where space permits where possible.
2. In Downtown, Transit Villages, Corridors and other locations with high pedestrian traffic, street trees should be provided in tree grates or formal at-grade or raised planter beds. Silva cells or similar soil storage technology are encouraged for all urban street tree planting.
3. In Neighbourhoods, street trees can be planted in a grass boulevard.
4. Low Impact Development (LID) features should be considered for major street reconstruction projects. LID's should generally be located between the sidewalk and the curb, unless otherwise directed by the City Engineer.
5. In Downtown, Transit Villages, Corridors and other locations with high pedestrian traffic, curb cuts should be included in any LID design to allow water to drain into planters or vegetated areas.
6. In Neighbourhoods, LID features can be provided where appropriate.
7. The use of LID features can be considered in appropriate streetscape locations and for pedestrian pathways.



STREETSCAPE

NOISE AND RETAINING WALLS

Retaining walls and noise walls should be avoided as they cut development off from the streetscape. Where it is not possible to avoid them, they should contribute positively to the surrounding environment.

1. Locate retaining walls on private property and outside of the City right-of-way.
2. If retaining walls are necessary, they should be designed to include:
 - i. planting beds,
 - ii. seating,
 - iii. terracing, and/or
 - iv. stairs or ramps.
 (Railings may be required in accordance with the Ontario Building Code).
3. Provide convenient pedestrian connections around retaining walls.
4. If noise walls are necessary, they should be designed to include:
 - i. compatible colours, materials and/or patterns,
 - ii. public art, and/or
 - iii. landscape screening on private property.
5. Break up long expanses of noise walls with different angles or heights.



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PARKS AND RECREATION MASTER PLAN

The Parks and Recreation Master Plan provides specific guidance on where public parks should be located and how they should be designed. These City Design Guidelines will provide additional guidance on the interface between development and parks and other public spaces.

LOCATION

The inclusion of each public space in the design of neighbourhoods and new developments provides a place to meet and gather, create connections, and establish the character and sense of place for the surrounding area.

1. Locate public spaces centrally within new neighbourhoods, bounded by public streets, to form a focal point. Design new neighbourhoods to have 50% of the perimeter of a park bounded by public streets.
2. Locate public open space adjacent to natural features, at corners, view termini and adjacent to community facilities.
3. In the Downtown Place Type, public spaces may take the form of mid-block connections, and plazas/forecourts associated with new development.



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Public Space



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4. Locate plazas at the corners of new development to serve as an extension of the public sidewalk.
5. Introduce civic spaces to dense existing neighbourhoods by providing a more urban, hardscape space for events and gathering.



PUBLIC SPACE

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CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

Creating public spaces that are safe and comfortable is important. The design of public space, and privately owned public space should maintain sight lines and not create hidden spaces.

1. Locate active building walls with windows and doors next to public spaces to maximize passive surveillance.
2. Maintain direct pedestrian routes from the public sidewalk to adjacent buildings.
3. Provide at least two unobstructed ways into and out of the space from the sidewalk should be provided.
4. Vertical elements including plants, landscape walls and furniture should be low enough to maintain open views.



LANDSCAPE FEATURES

Incorporate landscaping and landscape features into the design of public spaces to create a sense of place, support food systems, and assist in achieving the goals of the Forest City chapter of The London Plan

1. Public spaces should be designed with a variety of hardscape and softscape material, coordinated with the adjacent streetscape.
2. Include a variety of seating options, public art and lighting that is appropriate for the Place Type.
3. Plant trees in sod or planting beds to allow for long term growth. Use Silva cells or similar soil storage technology for urban tree planting in plazas, POPS and seating areas.
4. Consider incorporating pollinator-friendly planting and edible foodscapes where they do not cause a conflict with other park elements.
5. Incorporate flexible gathering spaces that allow for neighbourhood programming such as markets, fitness classes and performances.



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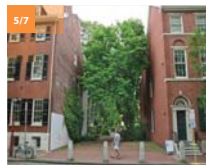
PRIVATELY-OWNED PUBLIC SPACE (POPS)

POPS are encouraged in all Place Types. While privately owned and maintained, these spaces serve as an extension of the streetscape and/or public open space system.

1. The optimal location for POPS is on the south side of buildings and adjacent to public streets to allow sunlight penetration into the space and the building, where possible.

2. Locate POPS on corners where possible and provide entryways and doors into the space.
3. POPS should be designed with a variety of hardscape and softscape materials, coordinated with the adjacent streetscape.
4. Provide mid-block connections on large development blocks to allow pedestrians to walk from the public street through the development block.

5. Mid-block connections may be designed to double as POPS or amenity space for residents and include seating and other site furniture.
6. Mid-block connections should be a minimum 8.0m wide and designed with a variety of hardscape and softscape materials, coordinated with the adjacent streetscape.
7. Mid-block connections may serve as an extension of the multi-use pathway system, or as an outdoor amenity area.



PUBLIC SPACE

(DRAFT) October 2019

TRAILS, WALKWAYS, AND CONNECTIVITY

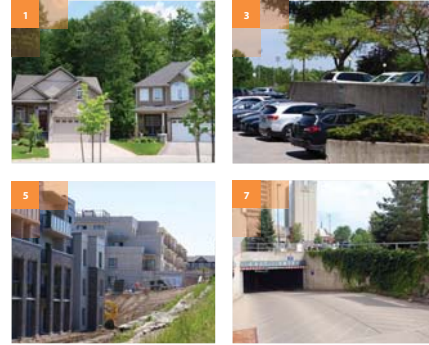
Trails, walkways, play equipment and recreational facilities incorporated in the design of public spaces allow for healthy and active lifestyles

1. The design of public spaces should allow for direct pedestrian routes from the public sidewalk to adjacent buildings
2. Multi-use pathways systems should be provided to support an alternative to sidewalks and extend through all Place Types, consistent with the City of London Cycling Master Plan.
3. The multi-use pathway network should extend from neighbourhoods to public transit stops.



PUBLIC SPACE

Site Layout



EXISTING TREES AND TOPOGRAPHY

Protect and maximize retention of existing grades, natural features and healthy trees on site. These features should help determine the organization of the site and locations of new built elements.

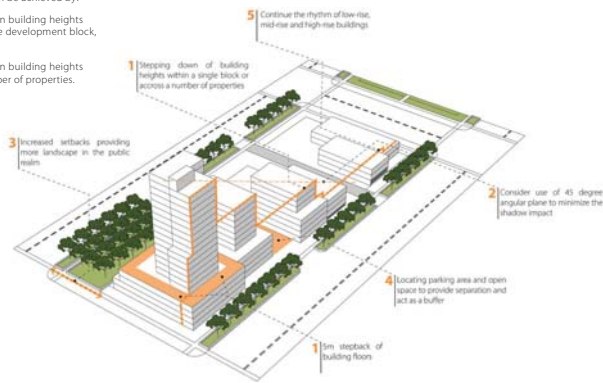
1. Locate buildings and hard surfaces away from trees and natural features.
2. Lay out parking areas to reduce impacts on perimeter trees and clusters of tree.
3. Use landscape islands to terrace large parking areas across sloping sites.
4. Address large grade changes within buildings through techniques such as side or back split buildings, or walk-out basements.
5. Step long buildings down across sloping sites to have multiple grade-related entrances and avoid exposed blank foundations.
6. Where exposed foundations are unavoidable, extend the facade materials to cover them, or use landscape terracing to raise the grade to floor level.
7. Use grade changes to optimize and hide underground parking access.

TRANSITION

Different intensities of development and built form can exist together if there is an effort to provide an appropriate transition between the two forms.

1. Transition development down in height and density towards lower intensity Place Types, within the Place Type boundary. This can be achieved by:
 - i. stepping down building heights within a single development block, or
 - ii. stepping down building heights across a number of properties.

2. Consider the use of a 45 degree angular plane to minimize shadow impacts on adjacent development.
3. Increase building setbacks as development transitions away from the most intense, urban places, to provide more landscaping in the public realm.
4. Locate parking areas and open space on site to provide separation and a buffer between new and existing buildings of different intensities.
5. Continue the rhythm of low-rise buildings into the lower levels of mid- and high-rise buildings.



BUILDING LOCATION

Locate buildings to frame the public realm, create usable amenity space on site and allow for direct and convenient access from the public sidewalk to entrances and between buildings on the same and neighbouring sites.

1. Locate buildings close to the highest order street to create a comfortable pedestrian environment.
2. On corner properties, locate the building at the corner.
3. Locate buildings in line with existing adjacent buildings that are not anticipated to change.

4. Within new development, provide a 1 to 2 metre setback to avoid encroachment of footings, canopies and signage.

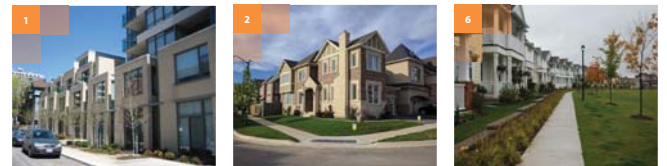
5. Orient buildings with their long axis parallel to the streetscape to provide a continuous street wall.

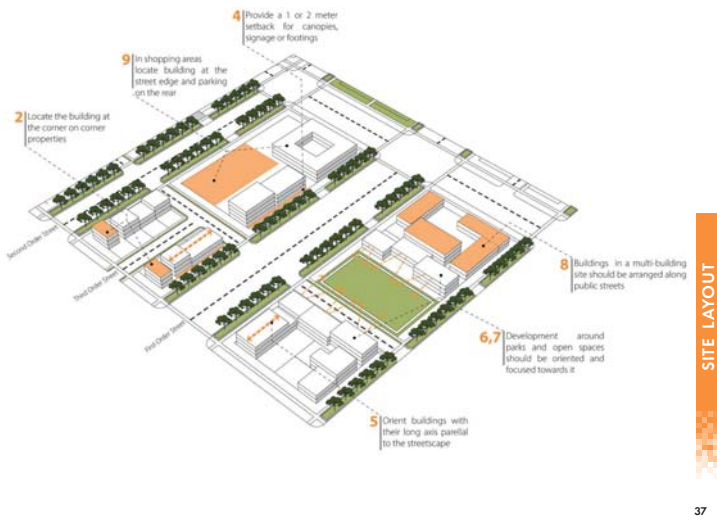
6. Development adjacent to parks, pathways and POPS should be oriented to and frame the open space.

7. Lay out multi-building sites to maintain views to open spaces and focal points, and to define usable amenity space.

8. Multi-building sites should be arranged to maximize the amount of building along the public streets. Additional buildings should be located along the primary drive aisles, and large scale buildings should be located to the rear of the site to minimize the impact of service and loading areas.

9. In Shopping Areas and Urban Corridors, locate buildings at the street edge and parking to the side or rear. Locate and orient entrances to be convenient for people arriving by public sidewalk and by vehicle.





SITE LAYOUT

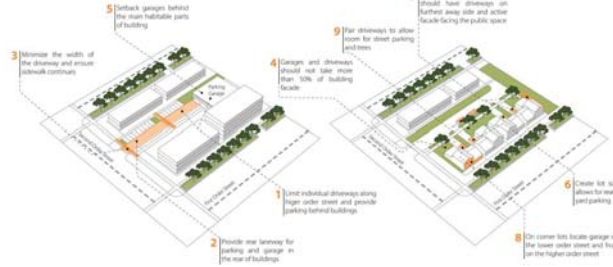
RESIDENTIAL DRIVEWAYS

Design development to provide a positive interface with the streetscape, maximize pedestrian comfort and safety and encourage social interaction.

1. Limit individual driveways and garages in Downtown, Transit Villages, Corridors and along higher order streets. Instead provide underground or structured parking, or surface parking behind buildings.
2. Provide privately-owned rear laneways for development fronting higher order streets with garages, and parking in the rear of buildings.

3. Minimize the width of vehicle access points for mixed use and multi-family development. Ensure sidewalks continue across driveways.
4. Garages and driveways should not take up more than 50% of the building facade, particularly for attached forms like townhouses.
5. Setback garages behind the main habitable parts of buildings.
6. Where possible, create lot sizes that allow for rear or sideyard parking to avoid vehicles parked between the building and the street.

7. For lots adjacent to open spaces and pedestrian connections, locate garages and driveways on the side furthest away to provide active facades facing the public space and reduce conflicts between vehicles and pedestrians.
8. On corner lots, locate the garage and driveway off of the lower order street, close to the interior property line and have the front door and active uses facing the higher order street to provide active facades on the higher order street.
9. Pair driveways to allow sufficient room for trees to grow and for on-street parking.



SITE LAYOUT

LOADING, GARBAGE AND SERVICE AREAS

Reduce the negative visual and noise impact of loading, garbage and other service areas for on-site users and the public realm.

1. Locate loading, garbage and other service areas within buildings wherever possible.
2. Use wing walls and enclosures made of the same materials as the main building to hide outdoor garage and utility areas.
3. Locate outdoor garbage and services to the rear of the building, or on the side where the rear is not possible.
4. Minimize the width of garbage and loading routes on site and screen them with low landscape walls and planting.
5. Locate utilities to the side or back of buildings and integrate them into the articulation of the building.



SURFACE PARKING

The location, configuration, and size of parking areas impacts the experience of pedestrians, transit-users, cyclists and drivers. Sites should provide safe, comfortable, convenient and intuitive access and connectivity throughout.

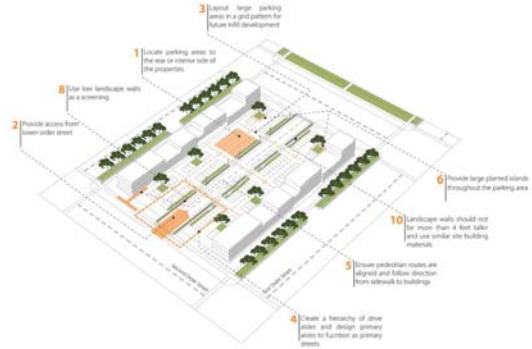
1. Locate parking areas to the rear or interior side yard of properties.

- i. Sidewalks
- ii. Demarcated cross walks
- iii. Tree planting
- iv. Seating areas
- v. Pedestrian scaled lighting
- vi. On-street parking
- vii. Cycling lanes

2. Provide access from lower order streets where possible.

3. Lay out large parking areas in a grid pattern to allow for future infill development.

4. Create a hierarchy of drive aisles and design primary drive aisles to function as local streets. Including the following:





5. Design parking lots with pedestrian routes that are aligned and direct from the public sidewalk to buildings and between buildings.
6. Provide large planted islands throughout the parking area.
7. Consider including LID features surrounding and within parking areas through curb cuts and bio-swailes to assist with storm water management.
8. Screen parking areas from the public sidewalk with a combination of low landscape walls and planting.
9. Align landscape walls and screening with the front of building facades to provide a continuation of the street wall.
10. Landscape walls should be no taller than 1m and constructed of the same or complementary materials to the building(s) on site.
11. Consider designing parking areas in multi-unit developments as shared spaces with no curbs and enhanced paving materials to provide an extension of the amenity space on site.

SITE LAYOUT



DRIVE-THROUGH FACILITIES

Design of drive-through facilities to be integrated within the site layout to provide direct and safe pedestrian connections, allow for vehicular flow and reduce impacts on adjacent land uses and the public realm.

1. Locate drive-through facilities in the rear and interior side yard. Do not locate drive-through facilities next to public streets.
2. Design restaurants with drive-through facilities with pedestrian entrances that have direct access to public sidewalks.
3. Provide additional screening, through a mix of landscaping and low landscape walls, where any portions of the drive-through facilities are adjacent to a public street.

SITE LAYOUT

UNDERGROUND AND STRUCTURED PARKING

Incorporating parking in buildings or providing parking structures allow for parking to be screened from the public right-of-way, reducing the visual and noise impacts on the public realm. Provide active frontages on the ground floor to allow for direct connections to the public realm as well as the site.

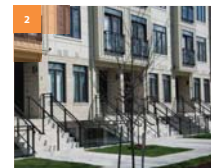
1. Integrate parking structures into the design of apartment buildings and free-standing commercial buildings. Provide active uses on the ground floor of apartment buildings.
2. Provide active uses on the ground floor of parking structures.
3. Consider shared access parking for new and intensified development.
4. Consolidate parking for big box area commercial development where Zoning permits.
5. Locate underground parking entrances away from the public realm.
6. Design parking garages with entrances as a very minimal part of a façade of new buildings.



SITE CIRCULATION

Provide clear and convenient paths of travel for all users - pedestrians, cyclists, and drivers - to and within the site. Prioritize pedestrian and cyclist safety and convenience.

1. Design parking lots with walkways throughout directly connecting building entrances.
2. Design new development with connections to existing and new pathway systems.
3. Provide a hierarchy of walkways through a site by utilizing different walkway widths and accompanying landscaping.
4. Design parking lots in a grid pattern with drive aisles designed as local streets.
5. Provide crosswalks in parking lots where any walkway crosses a drive aisle.
6. Provide direct walkways from the front entrances of different buildings/developments to other buildings/development and to public sidewalks.
7. Provide landscape islands with a mix of landscaping and shade trees.





- 8. Delineate walkways from vehicle lanes and parking stalls with a change of colour and material and raised from the surrounding drive aisle.
- 9. Design pedestrian walkways through parking lots with pedestrian level lighting.
- 10. Design pedestrian routes to be direct and efficient paths of travel.



- 11. Provide internal or sheltered bicycle storage for residential, office, institutional and industrial developments with convenient access from the sidewalk and cycle routes.
- 12. Locate short-term cycle parking close to commercial building entrances and windows for convenient access and to provide passive surveillance.



SITE LAYOUT



LANDSCAPING

Maintain existing trees on site and incorporate new shade trees to provide shade, screening, and enhance the user experience on site and within the public realm.

- 1. Incorporate and maximize the retention of mature trees for development of new sites or redevelopment of existing sites.
- 2. Incorporate mature trees into the design of parking lots by incorporating them into parking islands.
- 3. Surface parking can incorporate trees into the design through the following techniques:
 - i. In a Low Impact Development system
 - ii. In planters
 - iii. In tree grates
 - iv. Along primary pedestrian routes
 - v. Around the perimeter of the site
- 4. Provide large shade trees along all interior and exterior property lines where hydro lines allow.



SITE LAYOUT

BICYCLE PARKING

Incorporate bicycle parking into the design of new development as a component of comfortable and safe bicycling infrastructure.

- 1. Provide secure interior bike parking for large multi-unit residential, commercial, recreational and institutional buildings
- 2. Provide bicycle parking in all developments in highly accessible and visible locations, such as adjacent to main entrances.
- 3. Provide weather protection for bicycle parking whenever possible.



INTERFACE WITH STREETS AND PUBLIC SPACES

New development can support pedestrian activity and safety by providing public entrances, transparent windows and reducing blank walls along public rights-of-way. Providing buildings that directly front onto public spaces that allow for a defined edge and enclosure for the public spaces.

- 1. Provide principle entrances with direct walkway connections on facades that face public streets, public parks and open spaces. Incorporate transparent windows into the ground floor design of buildings to create an active frontage along street edges.
- 2. Provide a 1 to 2 metre setback to accommodate entrances, door swings, and walkways.
- 3. Clearly identify public entrances with signage, lighting, waiting areas, weather protection, and architectural features.
- 4. Locate residential units on the ground floor with direct access to the public sidewalk where zoning permits. Incorporate stoop, porch, and patio frontages into these units.
- 5. Evenly space commercial and residential entrances across the facade. Incorporating multiple entrances creates human scale rhythm and activates the street.

- 6. Include front doors on all entrances on the ground floor that are lockable from the outside, with an appropriate amount of glazing for the use. Sliding patio doors should only be used on upper floors.
- 7. Coordinate any built elements located in the setback between the sidewalk and the building with the materials of the building, as well as those of the streetscape.
- 8. Minimize the use of retaining walls that cut off development and active frontages from the streetscape and pedestrian network.
- 9. Minimize blank walls and locate them away from areas with exposure to the public realm and pedestrian traffic.





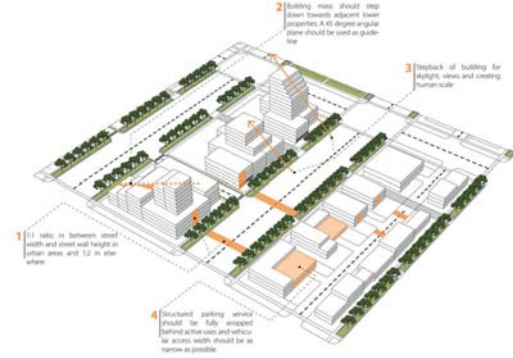
AMENITY SPACES

Include outdoor amenity spaces in the design of neighbourhoods and mixed-use buildings to enhance the quality of life of residents.

1. Consider amenity spaces to have direct connection to pedestrian networks.
2. Provide amenity spaces adjacent to open spaces when possible.
3. Reduce negative impacts on amenity spaces by ensuring they are well buffered from parking lots, garbage and loading facilities.
4. Provide amenity space on the rooftop of mid or high-rise buildings.
5. Provide amenity space with direct ground floor access in low-rise development.
6. Consider grouping amenity spaces to ensure the space is a functional size.



SITE LAYOUT



MASSING

1. The massing of buildings should aim to provide between a 1:1 and 1:2 relationship between the height of the street wall to the width of the street to provide a sense of enclosure. 1:1 should be used in more urban context such as Downtown and Transit Villages, and 1:2 elsewhere.
2. Building mass should also step down towards adjacent lower properties that are not anticipated to change, as well as towards lower intensity Place Types. A 45 degree angular plane should be used as a guideline to minimize shadow impacts.
3. Above the streetwall, the building should step back to provide access to sunlight, sky views and create a human scale. A street wall of 2 to 5 storeys generally achieves these goals.
4. Structured parking and service areas should be fully wrapped in active building uses. Vehicular entrances to these areas should be as narrow as possible while still permitting turning movements.

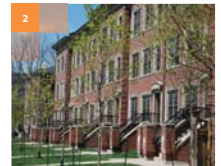
Buildings



ACTIVE FACADES AND PEDESTRIAN ORIENTATION

Design buildings to provide a comfortable environment for pedestrians within the public right-of-way and within the site.

1. The building base is the bottom 1 to 3 storeys of the building and should have a positive interface with the public realm. The base interface is intended to apply to all scales of buildings including low-rise attached units, commercial buildings, and mid- and high-rise buildings.
2. Interior residential and commercial units should be expressed on the exterior of the base through materials and articulation to create a human scale rhythm. This will generally appear as row houses for residential units, and individual store fronts for commercial buildings.
3. Address intersections and corner properties and establish an edge by massing buildings to the corner and providing a height element, material change, or special architectural features.
4. Break up long building facades through articulation and/or material change. Materials should generally wrap around exterior corners and change on interior corners.
5. Blank walls should be avoided where non-active facades cannot be avoided, they should be located away from street-facing facades and minimized where possible. Material changes, building articulation, display windows and creative lighting may be used to make blank walls appear less imposing, but are not a replacement for active ground floor uses.



BUILDINGS

RESIDENTIAL FACADES

For townhouses and low-rise apartments, provide an appropriate transition of building height, scale, and massing to ensure there are no adverse effects on neighbouring properties and different Place Types. Consideration should be given to the intent and possible future development of neighbouring properties based on the identified Place Type of The London Plan.

1. Raise ground-floor residential units slightly for privacy. Porches, stoops or terraces with landscaping should be provided to offer privacy between ground floor units and the public realm.
2. Provide ground floor residential units with direct access from the public sidewalk to a lockable front door to animate the building facade. A secondary entrance may be provided through a common hallway.
3. Emphasize the exterior entrance through windows, canopies, lighting, and other features. This will also differentiate the ground floor from those above.
4. Differentiate lobby entrances from individual unit entrances through glazing, canopy and/or signage.



HIGH RISE BUILDINGS

Design high-rise buildings to have a base, middle, and top to reduce the height and mass on the pedestrian environment, allow sunlight and reduce the wind-tunnel effect. The base establishes a human scale facade with active frontage elements. The middle will be visually cohesive but distinct from the base, and the top should provide a finishing treatment.

1. High-rise buildings should generally have a base designed as a low- or mid-rise building.
2. Locate the towers to define usable amenity space with desirable views and access to sunlight. Towers should aim to be stepped back from the base a minimum of 5 metres to create a human-scale streetwall and reduce the wind-tunnel effect.
3. Towers should be designed as point towers, with small floorplates generally designed to fit within a 50 metres diameter circle to avoid long walls, shadow impacts and visual mass.
4. Tower separation should be a minimum of 25 metres on the same property or 12.5 metres from the centerline of roads and interior property lines to protect for future development.

5. Towers may be offset or angled to increase the perceived separation between them, increase access to light, and decrease impacts on adjacent properties.
6. Provide an articulated or sculpted roof form in scale with the building, generally consisting of the top 3-5 storeys to contribute to an interesting skyline. Enclose all rooftop mechanical and elevator equipment within the architectural design of the building.
7. Where two or more towers are in close proximity, the tower heights can be different to contribute to a varied and interesting skyline.
8. The middle of the tower should visually connect the top and the base through the continuation of materials, architectural elements or features.
9. Relate the window placement and design of the base of the building to the tower design.
10. Provide variation going up the tower to add interest. This may include alternating the location of vision glass and opaque materials, or balcony placement.
11. Break down the mass of the building by providing breaks between balconies, with no more than two balconies creating a continuous form.



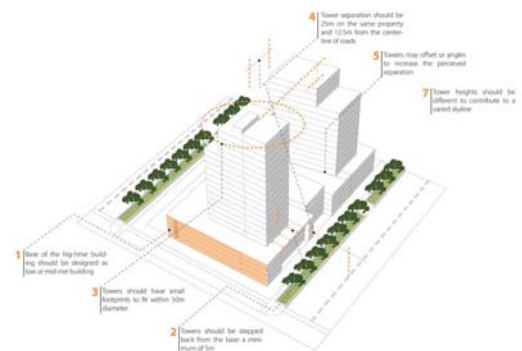
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NON-RESIDENTIAL FACADES

1. Design non-residential ground floors to be at grade with doors oriented towards the sidewalk with direct access. Consider using raised and removable platforms to allow flexibility to convert residential ground floors to commercial in the long term.
2. Include a high proportion of vision glass to non-residential facades on the ground floors to provide a visual connection into the building and passive surveillance. Window sills should be low and entrances should be highlighted.
3. Provide signage, weather protection and lighting at a human scale, proportional to the width of the unit and integrated into the architecture of the building.
4. Design civic, and institutional buildings as landmarks, and limit access points and larger floor plates. Highlight the entrances through a greater proportion of glazing, larger canopy and/or signage.
5. Industrial buildings may have fewer windows and entrances. The largest proportion of vision glass should highlight the main entrance, in addition to other features such as signage and canopies.



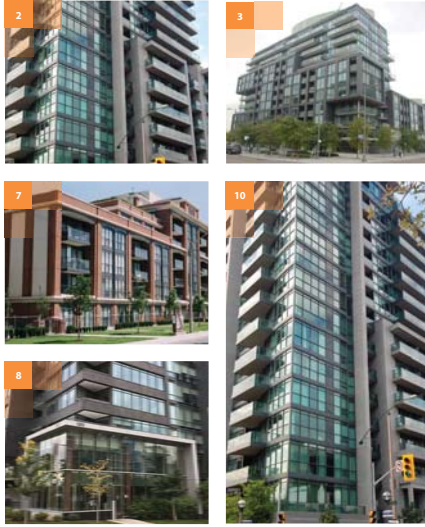
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BUILDING MATERIALS

A diversity of materials in new development will help to visually break up massing, reduce visual bulk, and add interest to the building design. Articulation is a horizontal change (recesses and projections) in building place that helps to break up the length of long buildings.

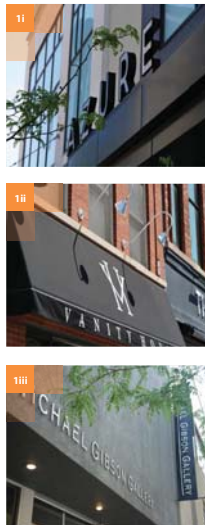
1. Provide recesses and projections that are a minimum of 1m deep. Relate articulation to the rhythm of interior units where possible. Generally, heavier materials should be projected out from lighter materials.
2. Where there is a horizontal material change, aim to include a slight articulation change to resolve the transition.
3. Recesses and projections should be a minimum 0.3 metres deep in order to be noticeable. Relate articulation to the rhythm of interior units where possible.
4. Generally, heavier materials should be located lower on the building.
5. Provide roof articulation through providing gables, dormers or varying the direction or height of pitched roofs. Roof articulation may also include providing parapets or changes in height on flat roofs.
6. Only provide parapets where they relate to a projection in the façade, or a change in material.



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7. Provide a cornice or cap to finish any flat-roofed building portions. The cornice or cap should complement the style of the overall architecture and be appropriately scaled to the building design.
8. Utilize transparent glass and glazing to break up the mass of the building, activate the streetscape and provide passive surveillance for commercial, residential, office, and institutional uses. Design window treatments to be bird friendly.
9. Minimize blank walls and locate them away from areas with exposure to the public realm and pedestrian traffic.
10. Provide windows that are proportionate to the facade they are on. Generally, the space between windows, or between a window and the edge of the facade should be narrower than the window itself.
11. Glazing does not need to be evenly spaced, but minimizing the width of blank walls should be considered.
12. Utilize transparent glass and glazing along storefronts for Main Street, Rapid Transit Corridor, Shopping Area, and Institutional Place Types to maximize passive surveillance and activate public realm.



SIGNAGE

Incorporating the design of signage in the design of new buildings or development will allow for a cohesive design and character for the building and development. The location, size, number, construction, alteration, repair and maintenance of all outdoor signs and signs visible from the exterior premises, including signs located in windows, are regulated by the Sign By-law 2017.

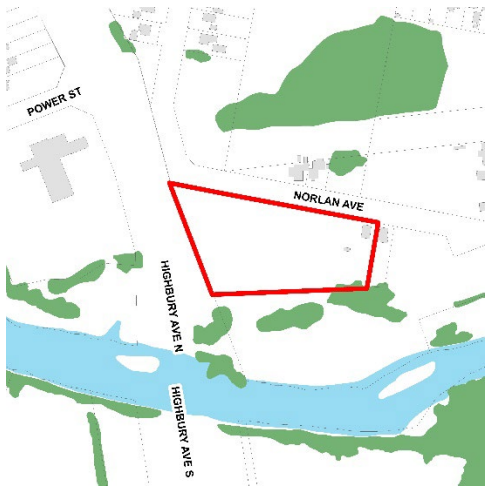
1. Reduce light impacts on neighbouring properties by using:
 - i. Utilize individual lit letters
 - ii. Gooseneck lighting, and
 - iii. Avoiding the use of LED screens and uplit or backlit shadow box lights.

BUILDINGS

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Zoning By-Law Amendment

21 Norlan Avenue



File: Z-9111
Applicant: City of London

What is Proposed?

Zoning amendment to:

- add “Farm Gate Sales” to the list of permitted uses on a site specific basis through a special provision. A definition of “Farm Gate Sales” was added to Zoning By-law Z-1 recently as part of the implementation of the Urban Agriculture Strategy adopted by Council in November 2017.
- Possible change to Zoning By-law Z.-1 **FROM** an Open Space (OS1) **TO** an Open Space Special Provision (OS1()) Zone to also allow “Farm Gate Sales”.

YOU ARE INVITED!

Further to the Notice of Application you received on September 18, 2019, you are invited to a public meeting of the Planning and Environment Committee to be held:

Meeting Date and Time: Monday, December 2, 2019, no earlier than 4:30 p.m.

Meeting Location: City Hall, 300 Dufferin Avenue, 3rd Floor

For more information contact:

Chuck Parker
cparker@london.ca
519-661-CITY (2489) ext.4648
City Planning, City of London, 206 Dundas St.,
London ON N6A 1G7

File: Z-9111
www.london.ca

To speak to your Ward Councillor:

Michael van Holst
mvanholst@london.ca
519-661-CITY (2489) ext. 4001

**If you are a landlord, please post a copy of this notice where your tenants can see it.
We want to make sure they have a chance to take part.**

Application Details

Commonly Used Planning Terms are available at london.ca.

Requested Zoning By-law Amendment

Possible change to Zoning By-law Z.-1 **FROM** an Open Space (OS1) **TO** an Open Space Special Provision (OS1(__)) Zone to also allow “Farm Gate Sales”. Changes to the currently permitted land uses are summarized below. The complete Zoning By-law is available at london.ca/planapps.

Current Zoning

Zone: Open Space (OS1) Zone

Permitted Uses: Conservation lands, conservation works, cultivation of land for agricultural/horticultural purposes, golf courses, private parks, public parks, recreational golf courses, recreational buildings associated with conservation lands and public parks, campground and managed forests.

Requested Zoning

Zone: Open Space Special Provision (OS1(__)) Zone

Permitted Uses: Same as above except;

Special Provision(s): Adds Farm Gate Sales as an additional permitted use. Farm Gate Sales is defined as “Farm Gate Sales” means the use of land, buildings or structures for the purpose of selling agricultural products grown on the property to the general public. This small-scale farm market may or may not have structures in which to sell the products. For the purposes of this definition, Farm Gate Sales does not include a Farm Market or a Farm Food and Products Market.;

Planning Policies

Any change to the Zoning By-law must conform to the policies of the Official Plan, London’s long-range planning document. These lands are currently designated as Open Space in the Official Plan, which permits non-intensive open space uses as parks space or in their natural state as the main uses. Agriculture and horticulture are permitted uses.

The subject lands are in the Green Space Place Type in *The London Plan*, permitting a range of open space uses. Agriculture, horticulture and urban gardens are permitted.

How Can You Participate in the Planning Process?

You have received this Notice because the City has applied to change the zoning of land located within 120 metres of a property you own. The City reviews and makes decisions on such planning applications in accordance with the requirements of the *Planning Act*. If you previously provided written or verbal comments about this application, we have considered your comments as part of our review of the application and in the preparation of the planning report and recommendation to the Planning and Environment Committee. The additional ways you can participate in the City’s planning review and decision making process are summarized below. For more detailed information about the public process, go to the [Participating in the Planning Process](#) page at london.ca.

See More Information

You can review additional information and material about this application by:

- visiting City Planning at 206 Dundas Street, Monday to Friday between 8:30am and 4:30pm;
- contacting the City’s Planner listed on the first page of this Notice.

Attend This Public Participation Meeting

The Planning and Environment Committee will consider the requested zoning changes at this meeting, which is required by the *Planning Act*. You will be invited to provide your comments at this public participation meeting. A neighbourhood or community association may exist in your area. If it reflects your views on this application, you may wish to select a representative of the association to speak on your behalf at the public participation meeting. The Planning and Environment Committee will make a recommendation to Council, which will make its decision at a future Council meeting.

What Are Your Legal Rights?

Notification of Council Decision

If you wish to be notified of the decision of the City of London on the proposed zoning by-law amendment, you must make a written request to the City Clerk, 300 Dufferin Ave., P.O. Box 5035, London, ON, N6A 4L9, or at docservices@london.ca. You will also be notified if you speak to the Planning and Environment Committee at the public meeting about this application and leave your name and address with the Secretary of the Committee.

Right to Appeal to the Local Planning Appeal Tribunal

If a person or public body would otherwise have an ability to appeal the decision of the Council of the Corporation of the City of London to the Local Planning Appeal Tribunal but the person or public body does not make oral submissions at a public meeting or make written submissions to the City of London before the by-law is passed, the person or public body is not entitled to appeal the decision.

If a person or public body does not make oral submissions at a public meeting or make written submissions to the City of London before the by-law is passed, the person or public body may not be added as a party to the hearing of an appeal before the Local Planning Appeal Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to do so.

For more information go to <http://elto.gov.on.ca/tribunals/lpat/about-lpat/>.

Notice of Collection of Personal Information

Personal information collected and recorded at the Public Participation Meeting, or through written submissions on this subject, is collected under the authority of the *Municipal Act*, 2001, as amended, and the *Planning Act*, 1990 R.S.O. 1990, c.P.13 and will be used by Members of Council and City of London staff in their consideration of this matter. The written submissions, including names and contact information and the associated reports arising from the public participation process, will be made available to the public, including publishing on the City's website. Video recordings of the Public Participation Meeting may also be posted to the City of London's website. Questions about this collection should be referred to Cathy Saunders, City Clerk, 519-661-CITY(2489) ext. 4937.

Accessibility – Alternative accessible formats or communication supports are available upon request. Please contact accessibility@london.ca or 519-661-CITY(2489) extension 2425 for more information.

Report to Planning and Environment Committee

To: Chair and Members
Planning & Environment Committee

From: John M. Fleming
Managing Director, Planning and City Planner

Subject: Application by: City of London
Allowing “Farm Gate Sales” on Lands within the Urban
Growth Boundary

Public Participation Meeting on: November 18, 2019

Recommendation

That, on the recommendation of the Managing Director, City Planning and City Planner, the following actions be taken with respect to the City-wide zoning by-law amendment initiated by the City of London:

- (a) the proposed by-law attached hereto as Appendix "A" **BE INTRODUCED** at the Municipal Council meeting on November 26, 2019 to amend Zoning By-law No. Z.-1, in conformity with the Official Plan, to add a new “Farm Gate Sales” definition in Section 2 Definitions and amend Section 49.2 1) of the Urban Reserve (UR) Zone to allow Farm Gate Sales as a permitted use in the Urban Reserve (UR1) Zone; and,
- (b) Staff **BE DIRECTED** to initiate a zoning by-law amendment to permit the sales of produce grown on a residential property (direct food sales) on more occasions than the current limitation of up to two times per year.

Executive Summary

Purpose and Effect of Recommended Action

The proposed zoning by-law amendment would both define Farm Gate Sales, and permit the sales of locally grown food from farms on lands zoned Urban Reserve (UR1) located within the Urban Growth Boundary. This will implement actions identified in the Urban Agriculture Strategy, adopted by Council in November 2017, to make locally grown food more readily available to the general public.

Rationale of Recommended Action

1. The recommended amendment to Zoning By-law Z.-1 is consistent with the Provincial Policy Statement (2014).
2. The recommended amendment to Zoning By-law Z.1 conforms to the 1989 Official Plan, including the policies of the Urban Reserve land use designation and to The London Plan, including the policies of the Food Systems chapter and the Future Growth Place Type, and provides for appropriate uses on these sites.
3. The recommended amendment to Zoning By-law Z.-1 will allow the sales of agricultural products from farms located within the Urban Growth Boundary.

Analysis

1.0 Relevant Background

The Urban Agriculture Strategy was adopted by Council in November 2017. The Strategy identified five broad categories: growing, processing, distribution, food loss and recovery and education and connection as the basis of the Strategy. Under each category, community-identified priorities were described, and a series of actions were identified for these priorities. For each action, roles were identified for each of the partners (community and City).

The distribution of food is organized under three priorities identified by the community, and includes Farmers' Markets, Local Food Procurement and Direct Food Sales. This zoning by-law amendment specifically addresses two actions within the "distribution" category of the Strategy under the Farmers' Markets and Direct Food Sales priorities.

Farmers' Markets provide opportunities where small-scale local growers and regional farmers can sell food and increase the accessibility of nutritious, fresh, healthy food for residents. The Urban Agriculture Strategy identified 12 farmers' markets in London. These are located on properties where retail sales are permitted, and include venues such as Covent Garden Market, Masonville Mall and Western Fair. One of the actions identified under Farmers' Market is *"Access the current zoning and by-law requirements for markets and the potential for allowing temporary food and other pop-up markets at locations such as community gardens, etc."*

Another related action is under the priority of Direct Food Sales. This refers to opportunities for small-scale urban farmers to sell their produce directly to the public. The specific action is *"Investigate bylaw issues related to food sales on private property and community gardens."*

In Zoning By-law Z-1, Household Sales (or Garage Sales) are permitted in association with any dwelling unit for two days per year, not to exceed two days in duration. In discussions with By-law Enforcement, it was determined that no changes to the by-law would be required to allow the sales of produce grown on the property because what can be sold at a Household Sale is not defined, in other words, direct sales of food is permitted up to two times a year. There is concern, however, that the limitation of only two sales per year would not be consistent with the broader initiative to support direct food sales on private property, as the wide variety of what could be grown and sold from a private garden could likely span more than two occurrences a season. It is recommended that staff initiate an amendment to the zoning by-law that would allow the direct sales of food from a property on more than the current limitation of two sales events per year.

The Urban Agriculture Steering Committee is currently preparing a "How-to-Guide" for urban agriculture, and this guide could inform residents of the current opportunity to sell food produced on their property two times per year, and note that this limitation is being reviewed by staff.

Another opportunity identified in the actions relates to the sale of produce from community gardens. In reviewing this opportunity, it was determined that the sales of produce from community gardens would be inconsistent with the community garden principles and guidelines. Guideline #1802 states that it is prohibited to *"sell produce or flowers from the garden; however they may be traded or exchanged with other Gardeners."* It is intended that there can be informal sharing of food between growers for individual use and consumption. These garden plots are individually used and are intended for personal use, not retail or commercial use.

An additional opportunity to allow the sales of produce on a temporary basis that was identified was in city-owned parks. Part 4.1 of the Parks and Recreation Area By-law PR-2 describes "Activities prohibited-subject to approval". Among those activities, it is

prohibited to “*sell refreshments or other merchandise to the public;*” without approval. Approval can be granted from the Managing Director – Parks and Recreation, or a designate, taking into account a number of factors. Each request is considered on a case-by-case basis. As the temporary sales of agricultural products could be permitted in city parks subject to approval, no amendments to the by-law would be required. It is recommended that the process to seek approval for temporary sales in parks be included in the “How-to-Guide” described above.

2.0 Farm Gate Sales

There are currently over 30 farms in the Middlesex/London area that sell directly to consumers. In London, this occurs in agricultural areas that are both zoned and designated to permit agriculture, and are defined in Zoning By-law Z-1 as “Farm Markets”. This is a permitted use in the Agriculture (AG) Zone, specifically the AG1 and AG2 zone variations. Within the London Urban Growth boundary there are no lands zoned Agriculture (AG) to permit agriculture. A new defined use that would allow farm market uses on lands that are not zoned to permit agriculture is proposed. As there are no agriculturally zoned lands within the Urban Growth boundary of London, and to support the implementation of the Urban Agriculture Strategy, it is necessary to identify “urban” zones where farm market type uses would be permitted and would not require a zoning by-law amendment to permit the use. The current zoning by-law amendment fee is \$11,000, which is cost prohibitive for small scale growers and food distributing organizations.

New Definition

Farm Markets and Farm Food and Products Market are both defined terms in Zoning By-law Z-1, and allow a scale and a range of goods available for sale greater than what is envisioned for a similar use within the urban are of the City. As previously noted, these uses are only permitted in the Agriculture AG1 and AG2 zones.

The definitions for both uses are:

"FARM MARKET" means the use of land, buildings or structures for the purpose of selling fruit and vegetables to the general public. The fruit and vegetables sold in a farm market must be grown exclusively by the operator on the property owned by the operator of the said farm market. For the purposes of this definition it does not include a Farm Food and Products Market.

"FARM FOOD AND PRODUCTS MARKET" means a retail store located on a farm, where farm food, fruits and vegetables, meat and dairy products, and handicraft products are sold, a portion of which are produced and/or processed on the farm. The market may include the processing of farm food, a portion of which are produced on the farm, into finished food products. An eat-in restaurant, ancillary to the permitted market use may also be permitted to a maximum 15% of the gross floor area on the site.

The current “Farm Market” use requires that the operator on the property sell the goods produced on that farm, and could be interpreted to mean the owner. Conversations with the Urban Agriculture Steering Committee indicated that the lands may not be owned by the persons selling the agricultural products; they may be leased or given permission by the owner to grow and sell on the property. The recommended definition is intended to allow small scale retail sales on lands that do not need to be owned by the operator, and to distinguish this use from the larger-scale use permitted in agriculture zones.

The recommended new Farm Gate Sales use is defined as:

“Farm Gate Sales” means the use of land, buildings or structures for the purpose of selling agricultural products grown on the property to the general public. This small-scale farm market may or may not have structures in which to sell the products. For the purposes of this definition, Farm Gate Sales does not include a Farm Market or a Farm Food and Products Market.

Zones to Permit Farm Gate Sales

As previously noted, Farm Markets are already a permitted use in Agricultural (AG) Zones, but there are no properties zoned Agriculture (AG) within the Urban Growth boundary and none within the developed urban area of London. The Urban Reserve (UR) Zone, a zone which permits existing uses plus some low impact uses, could also permit these uses. The Urban Reserve (UR) Zone is applied to lands within the Urban Growth Boundary.

The Urban Reserve (UR) zone is generally used as a “holding zone” in advance of the redevelopment of a parcel. Agriculture and associated retail sales are appropriate interim uses for these types of lands, as there are no significant structures associated with the use, and farming makes use of the land as an alternative to leaving it vacant. Many of the lands zoned Urban Reserve are actively farmed, and the addition of the Farm Gate Sales use would provide the same opportunity for these lands as exist in agricultural lands outside the Urban Growth Boundary. The recommended amendment is to add Farm Gate Sales as a permitted use to the Urban Reserve (UR1) Zone.

21 Norlan Avenue

This site is located within the Urban Growth Boundary, and is currently the location of Urban Roots, an active urban agriculture operation. This site has been identified by the Urban Agriculture Steering Committee as an example of type of use supported and contemplated by the Urban Agriculture Strategy. The lands are currently zoned Open Space (OS1), which does not permit farm gate sales. As the recommendation of this report is to permit farm gate sales as a permitted use in the Urban Reserve (UR) Zone, this amendment would not allow farm gate sales as a permitted use at this location.

The operation is not within or close to a residential area, and is surrounded by a hydro corridor, park land and floodplain lands. In order to permit agricultural sales at this location, a zoning by-law amendment would be required. In order to permit the farm gate sales use on these lands, a city-initiated zoning by-law amendment will be brought forward for consideration at a future public participation meeting before the Planning and Environment Committee.

Staff and the Urban Agriculture Steering Committee have not identified any other existing urban agriculture uses within the Urban Growth Boundary.

3.0 Conclusion

The recommended amendments are appropriate and implement actions identified in the Urban Agriculture Strategy to make locally grown fresh food readily available to the general public.

Prepared by:	W.J. Charles Parker, MA Senior Planner – Planning Policy
Submitted by:	Gregg Barrett, AICP Manager, Long Range Planning and Sustainability
Recommended by:	John M. Fleming, MCIP, RPP Managing Director, City Planning and City Planner
Note: The opinions contained herein are offered by a person or persons qualified to provide expert opinion. Further detail with respect to qualifications can be obtained from Planning Services	

November 11, 2019

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Appendix A

Bill No.(number to be inserted by Clerk's Office)
2019

By-law No. Z.-1-19_____

A by-law to amend By-law No. Z.-1 to add a new definition of Farm Gate Sales and add Farm Gate Sales as a permitted use in the Urban Reserve (UR) Zone.

WHEREAS the City of London has applied to make amendments to Zoning By-law Z-1 as set out below;

AND WHEREAS this rezoning conforms to the Official Plan;

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

- 1) Section 2 (Definitions) of Zoning By-law Z-1 is amended by adding the following new definition;

“Farm Gate Sales” means the use of land, buildings or structures for the purpose of selling agricultural products grown on the property to the general public. This small-scale farm market may or may not have structures in which to sell the products. For the purposes of this definition, Farm Gate Sales does not include a Farm Market or a Farm Food and Products Market.

- 2) Section 49.2 1) of the Urban Reserve (UR) Zone is amended by adding the following additional permitted use to the current range of permitted uses;

) UR1

_) Farm Gate Sales

The inclusion in this By-law of imperial measure along with metric measure is for the purpose of convenience only and the metric measure governs in case of any discrepancy between the two measures.

This By-law shall come into force and be deemed to come into force in accordance with Section 34 of the *Planning Act, R.S.O. 1990, c. P13*, either upon the date of the passage of this by-law or as otherwise provided by the said section.

PASSED in Open Council on November 26, 2019.

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – November 26, 2019
Second Reading – November 26, 2019
Third Reading – November 26, 2019

Appendix B – Public Engagement

Community Engagement

Public liaison: Notice of Application was also published in the *Public Notices and Bidding Opportunities* section of *The Londoner* on May 16, 2019 and posted on the City website on May 14, 2019.

As part of the public review process we met with the Urban Agriculture Working Committee on December 7, 2018, February 15, 2019 and September 17, 2019. That Committee was established to implement the Urban Agriculture Strategy at a “grass roots” level.

Other than comments from the Committee no other replies were received.

Nature of Liaison: Allow Farm Gate Retail Sales on Lands Not Zoned Agricultural.

The purpose and effect of this zoning change is to possibly add a new definition and/or add new permitted uses to various zones to allow the retail sale of urban agriculture products on non-agricultural lands. This is one of the initiatives identified in the Urban Agriculture Strategy adopted by Council in November 2017.

Responses: Two respondents requested further information.

Report to Planning and Environment Committee

To: Chair and Members
Planning & Environment Committee
From: George Kotsifas, P. Eng
Managing Director, Development & Compliance Services &
Chief Building Official
Subject: Bird-Friendly Development
Meeting on: November 18, 2019

Recommendation

That, on the recommendation of the Director, Development Services, the following actions be taken with respect to bird-friendly development and instituting a limited light period for the City of London:

- A. The proposed by-law attached hereto as Appendix “A” **BE INTRODUCED** at the Municipal Council meeting to be held on November 26, 2019 to amend By-law C.P.-1455-541, as amended, entitled the “Site Plan Control Area By-law” to add the following to Schedule 1:
- (a) Section 2
 - i) 2.1 Objectives – a new objective for bird-friendly design of a development site.
 - (b) Section 8
 - i) Section ‘8.1 Objectives - a new objective to read: “All lighting should be limited to, and directed towards, the area requiring illumination so as to reduce skyglow and light pollution and thereby promote bird-friendly development.”
 - ii) Section ‘8.2 Yard Lighting’ – adding a new requirement for full cut-off and have zero up light lighting
- B. The Civic Administration **BE DIRECTED** to further public consultation and provide for consideration future proposed Site Plan Control By-law Amendments to address other possible bird-friendly design criteria, including the possible use of visual markers on glass treated high-rise buildings for Council consideration.
- C. The Civic Administration **BE DIRECTED** to undertake a public awareness campaign on creating visual markers, treating glass, and muting the reflection of glass on buildings to ensure buildings are less dangerous for birds, and the promotion of a limited lit period coinciding with bird migrations in spring (approx. March to June) and fall (approx. August to November) migratory seasons, respectively.

Executive Summary

Summary of Request

This report provides an amendment to the Site Plan Control By-law Design Guidelines to include bird-friendly design criteria for high rise buildings.

The Purpose and the Effect of Recommended Action

The purpose and effect is to incorporate lighting design that will reduce the impact of London’s built environment on the migratory and resident bird populations, have further dialogue with the environmental advisory groups and development industry representatives regarding the possibility of incorporating bird-friendly design on high-rise buildings with glass treatment, and continue to work with the City’s Corporate Communications regarding a public awareness campaign on bird-friendly design and a limited lit period during the spring and fall migratory seasons.

Rationale of Recommended Action

1. The requested amendment has regard to a policy of The London Plan that promotes efforts to incorporate bird-friendly design of buildings and materials that minimize bird strikes on high-rise buildings.
2. The public has been consulted on the requirement for lighting design that will reduce the impact of London's built environment on the migratory and resident bird populations. There were no issues raised by the public specific to incorporating lighting requirements in the Site Plan Control By-law.
3. Further public consultation is proposed to be undertaken regarding the possible use of incorporating visual markers on glass treated high rise buildings.

Background and Analysis

1.0 Background

1.1 Council Resolution

On January 30, 2019 Municipal Council resolved that:

- (a) *the staff report dated January 21, 2019 entitled "Bird-Friendly Development" BE RECEIVED for information;*
- (b) *the Civic Administration BE DIRECTED to circulate the draft by-law appended to the staff report dated January 21, 2019 for review and comment on potential changes to the Site Plan Control By-law with respect to bird-friendly development; and,*
- (c) *The Civic Administration BE DIRECTED to report back on the possibility of instituting a limited lit period of high-rise buildings during an identified migratory bird season including any possible mechanism(s) for enforcement. (2019-T01) (2.2/3/PEC)*

This report is in response to the council directive to circulate the draft by-law for review and comments on a potential Site Plan Control By-law amendment to address bird-friendly Development guidelines. The purpose of this report is to present the findings and discussions on the proposed changes to the Site Plan Control By-law and revised amendment.

1.2 Bird-Friendly Design

Bird-friendly design is an opportunity for the City of London to expand on its environmental and ecological commitments and ensure that the built environment is minimizing its impact on local fauna. Bird-friendly design is intended to achieve an approach to lighting and glass façade design which reduces the light pollution that interrupts birds' natural movement patterns and impacts bird strike probable situations, respectively.

1.3 External Circulation

Operational practices by Development Services staff included discussions with the development industry, as well as members of the public. Members of the public were concerned with the effect of skyglow and design causing bird collisions, calling for stricter measures in eliminating unnecessary lighting, addressing health concerns, and ensuring that buildings were designed to minimize impact (see Appendix B - Responses to External Circulation).

The development industry communicated that they are supportive of Council's direction to ensure that future buildings meet a reasonable bird-friendly standard for our community. They requested that a standardized set of design criteria be identified in the Site Plan Control By-law changes to ensure that if guidelines were met, the Site Plan

process would remain a time-sensitive process (see Appendix B – Responses to External Circulation).

Both the development industry and public concerns raised were in combination with the information provided by Advisory Committees. In response to the comments received, Staff is striking a working group to determine a best practices approach to bird-friendly requirements beyond improved lighting design. The working group will be considering the use of visual markers in the design of high-rise buildings with glass treatment, for example.

2.0 Existing Policy and Regulatory Framework

2.1 The London Plan Policy

Policies are already in place that provide direction to reduce light pollution and prevent bird strikes. Within The London Plan, Key Direction No. 4 to Become One of the Greenest City's in Canada includes Policy 58_6 reads: "*Reduce our human impact on the environment*". Further, the City Design chapter directs building design and materials be chosen to reduce the potential for bird strikes. Specifically, Policy *304 reads: "*Efforts should be made to design buildings and use materials that minimize bird strikes on high-rise buildings.*" This policy supports efforts to ensure bird-friendly development through the site plan process. The Green and Healthy City chapter of The London Plan promotes dark skies through Policy 745 which reads: "*We will support initiatives to reduce glare, light trespass, and skyglow to promote energy conservation, reduce impacts on wildlife, and support healthy neighbourhoods.*" The above policy references provide the policy support for initiatives to reduce, or prevent light pollution and address bird strikes through the site design and development process.

2.2 Site Plan Design Manual

Lighting, a primary concern in bird-friendly design, is currently addressed through the site plan process. Although portions of the Site Plan Design Manual speak to various aspects of lighting for pedestrian safety, transit access and fire routes, Section 8 speaks specifically to the provision of facilities for lighting, including floodlighting. Section 8 "Facilities for Lighting, Including Floodlighting," of the Site Plan Design Manual is available in its entirety in Appendix A.

Section 8 identifies the objectives for lighting facilities — specifically, objective (U) directs that illumination of a site be designed to "reduce or eliminate the potential of any adverse effect of artificial light such as: glare, light trespass, light clutter, energy waste." Section 8 continues, directing that:

The type, location, height, intensity and direction of lighting shall ensure that glare or light is not cast onto adjacent residential properties or natural areas adversely affecting living environment, or onto adjacent public streets which would pose a vehicular safety hazard. Moreover, energy conservation measures must be considered to ensure that the site is not illuminated more than it need be. In some cases, the extent of lighting may be required to be reduced after normal business hours.

This regulation provides the framework for requiring lighting design that does not result in adverse impacts from lighting including spillage and wastage. There is an opportunity to further identify bird-friendly development as an objective in this portion of the Site Plan Design Manual.

Section 8 of the Site Plan Design Manual also provides specific requirements for lighting. Section 8.2 (b) Height, limits the maximum height of all yard lighting fixtures to 15m (50 ft.) for non-residential uses and 6m (20 ft.) for multi-family residential uses. Limiting the height of fixtures is part of ensuring that lighting provided is directed solely to those locations where it is required, thereby preventing light pollution. As applicable, the Site Plan Design Manual 8.2 (d) allows staff to require a Light Study where "a qualified engineer will prepare and provide a report demonstrating how the lighting is

contained on the site and that the selection/style of light will not create glare and/or broadcast light onto adjacent properties or roadways, by the adjustment of refractors and/or the placement of Shields.” To ensure bird-friendly development, this tool can be used for larger developments which have the potential for significant light pollution.

Section 8.3 of the Site Plan Design Manual provides a definition for “Fascia Lighting and Floodlighting of Building” that allow staff to provide direction on its applicability and prevent or control its use as necessary to reduce light pollution and prevent bird strikes. As an example, it would be anticipated that fascia lighting and floodlighting would not be supportable for glass buildings where the glare produces light pollution and creates conditions which amplify the probability of bird strikes. The diagrams associated with Section 8, available in Appendix A, provide exemplars of proper lighting design, which re-iterate and clarify that lighting should not illuminate adjacent properties and that the lighting system should be designed to broadcast light downward so as to reduce glare and light pollution.

It is worthy of note that the provision of lighting, including orientation and intensity, is controlled in the final development agreement required to allow for development. The standard lighting facilities clause of the template development agreement reads:

16. Lighting Facilities: All lighting of the site shall be oriented and its intensity controlled so as to prevent glare on adjacent roadways and residential properties to the satisfaction of the Managing Director.

Enforcement of this clause, including modifications where necessary to address identified light pollution impacts, will ensure that the policy goals related to dark skies and bird strikes are met in any finalized and approved development. The existing standard language already speaks to orientation and intensities that provide safety for pedestrians without resulting in glare or other light pollution through improper lighting facilities design.

3.0 Implementing a Bird-Friendly Approach

3.1 Site Plan Control Bylaw Proposed Amendments

The ability of the Site Plan approval process to implement bird-friendly design criteria makes it the favourable tool for meeting the City’s environmental commitments. The proposed amendments to the Site Plan Control By-law set out the objectives of bird-friendly design generally and bird-friendly lighting specifically. The specific regulations for lighting relate to the elimination of skyglow through the use of full cut-off/zero up light lighting.

3.2 Circulation in the Site Plan Process

The circulation of site plan applications provides the mechanism to ensure that developments meet all applicable regulatory and policy requirements. Development Services staff presently lack the specific training to ensure buildings can be considered ‘bird-friendly’ but can rely on other professional staff and advisory groups to provide the ecological expertise to identify bird-friendly development. The site plan circulation process will ensure site-specific approaches required to reduce bird strikes and light pollution are provided to the site plan staff to implement bird-friendly development standards comprehensively across all applications. The final criteria for the circulation process in terms of who is circulated on which applications will be refined along with the standards under review/development by the working group. The circulation approach taken will reflect the expertise necessary on a given file to ensure bird-friendly standards are met. In the interim the lighting standards proposed can be reviewed through the existing photometric requirements by Site Plan staff.

3.3 Effectiveness of Visual Markers and Glass Alterations

Glass design is one of the main factors in increasing or reducing bird collisions in cities. The reflective or transparent nature of glass creates dangerous flying visuals for birds, who struggle from differentiating the windows from the natural space around them. By determining and enforcing proper glass design standards, the windows can be designed to prevent bird-building collisions. It is these standards in which site plan development has the opportunity to ensure that London's built environment continues to promote a healthy ecological system.

A number of visual markers have been identified as potential glass design elements that can reduce bird strikes. Potential glass design elements include:

- UV Glass
- Patterned or 'fritted' glass
- Film Products and Decals
- Decorative Grilles and Louvres
- Fenestration Patterns

Regulations in other jurisdictions have implemented standards around these various markers; however, through consultation with ecological experts on bird collisions, it has become clear that some of the visual markers may be less effective or even potentially ineffective.

In order to ensure that the regulations ultimately approved are able to achieve bird-friendly glass design, staff have struck a working group. The working group consists of members with ecological backgrounds specializing in bird strikes, the development industry, including local architects, and staff. The aim is to return with regulations that are enforceable by staff, implementable by the industry, and ecologically sound in accordance with the most recent research.

3.4 Migratory Bird Season

In response to Council's direction on the possibility of instituting a limited lit period of high-rise buildings during an identified migratory bird season, the City's Ecologist has advised that there is no distinct season for bird migration in the London area. A review of bird migration would require a detailed investigation on a species by species basis. However, it is proposed that the City of London apply the City of Toronto's model for the migratory spring and fall seasons (March to June and August to November), with minor adjustments to recognize the geographic separation distance between London to Toronto. Bird-Friendly lighting can be addressed as a year-round goal, however the information campaign for existing buildings will target the approximated migratory season.

3.5 Awareness Campaign – Existing Buildings not Subject to Site Plan

Development Services has engaged with the City's Communications group to establish a Corporate-wide awareness campaign that includes the creation of an information brochure and website. This will allow for Bird-Friendly and dark-sky education to go beyond the scope of this bylaw and address existing buildings that are not subject to Site Plan Control, and incorporate other departments in public engagement initiatives within the City. The approximate migration timeframe of March to the beginning of June and mid-August to the beginning of November, is to be used as a period to launch and focus the awareness campaign.

A "soft launch" of the awareness campaign is targeted for the Lifestyle Home Show of London Homebuilders' Association from January 31 to February 2, 2020 and will continue up to Earth Day events scheduled on Wednesday, April 22, 2020. Bird-friendly initiatives as part of the City of London's Earth Day is important as it demonstrates environmental awareness and promotion of harmony between built form and birds.

4.0 Additional Considerations

On July 30, 2019 Council passed the implementation of program guidelines for a Downtown Façade Uplighting Grant Program. This incentive program is contained within the existing Façade Improvement Loan program provided by the City of London through the Downtown Community Improvement Plan. The purpose of this grant is to create excitement and vibrancy in the downtown through the use of innovative lighting techniques to illuminate building façade details, which will add vibrancy during the evening hours and winter months. Development Services will work with City Planning to ensure that lighting is limited to the architectural features of buildings and is designed to shield any light from projecting into the sky, through the use of angled lighting or shields.

5.0 Conclusion

Policy support exists within The London Plan to promote dark skies and reduce bird strikes through effective lighting design standards. The scenario-based site plan circulation process (identified in this report) can be used to ensure that professional staff and advisory committee comments on bird-friendly design are implemented through the site development process.

Bird-friendly development can be achieved through the recommended amendments to the Site Plan Control By-law. The recommended changes will ensure that standards are applied that promote bird-friendly development on all sites. This is in accordance with existing objectives which seeks the elimination of unnecessary and/or adverse lighting indicated in this report.

Further public consultation regarding other possible design considerations for high-rise buildings will be explored, and a public education awareness campaign will be undertaken in advance of the spring 2020 migratory season.

Special acknowledgements are due to Marcello Vecchio, Integrate Land Use Technologist for his vital contribution in preparing this report.

Prepared by:	Leif Maitland, Site Development Planner
Recommended by:	Paul Yeoman, RPP, PLE Director, Development Services
Submitted by:	George Kotsifas, P.ENG Managing Director, Development and Compliance Services and Chief Building Official
<p>Note: The opinions contained herein are offered by a person or persons qualified to provide expert opinion. Further detail with respect to qualifications can be obtained from Development Services.</p>	

MV/LM

Cc: Environment and Ecological Planning Advisory Committee (EEPAC)
Advisory Committee on the Environment (ACE)
Animal Welfare Advisory Committee (AWAC)
Michael Wallace, London Development Institute
Lois Langdon, London Home Builders' Association
Walter Derhak, London Society of Architects
Dana Wachter, Communications Specialist, Corporate Communications
Gregg Barrett, Manager, Long Range Planning and Sustainability, City Planning

Appendix A – Amendment to the Site Plan Control By-law

Bill No.
2019

By-law No. C.P.-1455()-____

A by-law to amend By-law C.P.-1455-541, as amended, entitled “Site Plan Control Area Bylaw”.

WHEREAS Section 41(3) of the *Planning Act*, R.S.O. 1990, provides that, where in an Official Plan an area is shown or described as a proposed site plan control area, the council of the local municipality may designate a site plan control area;

AND WHEREAS Section 41(7) of the *Planning Act*, R.S.O. 1990 provides that a municipality may require the owner of land to provide to the satisfaction of and at no expense to the municipality facilities for the lighting, including floodlighting, of the land or of any buildings or structures thereon;

AND WHEREAS Municipal Council of The Corporation of the City of London passed Bylaw C.P.-1455-541 on June 26, 2006 being a by-law to designate a Site Plan Control Area and to delegate Council’s power under Section 41 of the *Planning Act*, R.S.O. 1990 c. P.13;

AND WHEREAS it is deemed expedient to amend the said By-law;

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

1. By-law C.P.-1455-541, as amended, is hereby further amended as follows:

i) Section 2 of Schedule 1 to By-law No. C.P.-1455-541 is amended by adding to 2.1 Objectives - a new objective to read:

d) To provide bird-friendly design of a site for:

(i) conservation of resident and migratory bird species

(ii) reduced mortality from bird-building collisions

(iii) reduced negative impacts on natural heritage

iii) Section 8 is amended by adding to ‘8.1 Objectives- a new sentence at the end of the concluding paragraph to read:

“All lighting should be limited to, and directed towards, the area requiring illumination so as to reduce skyglow and light pollution and thereby promote bird-friendly development.”

iv) Section 8 is amended by adding to ‘8.2 Yard Lighting’ as a new requirement to read:

(e) Elimination of Skyglow – So as to reduce skyglow, light pollution and related bird fatalities, all light fixtures to be provided are to be full cut-off and have zero up light.

PASSED in Open Council on November 26, 2019

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading - November 26, 2019
Second Reading - November 26, 2019
Third Reading – November 26, 2019

Appendix B – Responses to External Circulation

On Apr 7, 2019, at 8:39 AM, Beth Osuch wrote:

7 April 2019

Dear London Community Leaders,

I would like to bring to your attention the recent article (url below) in the lay press that has immediate relevance to London and the surrounding areas.

<https://www.nationalgeographic.com/science/2019/04/nights-are-getting-brighter-earth-paying-the-price-light-pollution-dark-skies/>

As someone living in Middlesex Centre, between Hyde Park and Ilderton on Eight Mile Road I have noticed that, as London has expanded rapidly in the last 5-7 years, there has been an increasingly bright blue glow over the city at night. The causes are obvious as lights over empty parking lots stay on all night, long after the close of business hours. The traffic circle at Sunningdale and Wonderland Roads is visible in the night sky from kilometers away. These are just 2 small instances of excessive lighting from the expansion of the city. While I used to be able to go out of my house at night and enjoy the stars, there is now a constant glow of the city that obstructs the night sky and appears as if there is a continuous sunrise to the south. As mentioned in the article, there is growing evidence that this is disruptive both to humans and to the wildlife around us.

The awareness of this problem and the evident solutions place London in an exciting and important position to help lead the way in creating a more human- and wildlife-friendly community. I would like to see the lighting of old – and certainly any new developments in London – equipped with the softer, yellower lighting options that are referred to in this article. I would like to see unnecessary lighting, such in as empty parking lots of closed businesses, reduced or eliminated. This is an opportunity for London to demonstrate a genuine interest in the long-term health and wellbeing of all the inhabitants of our communities and surrounding regions, human and otherwise. It would create an example to our children of simple and cost-effective ways to improve the environment and minimize the negative consequences of our technological advances. With these simple steps London could be a shining example (pun intended) of environmental awareness and improvement. With growing recognition of the environmental challenges caused by human advances I would like to see London take a lead in reducing these harms and set a high standard for our communities.

Thank you for your kind attention to this matter.

Sincerely,
Elizabeth Osuch



LONDON DEVELOPMENT
INSTITUTE

April 16, 2019

Leif Maitland
Development Services
City of London

File: Bird-Friendly Development

Dear Leif

Thank you for accepting London Development Institute's (LDI) comments regarding the proposed amendments to the Site Plan Control By-law and the Site Plan Design Manual relating to future bird-friendly development within the City of London.

In general, LDI is supportive. We recognize Council's desire to have future building development meet a reasonable bird-friendly standard for our community.

We do have a few comments and suggestions that LDI believes can improve the recommended changes to the proposed changes to the By-law.

The circulation of Site Plan applications during the approval process, we believe, can be improved. These changes will support City staff and Council Advisory Committees in their performance of their important role and allow for a timely and effective approval process.

It is our suggestion that clear bird-friendly design requirements be included in the Site Plan Design Manual for standards and designs. It is only reasonable, that if the application meets these standards, that the application does not need to be circulated to any of the applicable Advisory Committees of Council.

If the application does NOT meet the standard in the Site Plan Design Manual the submission could be circulated to the appropriate committee. We do not believe it is fair and reasonable that a Site Plan submission, that meets the standards, be delayed up to 30 days due to Advisory Committee circulation requirements.

We want Council's Advisory committees to be engaged in substantive issues and reviewing a design that has already been approved does not add value to the volunteer time of the citizens on the Advisory Committee.

In addition, we believe that the same criteria for circulation should also apply to the City Ecologist. The Ecologist currently reviews all Site Plan applications that impact Natural Heritage areas and we understand this will continue with the addition of bird-friendly design included in the Site Plan Design Manual.

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LONDON DEVELOPMENT
INSTITUTE

LDI does believe that if bird-friendly glass and lighting are standardized within the Site Plan Design Manual, it would be redundant to have the Ecologist circulated on the application for buildings over 6 storeys. If the standard is met in a non-Natural Heritage area there is no need to use up valuable staff time reviewing Site Plan applications that have already incorporated the Council approved standards.

Finally, the issue of reflective material for non-residential use is mentioned several times within the report as to trigger the circulation of a Site Plan submission for approval to both Advisory Committees and the City Ecologist. A definition and/or guidelines of reflective material needs to be added to the Site Plan Design Manual which would allow a Site Plan submission to proceed without the need for circulation if the reflective material being proposed meets the definition or criteria.

One additional item, LDI is assuming that the current four street light standards that do not require photometric review will meet the new bird-friendly standard.

Thank you for your consideration

A handwritten signature in blue ink, appearing to read 'Mike Wallace', is written over a light blue background.

Mike Wallace
Executive Director
London Development Institute

CC Mayor Holder and Council

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From: Brendon Samuels
Sent: Thursday, April 18, 2019 9:01 AM
To: McNeely, Heather
Subject: Comments on bird-friendly development

Dear Ms McNeely,

I am a graduate student at Western University who studies bird-window collisions. I have also recently submitted an application to join the Environmental and Ecological Planning Advisory Committee for the city of London. It was suggested that I should contact you directly to provide feedback on the bird-friendly development report that was recently circulated and opened for comments.

First off, let me just start by saying I am so thrilled that London is stepping up to do something about this issue. I have received tremendous support from the community with respect to my own research on bird-window collisions, and so I am confident that this bird-friendly development will serve the public's best interests.

I recognize that most of the report is targeted towards reducing the impacts of artificial lighting at night. In fact many collisions do happen at night, and so mitigating the effects of artificial light is important, but it is thought that even more collisions happen during the daytime. For this reason most of my comments are in regards to the reports' mention of daytime collisions.

The following items are recommendations for improving the wording of the report:

- On page 1, recommendation c) mentions "*any possible mechanism(s) for enforcement*". While I do think thought should be paid to enforcing this bylaw, I also think that it is simple to institute incentives for building operators to voluntarily partake in the program. For example, the city could provide a "bird-friendly" endorsement in the form of a certificate or window sticker to buildings that maintain compliance, which could be displayed on the premises. This way the building operators can feel positive about advertising that they are doing their part to prevent harm to wildlife.
- Section 1.2 mentions "*Birds strike windows and die from the impact or from the subsequent fall while attempting to fly towards perceived vegetation reflected in a glass window pane or to the perceived vegetated space on the other side of clear glass.*" Although this statement is partly true, it does not encompass all of the possible contexts in which window collisions may occur and is therefore misleading. For example, window collisions may also happen in winter months when there is little to no vegetation outside; collisions may happen in places which lack vegetation entirely, and daytime collisions may occur several stories up where sky, rather than vegetation, is reflected by glass. I suggest modifying the wording here to clarify that proximity of highly reflective glass to vegetation / greenspace may increase the risk of bird-window collisions rather than stating this in absolute terms.
- In section 3.2 it says "*Site Development Planning staff presently lack the specific training to ensure buildings can be considered 'Bird-Friendly' but can rely on other professional staff and advisory groups to provide the ecological expertise to direct bird-friendly development.*" If you or any of the committees or advisory groups would like more information on what bird-friendly criteria to use in reviewing future development proposals I can put you in touch with representatives from FLAP (Fatal Light Awareness Program) based in Toronto who offer a consulting service on identifying risk factors for window collisions. Many of these are outlined in the standards provided on their website.
- Section 3.2 further mentions "*proposed non-residential development utilizing reflective material.*" I would be curious to learn what the specific criteria are for defining a material as "reflective" in this case. Perhaps more technical information about the specific types of glass is needed.
- Section 3.7 states: "*Developments with primarily glass facades will expect that comments received at the site plan approval stage will direct the applicant to provide glass treatments that prevent bird strikes.*" I think this wording is vague in several respects. What is considered "primarily" glass facades? For instance, a building could have large, high-risk windows but be primarily constituted of brick. I think this should be defined in terms of total surface coverage of the building's exterior that is comprised of reflective glass. Secondly, what glass treatments would be recommended here? This should be more explicit, since there are a variety of commercially available glass treatments that have been shown to be largely ineffective. This does not make clear the specific requirements for treating glass properly to reduce collisions, such as applying the treatment to the exterior of the window, or covering the appropriate proportion of the surface, or how many stories/floors of the development will need to be treated.

- Lastly, although it may fall outside the scope of this document, I would hope that in the future London will consider recommending that existing glass facades that pose risks to wild birds (separate from new development) be retrofitted with glass treatments. There are already a lot of problematic glass buildings in London that can and should be addressed.

Please contact me if you have any questions about these comments.

Thank you,

Brendon Samuels

PhD Student, Biology

The Advanced Facility for Avian Research

The University of Western Ontario

Good morning,

Following PEC support for the working group on bird-friendly development yesterday evening I am looking to schedule a first working group meeting.

The inaugural date is **December 3 from 10:00-12:00**, location City Hall – Development Services, 6th Floor.

A second date of **December 16 from 2:00-4:00** should also be blocked off for a second meeting.

We are looking for confirmation on attendance from one identified member of each committee (EEPAC, AWAC and ACE), or if they are unavailable on that date an identified designate.

If I could have the committee secretaries, share this with the relevant committees ASAP and have the designates contact me that would be appreciated. An agenda will follow for the designates identified.

Sandy and Brendon – I've copied you two as we have discussed this with you previously.

For all other questions or concerns please direct them to me in the interim.

Regards,



Leif Maitland
Site Development Planner
Development Services
City of London

300 Dufferin Ave, PO Box 5035, London, ON N6A 4L9
6th Floor – City Hall | 519.661.2489 x 1517
lmaitlan@london.ca | london.ca

Strategic Priorities and Policy Committee

To: Chair and Members
Strategic Priorities and Policy Committee

From: John M. Fleming, Managing Director, City Planning and City Planner,
and
Kelly Scherr, Managing Director, Environmental and Engineering Services and City Engineer

Subject: Climate Change Emergency - Update

Meeting on: November 25, 2019

Recommendation

That, on the recommendation of the Managing Director, City Planner and the Managing Director, Environmental and Engineering Services and City Engineer, the attached report **BE RECEIVED** and the following actions **BE TAKEN** with respect to the City's Climate Emergency Declaration and the next steps to further reduce energy use and increase climate change mitigation and adaptation actions during the next twelve months:

- a) Staff **BE DIRECTED** to undertake the following immediate actions:
- i. Establish a City-wide target for London to achieve net zero community greenhouse gas (GHG) emissions by the year 2050.
 - ii. Consistent with the direction of Council's recently adopted Corporate Energy Conservation & Demand Management (CDM) Plan, pursue opportunities to achieve Corporate net zero GHG emissions prior to 2050 with the goal of demonstrating municipal commitment and leadership to Climate Emergency mitigation.
 - iii. Establish an internal team, inclusive of representatives from all service areas, to be champions for climate emergency actions within their service area and to help implement climate emergency initiatives.
 - iv. All Service Areas to identify immediate opportunities that can be implemented within existing resources using existing and new tools; deliver an educational program to all service areas to assist them with understanding the climate emergency and possible actions to address it.
 - v. Launch the process to develop a new Climate Emergency Action Plan (CEAP) and incorporate the Community Energy Action Plan into this process.
 - vi. Develop an interim screening Climate Emergency Evaluation Tool (CEET).
 - vii. Create a new Climate Emergency area on the City's web site, providing better communication to Londoners on the climate emergency, its implications and how they can assist.
 - viii. Advocate, as a municipal leader in Canada, for climate emergency action at the provincial and federal government level.
 - ix. Advance those actions and strategies identified in Council's strategic plan that will address the Climate Emergency through existing budgets.
- b) Staff **BE DIRECTED** to undertake the following actions within the next four months:
- i. Continue community and key stakeholder engagement on the CEAP process.

- ii. Complete an initial screen of current major transportation projects using the interim screening CEET.
 - iii. Complete and formalize a permanent screening CEET and administrative processes through expert review and London-focused risk evaluation.
 - iv. Include a standard section in all Standing Committee reports that addresses the Climate Emergency Declaration and, where appropriate, applies the screening CEET to the issues that are addressed in each report.
 - v. Seek out opportunities for new funding to support climate emergency initiatives.
- c) Staff **BE DIRECTED** to undertake the following actions within one year:
- i. Work with each Service Area to review all proposed major City projects and master plans (e.g., road widenings, facilities, parks and recreation facility upgrades, wastewater treatment, waste disposal, fleet) within the 10 year capital plan through the screening CEET and, where appropriate, recommend the modification of these projects;
 - ii. Work with each Service Area to review all major existing programs and projects through the screening CEET to determine what should be considered for elimination, what may be changed and what should be started in response to the climate emergency.
 - iii. Identify methods for advancing the urban forest strategy more quickly including exploring reforestation of under-utilized agricultural land within London and tree planting on a regional basis.
 - iv. Establish appropriate tools to encourage cool roofs, green roofs, and/or rooftop solar energy systems and other green infrastructure for private developments.
 - v. Work with relevant Service Areas to apply the screening CEET to review and make any required changes to address the climate emergency in the Design Specifications Manual, Site Plan Control Area By-law, Urban Design Guidelines, Tree Protection by-law, Purchasing By-law, all granting processes and other documents and processes that have an impact on the climate emergency, **IT BEING NOTED THAT** these assessments and amendments will be undertaken in priority, based on the magnitude of their potential impact on the climate emergency and **IT ALSO BEING NOTED THAT** the entirety of this process will be undertaken over a period that extends beyond the one-year timeline.
- d) Staff **BE DIRECTED** to complete the Climate Emergency Action Plan within one year, to include but not be limited to, the following components:
- i. A clear city-wide net zero community GHG emissions target (no later than 2050, but with the intent of establishing a path to net zero GHG emissions prior to 2050).
 - ii. A clear Corporate net zero GHG emissions target (no later than 2050, but with the intent of establishing a path to net zero GHG emissions prior to 2050).
 - iii. A clear strategy and specific actions to achieve the targets established in (i) and (ii), above.
 - iv. A strategic approach and specific tools for communicating the climate emergency.
 - v. Elevate discussions with developers, homebuilders and contractors regarding design and construction techniques to reduce lifecycle GHG emission impacts.

- vi. Explore opportunities for utilizing GHG offsets and establish policy for when this is appropriate.

IT BEING NOTED THAT:

- i. The City's Strategic Plan contains reference to more than 30 specific actions and strategies dealing with climate change;
- ii. The multi-year budget process contains numerous programs and projects in the base budget that address climate change mitigation and adaptation including the need to increase actions in this area of importance; and
- iii. Several Business Cases designed to increase actions that address climate change mitigation and adaptation have been submitted for multi-year budget deliberations.

Executive Summary

The changing climate is a problem that is both impacting all communities around the world and caused by the actions of all communities around the world. The shared resource of our atmosphere has lacked the stewardship required to ensure that future generations will be afforded the same benefits of ecological services, resource productivity and physical safety that we take for granted today.

London's direct impacts from climate change (severe weather damages including those from flooding, high winds, freezing rain and extreme temperatures; increase in vector-borne diseases like Lyme disease and West Nile virus; increasing cost and decreased availability of consumer goods; increased energy costs; loss of biodiversity; to name only a subset) affect or will affect all means of life and economic prosperity. These impacts will only get worse if strong collective actions to curb GHG emissions and adapt to the changes already occurring are not taken immediately.

In order to most efficiently and effectively respond to the climate emergency, existing programs and plans, community and industry partnerships and ground-level actions to address the impacts of climate change on our City need to be coordinated.

The time to act is now. The recommendations put forth in this report represent a clear strategy to implement a shift in the way we evaluate our work and a reorientation of our priorities to better position the City of London for the future. As a leader among peers on the municipal response to the climate emergency, London will signal to the community, other municipalities, the province, and businesses that, through our actions, safety and prosperity of future generations is of paramount importance.

This report:

- Identifies the key immediate, next steps with respect to the need to further reduce energy use and increase climate change mitigation and adaptation actions and how this will be elevated as part of the City's Climate Emergency Declaration during the next 12 months (December 2019 to November 2020);
- Replaces the proposed community engagement process for the Community Energy Action Plan (Approved April 9, 2019) with an expanded process for a Climate Emergency Action Plan;
- Identifies a number of recent, tangible actions that have been/are being taken with respect to climate change by the City, by the community and by businesses; and
- Highlights the interrelationship between programs, projects and strategies of current and upcoming activities designed to reduce GHG emissions (thereby mitigating contributions to climate change) and adapt to future climate change/severe weather impacts.

Council's 2019-2023 Strategic Plan

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 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

Analysis

1.0 Background

1.1 Context

On April 23, 2019 Council Resolved:

- i) *the Civic Administration **BE REQUESTED** to report back on tangible actions that the municipality can undertake with respect to Climate Change at a future meeting of the appropriate Standing Committee;*
- ii) *the following Declaration of a Climate Emergency **BE APPROVED**:*

"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 the greening of the city's fleet 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.";*

- *it being noted that the above-noted Declaration is not intended to invoke the City of London's Emergency Response Plan or to interfere with the responsibilities and*

power delegated to the Mayor to declare or to terminate a local emergency under the Emergency Management and Civil Protection Act, 1990;

- *it being further noted that a climate emergency is distinct from the kinds of emergencies contemplated under the Emergency Management and Civil Protection Act, 1990, as it is a global emergency with impacts extending beyond London.*

2.0 What are the Implications for London?

At the end of 2018, the UN Secretary General, António Guterres, in regards to the climate emergency warned:

- *Humanity and life on Earth now face a 'direct existential threat'*
- *The world must act swiftly and robustly to keep global warming under 1.5°C and try to avoid utterly catastrophic impacts to life on Earth¹*

(See Appendix "B" What is a Climate Emergency?)

2.1 How will the Climate Crisis affect London, Directly?

The environmental, social and economic impacts of climate change vary by region around the world due to the complexity of the climate system and its interrelation to regional socio-economic realities. Down-scaled global climate models and recent empirical evidence indicate that London can expect direct physical changes to include warmer, wetter, weather with increased likelihood and intensity of severe weather events.

Middlesex-London has experienced a range of extreme weather events such as extreme heat events, intense precipitation events leading to flooding, snow squalls and ice storms. Climate change is expected to increase the number, intensity, spatial extent and duration of many extreme weather events including rain, hail, thunder and lightning, strong winds, and extreme heat events².

Extreme Heat and Cold

Communities experience increases in mortality when temperatures rise above 25-26°C. There is a correlation between humidex and emergency room visits and hospitalizations in Middlesex-London and that heat-stress related morbidity (hospitalizations or emergency room visits for heat-related illness) is positively correlated with increasing summer humidex values⁴. Extreme cold conditions due to the disruptions to the jet stream in the atmosphere (i.e. the Polar Vortex) can also pose significant health risks to Canadians. People exposed to extreme cold conditions who do not take preventative measures are at risk of windburn, frostbite, hypothermia and death².

Lyme and Vector Borne Diseases

As the warming trend continues, previously inhospitable regions in Canada are becoming more suitable for vectors that carry infectious diseases. In southwestern Ontario, vector-borne diseases of immediate concern, among others include West Nile virus (WNV), Eastern Equine Encephalitis (EEE) and Lyme disease.

Climate change results in a projected increase in the spread of tick populations that harbour Lyme disease northward into central and eastern Canada. These projections have been validated through surveillance and monitoring. The Lyme disease vector is spreading into Canada at a rate of approximately 35-55 kilometers per year. Human cases of Lyme disease are increasing with approximately 30 cases reported in 2007 to 315 in 2012. The spread of black-legged tick populations and resulting human risk of exposure to Lyme disease is projected to continue to increase over the next several decades due to climate change² (see Appendix B-2)

Insects carrying diseases will not be the only species affected by climate change that may impact London residents. The Government of Ontario has produced a detailed list of anticipated ecological impacts from climate change (see Appendix D-1), which includes significant alterations to numerous species' migration and breeding habits, availability of food sources, expanded northern habitat ranges and the

acknowledgement that some less adaptable species may even disappear from their current habitats. Many of the interactions with nature that Londoners enjoy (birding, hunting, fishing, etc.) are likely to be impacted.

Ecological Concerns Affecting London

Increase in insect and disease outbreaks such as emerald ash borer, gypsy moths and oak wilt, have seen an increase, which adds pressures to the City's natural heritage systems. Over 700,000 ash trees have been infected with the emerald ash borer. Oak wilt could have the same impact on oak trees as has been seen in the loss of ash trees in the City of London. The increased tree stresses effects forest growth and their overall ability to store carbon leading to a larger GHG foot print for London.

Warming and wetter weather affect sensitive species and their isolated habitats. The decrease in water quality and thermal pollution changes the way species interact with one another and their environment. The stresses on the natural system lead to loss of habitat and loss of vulnerable species.

Financial Costs to Londoners

In addition to the health and ecological impacts that London will likely experience from the physical changes with the changing climate, London residents will also be subjected to increased financial costs from more extreme weather events.

Natural catastrophes are on the rise in Canada³. Federal expenditure for natural catastrophes from 2009-2015 was greater than the previous 39 years combined. The greatest spending was on floods, which accounted for 75% of the expenditures. Following the 2013 floods in Toronto, the average insurable claim for flooding was \$40,000. Adapting to the Climate Emergency to mitigate flood damage is paramount in reducing future costs arising from natural catastrophes. (see Appendix B-2)

Climate change's socio-economic impacts are also already being felt in London and it is anticipated that they will only increase in severity. Goods and services already experiencing negative impacts attributable to climate change include home insurance premiums, transportation and home energy costs and the availability and cost of many imported goods (e.g. produce from California, wine from France, olive oil from Italy).

In addition to these recognized and documented impacts, there are several potential sources of impacts that could negatively affect the quality of life for Londoners and put significant pressure on the City's infrastructure and financial health:

- Increased international migration to London as a result of drought, disease and/or global political instability in areas hard-hit by climate change;
- Reduced regional water security (quantity, quality and pressures from the US); and,
- Ramifications to food systems and other ecosystem services due to biodiversity loss.

London is not isolated from the wide array of impacts from climate change and every source of GHG emissions is a contributor to the problem. It is important to also recognize that there will be a disproportionately large impact on equity-seeking groups who are less resilient to economic shocks.

3.0 What can London Do?

3.1 Background

There are two primary types of responses to address climate change:

- Mitigation: mitigating future impacts through reductions in emissions of GHGs such as carbon dioxide, methane, and nitrous oxides, primarily as a result of the use of fossil fuels (e.g., fuel for personal vehicles, natural gas for heating buildings); and

- Adaptation: adapting infrastructure, homes, buildings, landscapes, etc. to better withstand current and future impacts of more frequent severe weather events that are created from a climate that is “wetter, warmer, and wilder” (see Appendix C-3).

There are also actions that can be taken that provide both climate change mitigation and adaptation benefits, for example:

- “Smart grid” technologies can provide both emissions reductions as well as an emergency back-up source of power in the event of a major power outage;
- Green roofs retain and reduce stormwater runoff from buildings as well as reduce energy demand for air conditioning directly (on the building) and indirectly (by reducing the urban heat island effect); and
- Urban forests reduce energy demand for air conditioning directly (by shading buildings and forming wind breaks) and indirectly (from reducing the overall urban heat island effect) and help to retain and reduce stormwater runoff.

3.2 Our Foundation - Actions to Date

The City of London has been leading and/or collaborating on three major initiatives dealing with increasing energy efficiency, reducing greenhouse gas generation and addressing climate change for over 20 years. Recent activities and actions are summarized in these three areas of activities (detailed in Appendix C):

1. 2014-2018 Community Energy Action Plan (Appendix C-1)
2. 2014-2018 Corporate Energy Conservation and Demand Management Plan and the next 2019-2023 Corporate Energy Conservation and Demand Management Plan approved by Council on October 29, 2019 (Appendix C-2), and
3. Planning and designing for severe weather and climate change adaptation (Appendix C-3)

Appendix D summarizes the major activity areas from the provincial and federal governments.

The City of London “climate change team” includes participation from all services areas in the form of programs, projects or activities that contribute to reducing energy use which subsequently reduce GHG emissions. Public reporting has been led by the Environmental & Engineering Services Area and is done through the Community Energy Action Plan (annually) and the Corporate Energy Management Program (annually).

Recently, Council has strengthened the resources in Planning in order that greater emphasis is placed on resiliency and sustainability planning and policy development (e.g., climate change adaptation, green development, green infrastructure). This strengthening will not only benefit existing programs and projects but is crucial to the implementation of many areas of The London Plan, Council’s Strategic Plan and addresses moving forward with the City’s Climate Emergency Declaration.

The City’s “climate change team” is further strengthened with expertise and knowledge from London Hydro, Enbridge, London District Energy and large energy stakeholders such as Western University, London Health Sciences Centre, Green Economy London, and many others. Similarly, numerous community stakeholders provide expertise as individuals through organizations like London Environmental Network, Urban League of London, etc.

Finally, City staff have also worked with and continue to work with many external stakeholder groups on climate change mitigation and adaptation:

- City staff played a leadership role within Quality Urban Energy Systems of Tomorrow (QUEST) Canada, a leading organization for community energy planning. QUEST estimates that over 200 communities in Canada have community energy plans, and more than 400 communities (collectively represents more than 50 percent of Canada's population) working on community energy initiatives.
- The City of London, along with Western University, is a participant in the Community Energy Knowledge Action Partnership (CEKAP), a unique Canada-wide partnership of universities and municipalities studying the challenges of implementing community energy plans. In 2019, QUEST gave London a 77% score overall on ten key indicators on how municipal and utility processes, policies, programs, and projects in London compare to smart energy best practices across Canada, with London scoring above-average on eight out of ten indicators
- The City of London operates the London Waste to Resources Innovation Centre along with Western University and many local, regional and national businesses. The focus is on creating greater value from waste materials and reducing the environmental, social and financial impact of existing materials.
- In October 2019, the City of London was selected by the Federation of Canadian Municipalities (FCM) to participate in a Canada-wide network of 25 municipalities to peer review existing climate change work and collaborate on areas needing further work in order to implement best practices for climate change mitigation and adaptation
- City staff work with peers in Ontario municipalities on climate change mitigation and adaptation activities through participation in the Clean Air Partnership and Regional Public Works Commissioners of Ontario.
- Globally, the City of London is a participant in CDP Cities and the Global Covenant of Mayors for Climate & Energy. In 2019, CDP Cities gave the City of London an "A-, Leadership" score for local climate change mitigation activities and a "C, Awareness" score for climate adaptation activities.

3.3 Actions and Timelines

The remainder of this section is divided into three areas and is City staff's response to Council's request *"to report back on tangible actions that the municipality can undertake with respect to Climate Change at a future meeting of the appropriate Standing Committee."*

1. Actions to Take Immediately
2. Actions to Take in the Next Four Months
3. Actions to Take within One Year

1. Actions to Take Immediately

- Establish a City-wide target for London to achieve net zero community greenhouse gas (GHG) emissions by the year 2050.
- Consistent with the direction of Council's recently adopted Corporate Energy Conservation & Demand Management (CDM) Plan, pursue opportunities to achieve Corporate net zero GHG emissions prior to 2050 with the goal of demonstrating municipal commitment and leadership to Climate Emergency mitigation.
- All Service Areas to identify immediate, incremental actions that can be implemented with existing resources, and using existing and new tools and educational materials created by the City to work towards the City-wide target.
- Launch the process to develop a new Climate Emergency Action Plan (CEAP) and incorporate the upcoming engagement for the Community Energy Action Plan into this

process and ensure that the community understands that one comprehensive plan is being prepared.

- Develop an interim screening Climate Emergency Evaluation Tool (CEET). The interim screening tool will be structured around high-level questions regarding the potential impact to the community and corporation regarding climate change aspects such as reducing fossil fuel use, reducing stormwater generation, and improving resiliency to severe weather events and extreme heat events.
- Create a new Climate Emergency area on the City's web site, providing better communication to Londoners on the climate emergency, its implications and how they can assist. This new web site will build on the existing tools, details and processes at the City.
- Advocate, as a municipal leader in Canada, for climate emergency action at the provincial and federal government level.
- Advance those actions and strategies identified in Council's strategic plan that will address the Climate Emergency through existing budgets.

2. Actions to Take in the Next Four Months

- Continue community and key stakeholder engagement on the Climate Emergency Action Plan process, including participation in the FCM Showcase Cities Pilot Project.
- Complete and formalize a permanent screening CEET and administrative processes through expert review and London-focused risk evaluation.
- Include a standard section in all Standing Committee reports that addresses the Climate Emergency Declaration and, where appropriate, applies the screening CEET to the issues that are addressed in each report.
- Prioritize and expedite, active transportation and transit infrastructure and services with existing budget resources.
- Seek out opportunities for new funding to support climate emergency initiatives.

3. Actions to Take within One Year

- Work with each Service Area to review all proposed major City projects and master plans (e.g., road widenings, facilities, parks & recreation facility upgrades, wastewater treatment, waste disposal, fleet) within the 10 year capital plan through the screening CEET and, where appropriate, recommend the modification of these projects;
- Work with each Service Area to review all major existing programs and projects through the screening CEET to determine what should be considered for elimination, what may be changed and what should be started in response to the climate emergency.
- Identify methods for advancing the urban forest strategy more quickly including exploring reforestation of under-utilized agricultural land within London and tree planting on a regional basis.
- Establish appropriate tools to encourage cool roofs, green roofs, and/or rooftop solar energy systems and green infrastructure for private developments.
- Work with relevant Service Areas to apply the screening CEET to review, and make any required changes to address the climate emergency in the Design Specifications Manual, Site Plan Control Area By-law, Urban Design Guidelines, Tree Protection by-law, Purchasing By-law, all granting processes and other documents and processes that have an impact on the climate emergency, noting that:

- these assessments and amendments will be undertaken in priority, based on the magnitude of their potential impact on the climate emergency; and
- the entirety of this process will be undertaken over a period that extends beyond the one-year timeline.
- Complete and publish the new Climate Emergency Action Plan, which will include (but not be limited to) the following:
 - A clear city-wide net zero community GHG emissions target (as early as possible, but no later than 2050).
 - A clear Corporate net zero GHG emissions target (as early as possible, but no later than 2050).
 - A clear strategy and specific actions to achieve the community and corporate targets listed above.
 - A strategic approach and specific tools for communicating the climate emergency.
 - A strategy for climate change adaptation, with a focus on the impact of severe weather on London's built infrastructure including an updated flood forecasting and warning system.
- Elevate discussions with the development industry regarding design and construction techniques to reduce lifecycle GHG emission impacts as well as to reduce stormwater generation through low-impact development techniques.
- Explore opportunities for utilizing GHG offsets and establish policy for when this is appropriate.

3.4 Actions Being Taken While the CEAP is Developed

This report outlines how the City is exhibiting ownership and taking a leadership role on responding to the climate emergency. In addition to City actions, the following “Top Five Actions” were identified through the Community Energy Action Plan engagement process to be applicable for the majority of Londoners, London's businesses and employers, and senior levels of government for reducing fossil fuel use and GHG emissions, as well as adapting to climate change. These represent actions that can be and/or are being implemented now and will be supported by City-led actions within the new Climate Emergency Action Plan. It is imperative that existing actions and directions under way are not delayed while the new CEAP is being developed.

Londoners

- Drive less (or not at all) – make more trips by walking, cycling, transit, carpooling
- Reduce transportation impacts by switching to an electric vehicle, a hybrid vehicle, or a very fuel efficient one.
- Make your home more energy efficient and severe weather resilient– and work towards net-zero energy use and reduced stormwater runoff.
- Reduce food waste, especially for high-impact foods such as red meat and dairy.
- Go local – for food, for products, for vacations.

London's Businesses & Employers

- Invest in energy efficiency and low-impact development 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.

Strategic Areas of Focus	Strategy (Determines the action, method or plan to bring about the future desired state)
	<ul style="list-style-type: none"> • Update flood forecast and warning system to address a changing climate. • Build more infrastructure for walking and bicycling. • Continue to expand options and programs to increase mobility. • Develop a strategic plan for a future with connected and autonomous vehicles. • Support Londoners to access affordable public transit where they live and work. • Implement the London Transit Commission (LTC) 5 Year Specialized Service Plan. • Implement the LTC Ridership Growth Strategy. • Implement a rapid transit system to improve the reliability and capacity of existing transit service and support London Plan city building. • Implement the LTC 5 Year Conventional Service Plan. • Plant more trees to increase the city's tree canopy cover.
GROWING our Economy	<ul style="list-style-type: none"> • Expand opportunities and activities through the London Waste to Resources Innovation Centre. • Implement the Smart City Strategy. • Plan for High Speed Rail. • Undertake regional planning partnerships with neighbouring municipalities and promote regional connectivity.
LEADING in Public Service	<ul style="list-style-type: none"> • Measure and publicly report on corporate performance. • Increase access to information to support community decision making.

4.0 Conclusion

This report outlines the immediate and near-term actions to be undertaken by the City in response to the declaration of a climate emergency, and to demonstrate the City's leadership in responding to this declaration. The next steps begin immediately, will build upon existing and ongoing actions to understand, acknowledge and reduce the City's contribution to the climate emergency and improve the City's resilience to the changing climate.

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September, 2019
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Appendices

Appendix A- References.

Appendix B- Climate Emergency City Background.

Appendix B-1- What is a Climate Emergency City

Appendix B-2- Graphics

Appendix C-City of London Background Reports

Appendix C-1-Community Energy Action Plan (CEAP) - Examples of Actions Taken to Reduce Energy Use and Climate Change in London

Appendix C-2-Corporate Energy Management/Conservation Demand Management (CDM) Plan - Examples of Actions Taken by the City of London to Reduce Energy Use and Climate Change

Appendix C-3-Adapting to Severe Weather/Climate Change Adaptation - Examples of Actions Taken to Adapt to Climate Change in London

Appendix D-Senior Levels of Government

Appendix D-1-Overview of Provincial Government – Climate Change and Government of Ontario Ecological Concerns

Appendix D-2-Overview of Federal Government – Canada’s Action on Climate Change

Appendix A – References

1. United Nation's Secretary General Statement September 10, 2018
2. Assessment of Vulnerability to the Health Impacts of Climate Change in Middlesex-London Report Prepared for the Middlesex-London Health Unit, 2014
3. In the Insurance Bureau of Canada (IBC) Combatting Canada's Rising Flood Costs 2018
4. World Metrological Organization- The State of the Global Climate in 2018
5. IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.

Appendix B-1- What is a Climate Emergency

What is it?

This climate emergency is a call to action to combat and reduce greenhouse gas (GHG) emissions by 45% from 2010 levels by 2030 and to establish net zero GHG emissions by 2050 or sooner. Reduction in GHG emissions is required to slow and hopefully stop the rapid intensification of the greenhouse effect within our atmosphere and stabilize global temperatures to no more than 1.5°C above pre-industrial levels.

The average global temperature for 2015–2019 is on track to be the warmest of any equivalent period on record. It is currently estimated to be 1.1°Celsius ($\pm 0.1^\circ\text{C}$) above pre-industrial (1850–1900) times. Widespread and long-lasting heat waves, record-breaking fires and other devastating events such as tropical cyclones, floods and drought have had major impacts on socio-economic development and the environment⁴.

- United Nation’s World Meteorological Association, 2018

“Every extra bit of warming matters, especially since warming of 1.5°C or higher increases the risk associated with long-lasting or irreversible changes, such as the loss of some ecosystems,”⁵

- Intergovernmental Panel on Climate Change, 2018

In Canada, Federal and Provincial levels of government have established legislation and programs to reduce GHG emissions and increase sustainability and resiliency among communities. The climate emergency recognizes that upper levels of Government have established GHG targets and programs but they are not sufficient to stop the increases in GHG emissions worldwide or meet the targets as set out in the United Nations Paris Agreement.

According to the United Nations Intergovernmental Panel on Climate Change, the global warming of the last 50 years is, with over 95% probability, due to human activity¹.

What is causing it?

Exponential population and economic growth, but also the modern lifestyle of our globalised consumer society over recent decades have all continuously increased the emissions of CO₂ and other GHGs. The concentration of these GHGs in the earth's atmosphere is currently higher than at any time in the last 800,000 years.

The above-average rate of climate change that has been experienced since the 19th century is primarily due to the start of the industrial age and the associated demands for energy. The burning of coal, oil and gas resources that were naturally created over millions of years and stored in the earth’s crust released large quantities of GHGs directly into the atmosphere which, in turn, intensified the natural greenhouse effect of the atmosphere. The increase in the concentration of GHGs in the atmosphere and the resulting warming is a reflection of the inability of the planet’s natural systems to accommodate the rapid injection of historically sequestered carbon.

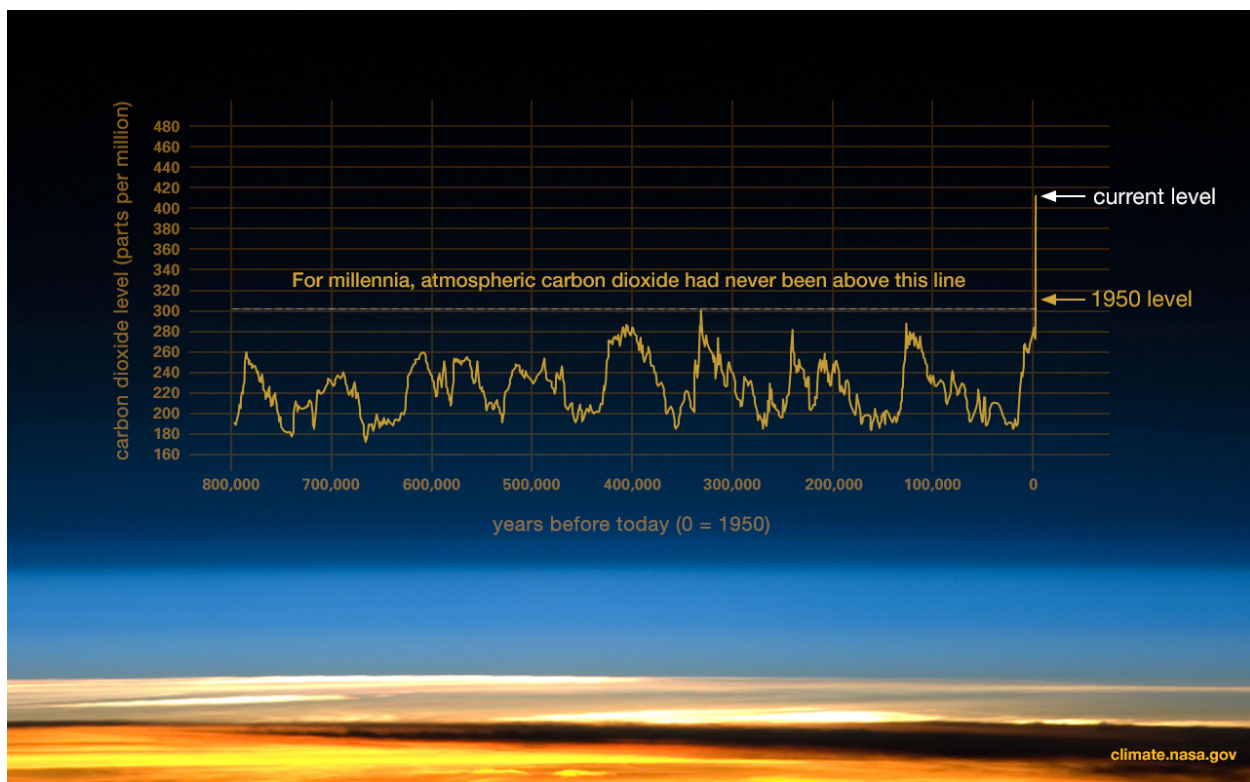


Figure 1 - Credit: Luthi, D., et al.. 2008; Etheridge, D.M., et al. 2010; Vostok ice core data/J.R. Petit et al.; NOAA Mauna Loa CO2 record.

What substantiates the emergency?

The Intergovernmental Panel on Climate Change (IPCC) is the UN body established to assess the science related to climate change and is widely regarded as the authority on the topic. The IPCC was established by the United Nations Environment Programme (UN Environment) and the World Meteorological Organization (WMO) in 1988 to provide policymakers with regular scientific assessments concerning climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation strategies.

The reports produced by the IPCC since its creation have provided the world with ever-increasing certainty that human activity is responsible for the current state of climate change. Furthermore, the IPCC has increasingly urged that world leaders take action to significantly reduce the rate of GHG emissions. The most recent IPCC reports, culminating from the sixth assessment cycle, include:

- “Global Warming of 1.5°C. An IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.”;
- “Climate Change and Land: an IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems” approved draft dated August 7, 2019; and,
- “The Ocean and Cryosphere in a Changing Climate” dated September 24, 2019.

Key findings across these most recent reports add to the large volume of scientific evidence already established that overwhelmingly supports the emergency status of the need to limit warming to 1.5°C or less.

With global actions centred around incremental improvements to our global GHG emissions only, limiting warming to 1.5°C or less is become less and less attainable.

“The 20 warmest years on record have been in the past 22 years. The degree of warming during the past four years has been exceptional, both on land and in the ocean.”

“Temperatures are only part of the story. Extreme and high impact weather affected many countries and millions of people, with devastating repercussions for economies and ecosystems in 2018,”

“Many of the extreme weather events are consistent with what we expect from a changing climate. This is a reality we need to face up to. Greenhouse gas emission reduction and climate adaptation measures should be a top global priority,”

- World Meteorological Organization, February 6, 2019

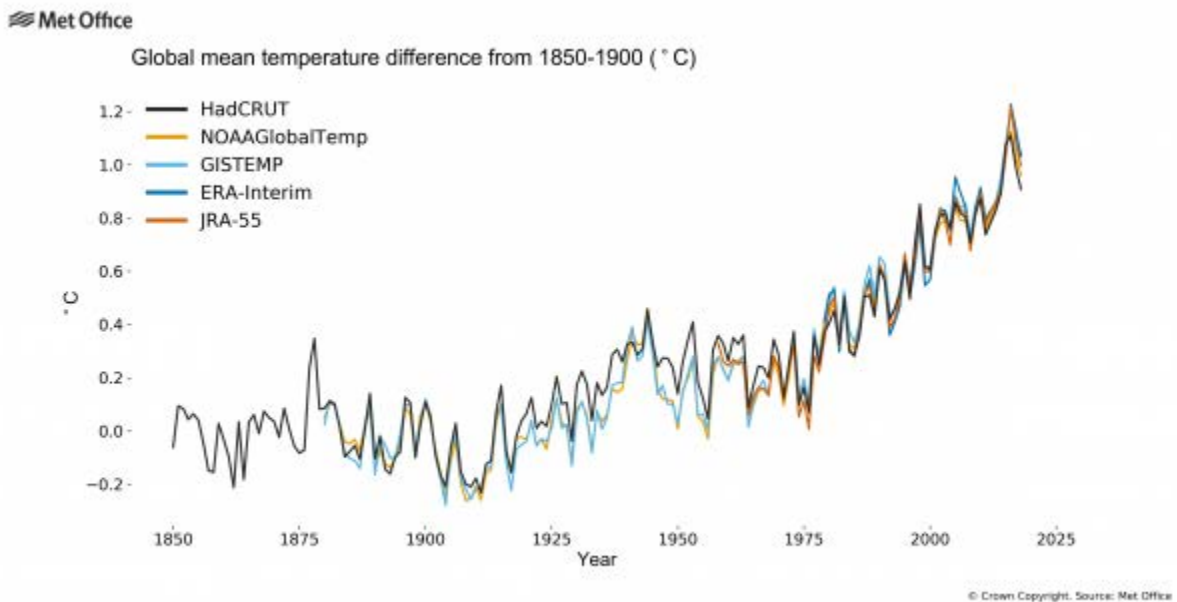


Figure 2- Source: WMO – Global temperature tracking datasets

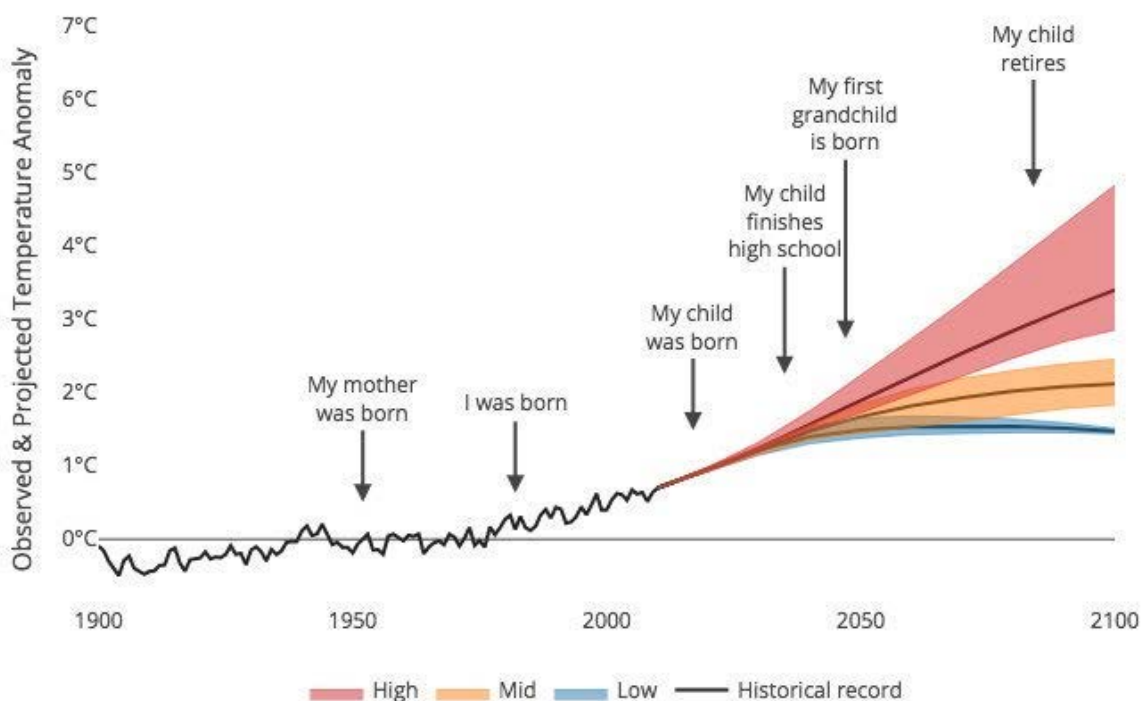


Figure 3-Source; Extinction Rebellion temperature futures based on emissions scenarios (high, mid, low)

What is the Critical Timeframe?

Carbon Budget

A carbon budget is a tool to understand the existing amount of GHG emissions currently in the atmosphere and the additional amount of GHGs that could be added and still

allow us to meet our goals. Because the world is already most of the way to 1.5°C of warming (approximately 1.04°C warmer than pre-industrial levels), the earth's carbon budget to limit global warming to a level of 1.5°C warmer is relatively small.

Based on the most recent Carbon Budget report (SR15) by the IPCC there is a 66% chance of avoiding 1.5°C warming if emissions are limited to 420 gigatonnes (Gt) of CO₂-equivalent GHGs – or 10 years of current emissions. Similarly, the budget for a 50/50 chance of exceeding 1.5°C is to 580 Gt CO₂-equivalent GHGs – 14 years of current emissions.

Overall, regardless of the IPCC projected Carbon Budget, to prevent the earth from warming more than 1.5°C above pre-industrial levels, GHG emissions must be reduced to net zero and drawing down of current GHGs must occur as soon as possible.

Known Unknowns

Significant tipping points exist in the earth's climate system and represent "known unknowns", which leading scientists highly suspect will have significant effects but the extent and severity of those effects and when they may occur are unknown. These tipping points include the melting of the earth's ice sheets on Greenland and Antarctica, the results of which would be sea level rise on the order of metres and disappearance of earth's polar "reflectors" of sunlight; destabilization of the vast expanses of permafrost in the northern hemisphere and subsequent release of immense amounts of methane, a GHG with global warming potential that is 25 to 28 times more potent than carbon dioxide; and, the slowing and/or reversal of established ocean currents that are key drivers of weather patterns globally. Any one of these tipping points may have the potential to initiate irreversible acceleration of the changes to our climate system and we cannot be sure of when these will occur, only that their occurrence will become more likely with continued warming.

Climate Action Around the World

The Climate Emergency Campaign officially started in the city of Darebin, Australia, whose city government passed the first declaration of climate emergency in December 2016. Hoboken New Jersey became the third city in the world and the first city in North America to declare a Climate Emergency in November, 2017. The City of London followed Vancouver, Halifax, Kingston and Kitchener in declaring a Climate Emergency.

In 2018, 196 Countries including Canada signed the Paris Accord. The intent of the accord is to keep the global temperature from rising 2°C above pre-industrial levels (and preferable not more than 1.5°C) by 2050. The Climate Emergency campaign seeks that GHGs peak by 2020 and be at net zero by 2050. Some experts within the climate science community argue that even these targets are not aggressive enough.

To achieve the recommended goals of the Paris Accord, local governments have adopted a climate emergency response. The climate emergency response is to acknowledge that the current targets as set by upper level governments are not sufficient to meet the recommendation of the Paris Accord. Climate Emergency Cities recognize the need for immediate action at a scale that is comparable to that of the actions taken to respond to global threats during World War II.

Considering the attention and prevalence of worldwide youth climate strikes, a lack of action to respond to the climate emergency also now harbours significant reputational risk for London's place on the regional, national and world stage.



Figure 4 - The Climate Strike, City of London, September 29, 2019

What can a single municipality do?

“Local governments in Canada have a significant role to play in minimizing the impacts of climate change on their population, economy, and fiscal budgets.”

— *Simon Fraser University Adaptation to Climate Change Team, 2015*

As the level of political leadership closest to citizens, municipalities have the unique opportunity to leverage that connection to affect real, on-the-ground change even in the absence of strong leadership from higher levels of government. As reported in London’s 2018 Community Energy and Greenhouse Gas Inventory, the municipal government has direct control over only approximately four percent of London’s community GHG emissions (i.e., methane emissions from the W12A landfill and fossil fuel use by municipal operations), but decisions made by City Council regarding land use and transportation have influence on an approximately 70 percent of London’s community GHG emissions. The decisions made at City Hall have a direct influence on the establishment of norms and expectations for Londoners related to both reducing GHG emissions and the City’s ability to adapt to the changing climate and increase resiliency for severe weather events.

Prioritization of mass transit over personal vehicle transportation, designing for a reduction in the average distance to amenities from residential neighbourhoods, walkability of civic streets, support for green and low-impact infrastructure development, social safety net and emergency response programs and mandatory assessment of large projects for their impacts with respect to climate change are only some of the ways a single municipality can make a difference.

Worldwide, there are increasingly bold examples of leadership from municipalities that demonstrate that a commitment to reducing GHG emissions and adapting to the consequences of climate change are both fiscally responsible and overwhelmingly

positive: A great example is Toronto's Don River wetland creation in the docklands (\$1.3B) which is anticipated to mitigate major flood impacts from future severe storms.



Figure 5 Global Covenant of Mayors-2017

Sources of Community GHG Emissions in London

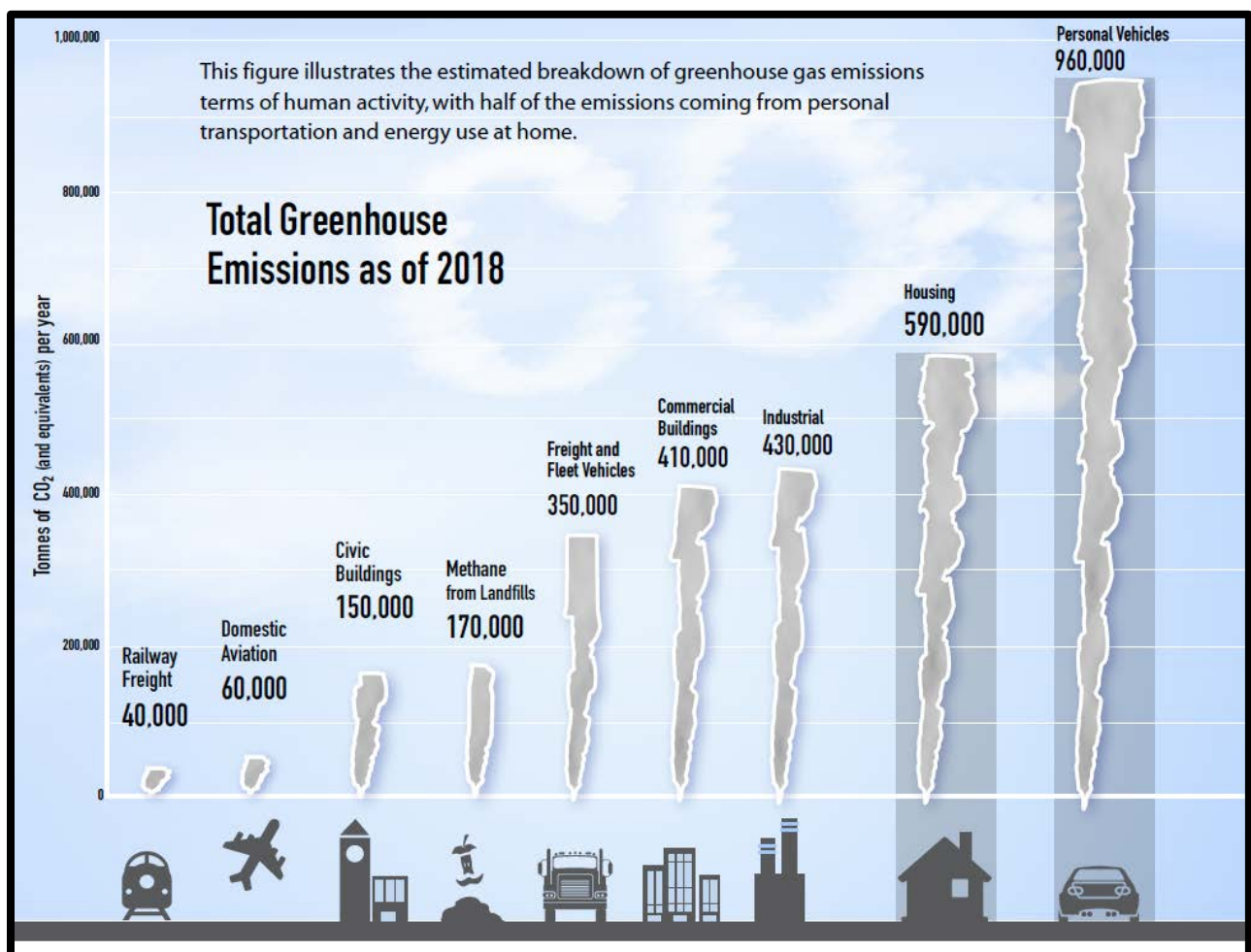


Figure 6-City of London greenhouse gas sources 2018

Appendix B-2- Graphics

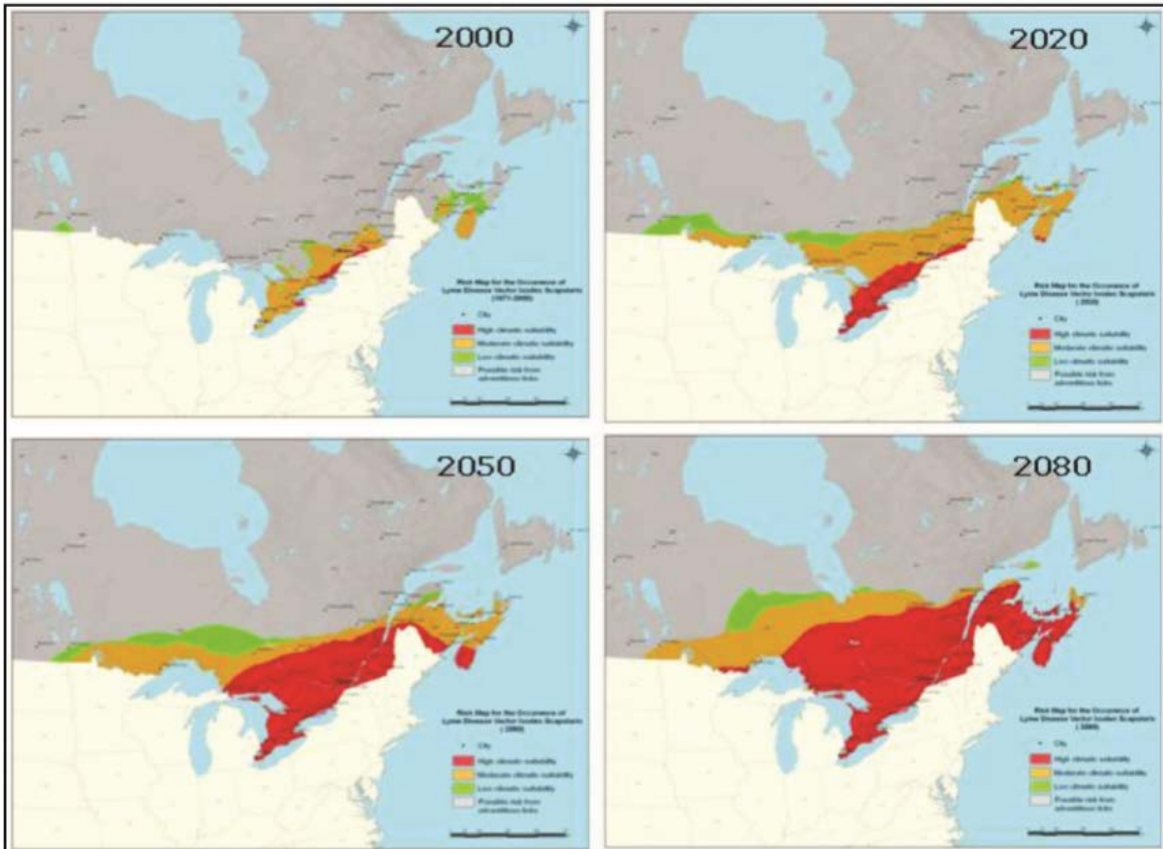
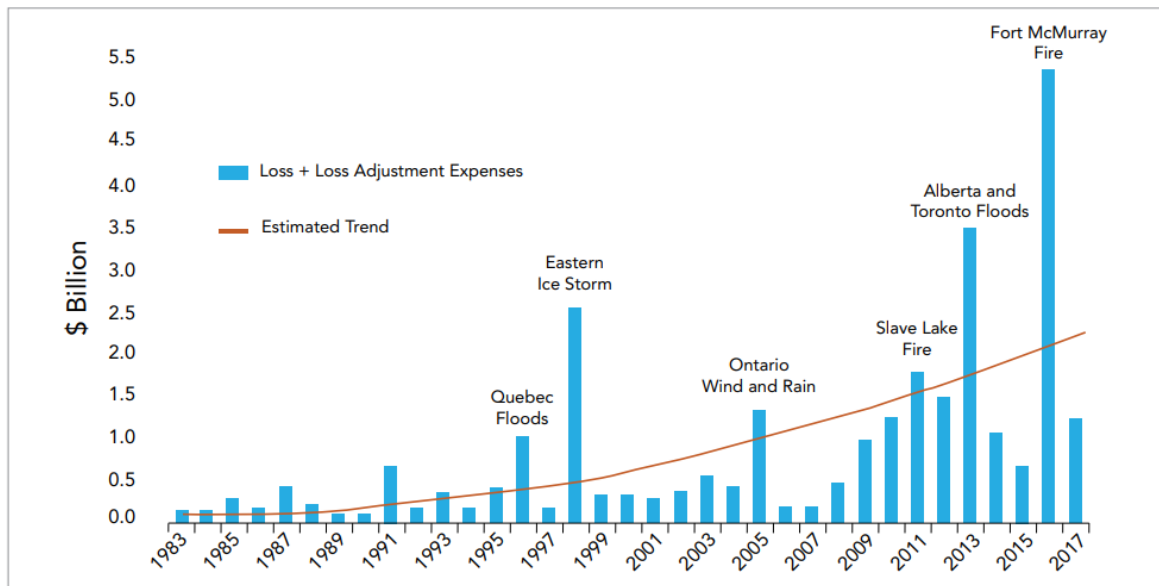


Figure 7- London-Middlesex Health Unit Referenced Spread of Lyme Disease Vector

Figure 2: Catastrophic Insured Losses in Canada (1983 – 2017)

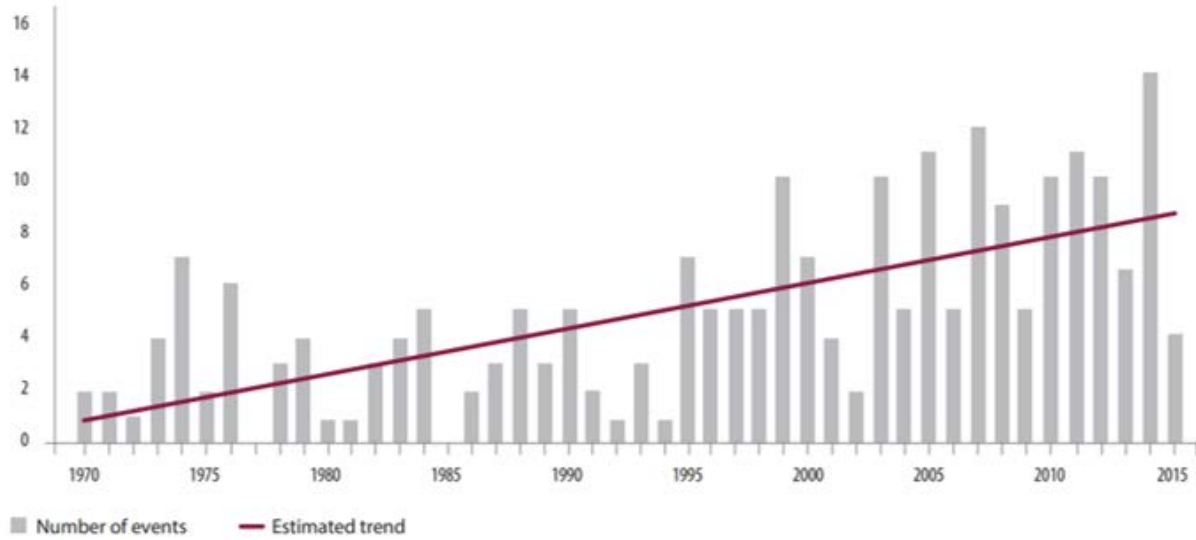


Source: IBC Facts Book, PCS, CatIQ, Swiss Re, Munich Re & Deloitte.

*Values in 2017\$ CAN, 2017; total natural catastrophe losses normalized by inflation and per-capita wealth accumulation

Figure 8 – Insurance Bureau of Canada Natural Catastrophe Losses Normalized by Inflation (1983-2017)

Number of Natural Disasters in Canada Requiring DFAA Compensation for Provinces and Territories (1970–2015)



Source: Public Safety Canada, 2016–2017 Evaluation of the Disaster Financial Assistance Arrangements.

Figure 9–Public Safety Canada 2017

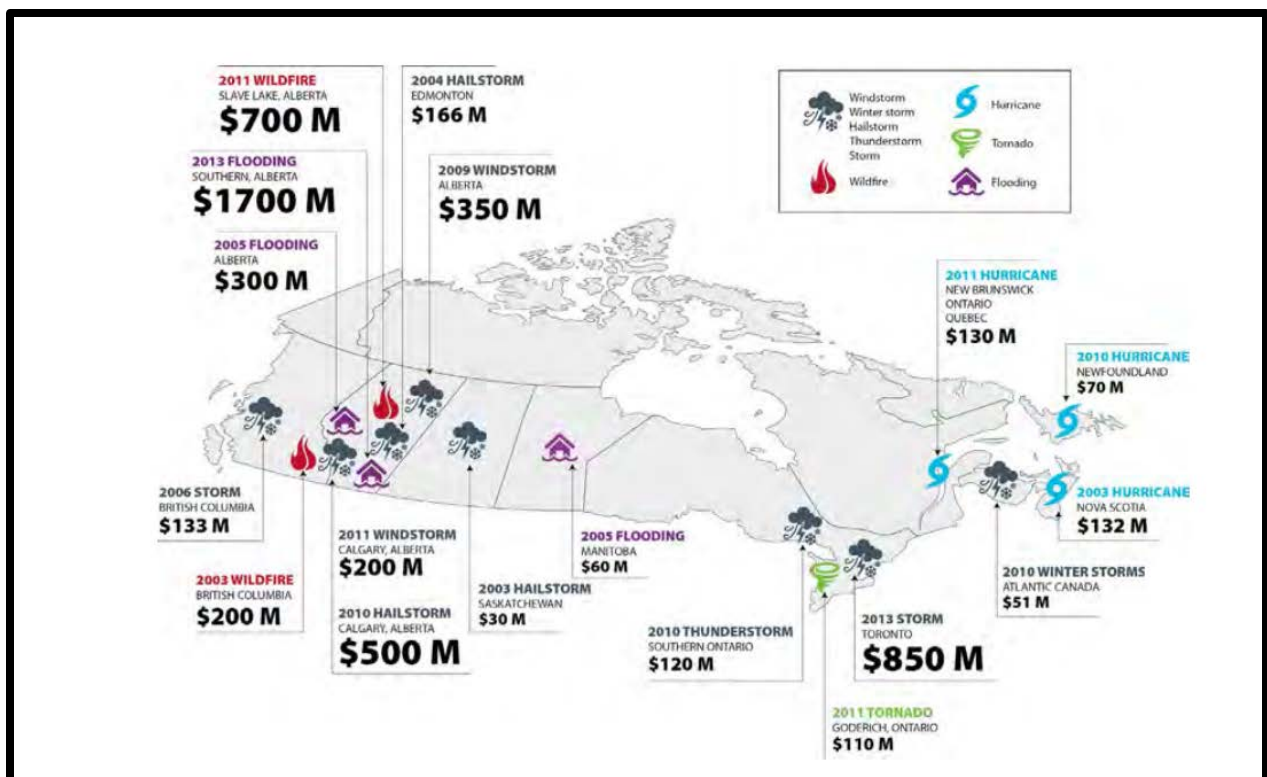


Figure 10– Insurance Bureau of Canada Natural Catastrophe Mapping (2003-2013)

Appendix C-1 – Community Energy Action Plan (CEAP)- Examples of Action Taken to Reduce Energy Use and GHG Emissions in London

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.

London's [2014-2018 CEAP](#) outlined a plan to reduce our dependence on fossil fuel and help the community move forward on energy conservation, energy efficiency, renewable energy, and other sustainable energy solutions (e.g., fuel switching) that reduce GHG emissions. It focused on actions to be undertaken during the previous Council term (2015-2018). The CEAP functions as London's climate change mitigation plan. The overall goals of the CEAP were 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 & 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 GHG reduction targets consistent with the Province of Ontario's former 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.

Actions and Results to Date

Annual reporting for CEAP occurs through two documents; Community Energy Action Plan – Update and Status and the [Community Energy Use and Greenhouse Gas Emission Inventory](#).

The [2014-2018 Community Energy Action Plan – Final Update](#) was reported at the April 2, 2019 meeting of the Civic Works Committee. Over 80 percent of the strategies and City-led actions set out in 2014 were completed by the end of 2018, with significant progress made on the remaining items.

Final Status on the 2014-2018 CEAP's 17 Key Strategies				
Not Started	25 Percent Completion	50 Percent Completion	75 Percent Completion	Completed
0 strategies (0%)	0 strategies (0%)	1 strategy (6%)	2 strategies (12%)	14 strategies (82%)

Final Status on the 2014-2018 CEAP's 40 City-led Actions				
Not Started	25 Percent Completion	50 Percent Completion	75 Percent Completion	Completed
0 actions (0%)	0 actions (0%)	0 action (0%)	8 actions (20%)	32 actions (80%)

The following are major highlights of actions taken since 2014:

- Incorporating Community Energy Action Plan principles into The London Plan.
- The official launch of the London Environmental Network (LEN) on March 27, 2015. LEN

was created to help protect our environment and build a sustainable community by supporting local environmental organizations improve their internal capacity and ability to deliver on their missions.

- Working with the Clean Air Partnership and other Ontario municipalities to study the use of Local Improvement Charges to deliver Property-Assessed Clean Energy financing for home energy retrofits. This included a workshop in London in April 2016 with local stakeholders and currently involves participation in a FCM Transition 2050 project to develop a pilot project for use in participating Ontario municipalities in 2020.
- London District Renewable Energy Co-operative Inc. (LDREC) is a co-operative that developed and invested in ten (10) rooftop solar photo-voltaic (PV) projects in the London area, with a combined capacity of 3.07 megawatts. In the summer of 2016 it was given consent by the Financial Services Commission of Ontario (FSCO) to proceed with a public offering of shares for these projects. Using the 2018 grid marginal emission factor, these projects reduce GHG emissions by about 500 tonnes per year.
- Tested new tools, with support from Ontario's Municipal Energy Plan Implementation funding program, to encourage energy-saving behaviour, such as:
 - Project Neutral (cost and carbon footprint calculator)
 - Active & Green Home Check-Up pilot project (energy-saving tips for your home)
 - MyCarma London pilot project (eco-driving and vehicle fuel efficiency report card)
 - Solar Home Evaluation pilot project
- Expanding the annual Go Wild Grow Wild Green Expo (April each year) to include a Green Living Zone focusing on local services needed to live a greener lifestyle at home and at work.
- Completed the multi-municipality Federation of Canadian Municipalities (FCM) Green Municipal Fund study with the City of Kingston, City of Kitchener and the City of Waterloo to examine barriers to net-zero energy green development and how to address the barriers in the context of a multi-use development. The London case studies looked at West 5 greenfield site and the McCormick factory brownfield redevelopment site.
- Completed the FCM Green Municipal Fund study, in partnership with the Canadian Biogas Association and Union Gas, on a feasibility of producing renewable natural gas (RNG) from the organics component of municipal solid waste for use as fuel in compressed natural gas (CNG) vehicles.
- Completed the Local Energy Efficiency Partnerships (LEEP) for Renovators workshops in partnership with Natural Resources Canada and the London Home Builders' Association.
- Partnered with the London Environmental Network to support the launch of Green Economy London, a target-based sustainability program for business that was launched in May 2019 and is part of the nation-wide Green Economy Canada network. To date, Green Economy London has surpassed its Year One membership goals.
- Completion of the Environmental Assessment for Rapid Transit and confirmation of provincial and federal funding for three priority rapid transit projects.
- Creation of the London ON Bikes Cycling Master Plan and the construction of over 87 lane kilometres of road cycling lanes and 20 kilometres of parks pathways since 2014.
- Completing streets by constructing of new sidewalks in existing neighbourhoods every year.
- Delivery and partnering on programs such as Active and Safe Routes to School and

London Celebrates Cycling events.

Other indicators of community-led progress for the 2014-2018 CEAP include:

- As of January 2019, there were 23 BOMA BEST Sustainable Buildings in London, up from four in 2013.
- As of April 2019, there was almost 20 megawatts of renewable power generation capacity (solar, biogas, and small hydro) in London, up from 2 megawatts in 2011. Using the 2018 grid marginal emission factor, these projects reduce GHG emissions by about 6,000 tonnes per year.
- As of December 2018, there were almost 3,300 hybrid & electric vehicles registered in London, up from almost 1,500 in 2013. This is estimated to reduce GHG emissions by about 6,000 tonnes per year.

Highlights from the 2018 Community Energy Use and Greenhouse Gas Emission Inventory report for energy use and GHG emissions are below:

Energy Use	
Highlight	Comment
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 One terajoule is equal to the energy contained within about 26,000 litres of gasoline - roughly the amount of gasoline in 500 cars
Almost \$1.6 billion was spent by Londoners and London businesses on energy in 2018. This is a 11% increase over 2017	Almost 90% of this money leaves London. Every 1% reduction in energy use that Londoners and London businesses achieve keeps about \$13 million from leaving the local economy
Improvements in energy efficiency avoided expenditures on energy of another \$160 million in 2018	This is determined by comparing 2018 levels of energy efficiency on a per person basis to those seen in 2010
On a per person basis, Londoners and London businesses used 8% less energy overall in 2018 than used in 2007	2007 is the year that energy use reached its peak in London

Greenhouse Gas Emissions	
Highlight	Comment
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 3-year rolling average GHG emissions in 2018 were 13% below 1990 levels	The rolling average is determined by averaging the last 3 years; 2016, 2017 and 2018. The goal is to reach 15 percent reduction from 1990 levels by 2020
London's 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 per capita GHG emissions in 2018 were 30% below 1990 levels	This was 7.8 tonnes per person in 2018, down from 11.2 tonnes per person in 1990
London's GHG emissions in 2018 were 19% below 2007 levels	2007 is the year that GHG emissions reached their peak in London

Upcoming Action – Immediate Next Steps

To achieve the current 2030 GHG reduction goal, Londoners and London businesses will need to reduce our fossil fuel use per person by about 40 percent between 2018 and 2030.

Future Action

In addition to what can be enhanced/started right away (see above), based on existing knowledge and experience and funding that is generally contained in base program budgets, the 2019-2023 Climate Emergency Action Plan will include actions and policies that support:

- Energy retrofits of existing single-family and multi-family housing stock
- Energy retrofits of existing industrial, commercial, and institutional buildings
- “Future ready” green development standards (net-zero energy, low-impact development)
- Implementation of higher-order public transit, structured around bus rapid transit
- Expanded active transportation & sustainable transportation choices (e.g., implementation of rapid transit)
- The need for more low-emission and zero-emission vehicles
- The need for more local renewable energy generation and utilization
- Outreach and engagement programs to encourage Londoners to take action
- Outreach and engagement programs to encourage London businesses to take action

Proposed City projects, such as the production of renewable natural gas (RNG) from the W12A Landfill as well as the London Waste to Resources Innovation Centre, will be significant contributors to the 2019-2023 Climate Emergency Action Plan. As part of the 2020-2023 Multi-Year Budget deliberations, funding has been identified for proposed additional actions as follows:

- Developing and testing new monetary and non-monetary incentives to encourage Londoners to take action
- Invest in new tools and resources that complement existing CEAP and other environmental activities
- Participation in a multi-municipality Property-Assessed Clean Energy (PACE) pilot program to help home owners fund deep energy retrofits of their existing home
- Investment in a Transportation Management Association to help London employers promote sustainable commuting options for their employees
- The expansion of a bike share program (if approved in 2020)

It is important to recognize that many important community needs (e.g., homelessness, poverty, unemployment) will be part of 2020-2023 Multi-Year Budget deliberations. In some cases, energy conservation and climate change initiatives play a role in addressing other community challenges (e.g., affordable housing, affordable public transit, etc.).

The City of London was recently approved to receive federal funding under the Investing in Canada Infrastructure Program (ICIP) for a series of transportation projects including three components of the planned rapid transit system:

- Downtown Loop
- East London Link

- Wellington Gateway

Rapid transit service will help balance growth by promoting the efficient use of infrastructure through transit oriented development to create a more sustainable and liveable form. These projects will:

- Manage growth and transportation capacity constraints;
- Create an environment that supports investment in higher density, mixed-use developments;
- Realize greenhouse gas emission savings through mode shift from automobiles to transit;
- Increase resiliency to climate change;
- Offer a mode of transportation that is an attractive alternative to the personal vehicle; and
- Improve transit reliability and frequency to move people more efficiently.

Appendix C-2- Corporate Energy Management and Conservation and Demand Management (CDM) Plan- Examples of Actions Taken to Reduce Energy Use and GHG Emissions in City Operations

The City's Corporate Energy Management Program can trace its roots as far back as the 1990s, and was expanded in 2007 to focus on six key 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".

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 GHG emissions annually beginning in 2013. The affected public agencies were also required to develop and implement five-year CDM plans starting in 2014.

In response, the [2014 Corporate Energy Conservation and Demand Management \(CDM\) Plan](#) was produced, with the primary goal to achieve a ten percent reduction in total annual corporate energy use by 2020, using 2014 as the baseline year. Additional details can be found on the [Corporate Energy Management Program](#) page on the City of London's website.

Actions and Results to Date

Some of the results achieved as of 2018 for energy use reduction and GHG include:

Energy Use Reduction	
Highlight	Comment
The City achieved a 9% reduction in total annual energy use as of 2018	Total energy use had dropped by 10% as of 2017. However, due to colder weather in 2018, there was increase in natural gas consumption in buildings and increase in fleet fuel consumption
Energy use per capita for service delivery have been reduced by 15%	Wastewater treatment decreased by 8% Facilities decreased by 14% Fleet decreased by 6% Streetlights decreased by 32%
Annual energy costs have been reduced by 5%, from \$18.8 million in 2014 to \$17.9 million in 2018	Energy costs would have been \$3 million higher in 2018 if the energy efficiency improvements/programs were not in place. About \$12.5 million in total energy cost avoidance over the last five years

Greenhouse Gas Emissions	
Highlight	Comment
Energy-related GHG emissions have been reduced by 13% from 2014 levels	GHG emissions from facility and infrastructure energy use had dropped 25% as of 2017. However, colder winter and a hotter summer increased the demand for natural gas for heating and electricity generation, which resulted in higher GHG emissions

Greenhouse Gas Emissions	
Highlight	Comment
Energy-related GHG emissions have been reduced by 58% from 2007 levels	<p>Given that electricity accounts for 60% of corporate energy needs, the phase-out of coal-fired power generation has contributed significantly to corporate GHG reductions.</p> <p>The three-year rolling average reduction for the 2016-2018 period is 60% from 2007 levels.</p>

The following is a summary of few of the key energy initiatives from the last five years which contributed to energy savings and GHG reductions:

Project	Results
Canada Games Aquatic Centre – Lifecycle Renewal	<ul style="list-style-type: none"> • 20% total energy reduction • 5% peak electricity use reduction • Annual electricity-related GHG emission reduction <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • \$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 <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • 850,000 kWh savings annually • \$100,000 in electricity savings annually • Annual electricity-related GHG emission reduction <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Savings over the last five years: <ul style="list-style-type: none"> ○ 10,300,000 kWh electricity savings ○ 52,000 m³ natural gas savings • Annual electricity-related GHG emission reduction <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Policy to construct all new buildings to be “solar ready”
Various Green Fleet Measures	<ul style="list-style-type: none"> • 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

Upcoming Action – Immediate Next Steps

The new 2019-2023 CDM Plan, approved by Municipal Council on October 29, 2019, was developed through an interdepartmental exercise that included a review of the City’s current approach to energy management, a review of plans in other municipalities in southern Ontario, and a series of staff meetings with major service areas. The new plan can be found on the [Corporate Energy Management Program](#) webpage on the City of London’s website.

Using 2018 as the baseline year for the new 2019-2023 Plan, the proposed goals for 2023 include a five percent reduction target for total annual energy use by 2023 and an associated 10 percent decrease in energy use per capita. These measures are expected to avoid about 900 tonnes per year of greenhouse gas emissions by 2023. Work on the new CDM Plan will begin immediately.

Future Action

Based on existing knowledge and experience and funding that is generally contained in base program budgets, major activities planned for 2019-2023 also include:

- generating power from waste heat at the Greenway Wastewater Treatment Plant
- additional energy efficiency measures at wastewater treatment plants and water pumping stations
- additional building energy retrofits
- continuing the replacement of diesel waste collection (packers) trucks with compressed natural gas trucks
- in-reach programs to encourage City of London employees to take action

The 2019-2023 CDM Plan will also investigate possible pathways for City operations to reach net zero greenhouse gas emissions by 2050, or possibly sooner. For example, the proposed production of renewable natural gas (RNG) from the W12A Landfill presents a significant opportunity to reduce corporate GHG emissions through the use of a small portion of the produced RNG for City fleet vehicles and buildings.

As part of the 2020-2023 Multi-Year Budget deliberations, funding 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

Appendix C-3 – Adapting to Severe Weather/Climate Change Adaption- Examples of Actions Taken to Adapt to Climate Change in London

The City of London has 43 km of Thames River located within its boundary and another 85 km of smaller creeks and waterways. Combined with the history of numerous floods, the majority of adaptation work has been focused on the river and stormwater infrastructure challenges. However, more subtle adaptation changes have been occurring as a necessity by various service areas and divisions at the operational level, in order to respond to more frequent and more severe storm events. Embedding climate change considerations has now become a necessary component of the majority of infrastructure projects.

Actions and Results to Date:

Work began from 2009 to 2011 regarding adaptation, focused on the Thames River, flooding, and related water infrastructure by staff from Western University. Their work provided insight to changes in rainfall patterns, flood lines and vulnerability to severe weather (see below):

City staff research and resources have led to the completion of five key initiatives that were supplemented by further detailed work described below in three major “Action” categories. These 5 initiatives are listed below.

1. Climate Change Adaptation Phase 1: Vulnerability Assessment completed in 2014 as an internal review led by the Risk Management Division and designed to take action on upcoming capital projects.
2. The ‘Flooding Matters Program” was launched in 2015 and concluded in 2018 to address basement flooding and sewer back-up given more extreme and more frequent rainfall events.
3. The West London Dyke Master Repair Plan was completed in 2016 to guide the enhanced flood protection and structural improvements to this 2.4 km long flood dyke that protects over 1,100 homes in London’s Blackfriar’s neighbourhood surrounding Labatt Park. The West London Dyke improvements result in flooding protection up to the 250 year storm event, plus a 0.6m freeboard..
4. City of London Emergency Flood Plan was updated in 2018 with supporting mapping and real-time water level monitoring resources.
5. The Pollution Prevention Control Plan completed in 2018 targeted combined sewer and sewer system overflows by establishing a long-term plan to reduce the impact of these overflows while maintaining level of service given the anticipation of more extreme and more frequent rainfall events.

Additional adaptation work has been completed through related programs and strategies such as the Emergency Management Program, Parks and Recreation Master Plan, Urban Forestry Strategy and Urban Agriculture Strategy.

Actions by City Staff

Research and resources went into the completion of several initiatives including:

- Climate Change Adaptation Phase 1: Vulnerability Assessment completed in 2014 as an internal review led by Risk Management Division and designed to take action on upcoming capital projects;

- Corporate Asset Management Plan (2014) embedded climate change adaptation and vulnerability considerations into results and recommendations;
- The ‘Flooding Matters Program’ was launched in 2015 and concluded in 2019 to address basement flooding and sewer back-up given more extreme and more frequent rainfall events;
- Basement Flooding Grant Program – voluntary program for homeowners with homes constructed prior to 1985 to disconnect their weeping tiles (foundation drains) from the sanitary system and redirect to new sump pit and pump system (which reduces flows to the sanitary system, particularly during wet weather);
- Combined Sewer Separation Program – replacing combined sewers with modern separated system, which reduces the volume of wet weather flows reaching wastewater pumping stations and treatment plants, as well as the volume of associated combined sewer overflows (untreated sewage) to receiving watercourses. Since 2016, 6 kilometres of combined sewers have been removed;
- The Pollution Prevention Control Plan (PPCP) completed in 2018 was a master planning exercise to guide and prioritize sewer and wastewater infrastructure improvement given the anticipation of more extreme and more frequent rainfall events.
- Specific actions resulting from implementation of the PPCP include:
 - the construction of the Burbrook Tunnel Stormsewer Project, a 3 metre diameter stormsewer to enable sewer separation projects in the Old East neighbourhood and to supply an outlet for existing and future quantities of stormwater to the South Thames River;
 - Wastewater Treatment Plant flood-proofing improvements including raising the height of perimeter dykes to safeguard against higher river floods;
 - various wastewater treatment plant upgrades and improvements to enhance wet weather treatment, through chemically enhanced primary treatment (which allows the majority of flow to receive at least primary level of treatment, prior to bypass for major wet weather events); and
 - projects that connect sewage treatment plants (e.g., Pottersburg and Vauxhall) to allow the transfer of sewage between plants to better share sewage treatment capacity during wet weather events;
- City of London Emergency Flood Plan was updated in 2018 with mapping resources;
- Low Impact Development measures have been incorporated into new road work (e.g. SoHo neighbourhood) highlighting the ability to lessen surface water entering stormwater systems and are incorporated into the recommendations of the Dingman Creek Subwatershed Environmental Assessment master plan to be completed in 2020;
- Enhanced and targeted education and awareness initiatives (e.g., FOG cups and W.A.S.H. programs) designed to reduce blockages in the sewer system due to misuse;
- The elimination of centre bridge supports (e.g. Victoria Bridge over the South Thames River, Ridout Street) when replacing and upgrading river bridge structures that would otherwise collect floating debris in the Thames River and waterways during flood events with the potential to create waterway blockages; and
- Parks and Recreation Master Plan Update considered the need for more shade structures in parks and playing fields without tree canopy and the maintenance costs

or replacement costs of different playing fields (e.g. soccer vs. baseball) that exist in the floodplain and experience increased flood damages and impacts.

Actions by City Staff in Collaboration with Western University

Work began from 2009 to 2011 regarding adaptation, focused on the Thames River, flooding, and related water infrastructure by Western University to provide:

- updated hydrologic analysis of the intensity, duration and frequency of rainfall anticipated for London in order to provide insight into the possible impacts to design and operation of water infrastructure;
- updated climate and hydrologic modelling that suggested flood lines should be revised given climate change and severe weather projections;
- insight into the vulnerability of water infrastructure due to climate change and severe weather; and
- assessments in collaboration with Western Geography staff and supported by City staff, regarding urban heat island impacts using Green Roof technologies implemented and monitored at the Western campus in conjunction with 3 other Canadian universities.

Actions by City staff in collaboration with Upper Thames River Conservation Authority (UTRCA) staff

- The West London Dyke Master Repair Plan was completed in 2016 to phase the increases in height and upgrading to this 2.4 km long flood dyke that protects over 1,100 homes in the Blackfriar neighbourhood and adjacent Labatt Park;
- Vegetation management on London's seven earthen flood dykes to ensure their effectiveness in protecting neighbourhoods near the river in such areas as The Coves, Kensington Village, and Glen Cairn;
- Ongoing collaboration with staff at the UTRCA established additional 'real-time' water flow monitoring on the Thames River and local flood prone creeks;
- UTRCA staff continue to model and update flood lines with updated technology and equipment for the City of London (ongoing);
- Work collaboratively to increase education and awareness regarding Low Impact Development techniques for private property and residential neighbourhoods.

Ongoing work by City Staff in Collaboration with Business & Community Groups

- Through the 2014-2018 CEAP, inspire local actions that address both mitigation and adaptation (e.g. tree planting, green infrastructure).
- Through Active & Green Communities Initiative, inspire neighbourhood level adaptation actions.

Additional adaptation work has been completed through related programs and strategies such as the Emergency Management Program, Parks and Recreation Master Plan, Urban Forestry Strategy and Urban Agriculture Strategy. Both climate change mitigation and adaptation goals are achieved through the implementation of enhanced tree canopy goals, local food initiatives and active transportation achievements.

Upcoming Action – Immediate Next Steps

In the next nine months, actions in the following areas will occur:

- Engage London Conservation Authorities, community institutions and businesses to consider timely adaptation measures to safeguard against negative climate change impacts.
- Partner with 25 Canadian cities involved in the Federation of Canadian Municipalities program “Showcase Cities Pilot Project” to peer review existing climate change work and collaborate on areas needing further work specifically regarding climate change adaptation at the municipal level.
- Work with London’s multiple sectors to finalize the Climate Change / Severe Weather Adaptation Strategy for London’s built infrastructure (as per Council’s Strategic Plan 2019 - 2023).
- Work with City Planning staff to further Climate Change Adaptation initiatives in conjunction with projects dealing with planning for sustainability and resiliency as part of the Green and Healthy Component (Green City Strategy) of the London Plan.

(<https://www.ontario.ca/page/climate-change>)

Climate change

Learn how we're protecting our environment and addressing climate change.

A Made-in-Ontario Environment Plan

Ontario has made significant progress to address climate change. Our total greenhouse gas emissions have dropped by 22 per cent since 2005 – even while the rest of Canada saw emissions increase by 3 per cent during that same time. Ontario will continue to do its part.

On November 29, 2018, we released our [Made-in-Ontario Environment Plan](#) that considers our province's specific priorities, challenges and opportunities, and commits to reducing our emissions to 30 per cent below 2005 levels by 2030, a target that aligns with the Federal Government's Paris commitments.

We will address climate change by:

Building resilience: helping families and communities prepare

We are committed to preparing families and communities for the costs and impacts of climate change, and to protecting our natural environment, communities, businesses and municipalities. We will improve our understanding of how climate change will impact Ontario.

- The government will be following through on its commitment to undertake Ontario's first-ever broad, multi-sector provincial climate change impact assessment to identify where the province is vulnerable and which regions and economic sectors are most likely to be impacted.
- Ontario is helping make information available to homeowners on the practical and affordable actions they can take to help lower their risk of basement flooding, such as by supporting the [Home Flood Protection Program](#).

Making polluters accountable

We will ensure polluters pay their fair share for their greenhouse gas emissions, while also ensuring industry continues to make advances to help Ontario achieve its share of reductions.

- On July 4, 2019, Ontario finalized its new emissions performance standards to reduce greenhouse gas emissions from large polluters, without a carbon tax.
- We are finalizing amendments to Ontario fuel regulations to increase access to clean and affordable energy for families and encourage the uptake of lower carbon fuels to help reduce emissions from the transportation sector.

Activating the private sector

We recognize that our private sector has the capital, capability and know-how to transform clean technology markets and transition Ontario to a low-carbon economy. This is why we intend to help facilitate the private sector's best projects and ideas to drive emission reductions at the lowest cost to taxpayers. Our plan will ensure the prudent and responsible use of public resources to drive private sector investment.

Government of Ontario Ecological Concerns

The Government of Ontario list the following concerns for Climate Change and Ecological effects.

Plants and animals

As the climate changes, some species will adapt by:

- migrating to new locations
- changing their breeding seasons
- seeking new food sources

Less adaptable species may even disappear from their current habitats.

Biodiversity

- the way certain species interact with one another and their environment may change
- the geographic range of plants and wildlife is predicted to move north as the temperature increases. Moose, gray jays, and polar bear populations are expected to shift north
- species at risk and isolated habitats may be the most sensitive to changes
- less ice cover and changes to lake freeze-up and break-up times may affect the food supply for aquatic species and may also affect fish spawning
- changes in water and air temperature may make conditions more favorable for diseases and invasive species, which puts pressure on native species

Forests

- there may be more insect and disease outbreaks
- increased tree stress may affect forest growth
- drier forests will lead to more intense and frequent forest fires
- local tree species will be less suited to local conditions. Climate conditions may change faster than local trees can migrate, which may cause them to die off in some areas
- healthy forests store carbon; damaged and unhealthy forests will be less effective at this
- healthy forests can withstand – and reduce – the impacts of climate change

Water

- milder, shorter winters lead to:
 - earlier snowmelt
 - less ice cover on lakes
 - changing rainfall patterns
 - changes in water's movement between air, soil, plants and bodies of water
- there may be less water available for renewable energy production and waterways
- increasing water temperatures may result in lower water quality as more micro-organisms are found in lakes
- warm-water species may spread into new northern habitats
- more extreme weather may result in more frequent flooding, erosion, shoreline damage, infrastructure failures and decreased water quality.

Fish

- most aquatic species' growth and reproduction are strongly influenced by water temperatures
- higher temperatures in the Great Lakes and inland lakes could result in fewer cold water species in Ontario (e.g., lake trout, yellow perch, largemouth bass)
- at-risk fish species such as lake sturgeon may disappear from Ontario completely
- changes in the composition and availability of phytoplankton and zooplankton (organisms in the water that are an important food source for many fish) may favour some fish species over others
- changes to water quality, water levels and ice cover may affect the type and number of fish in lakes and rivers

- lake conditions are expected to be more favourable for invasive species (e.g., zebra mussels, round goby)
- fish diseases such like viral hemorrhagic septicemia may become more common

Wildlife

- some wildlife species will be forced to move further north to a more favourable habitat
- species in southern areas will live in a smaller area due to increased parasites and competition
- hybridization between different animal species (e.g., northern and southern flying squirrels) is already being observed due to climate change
- while some animals will adapt, species that require a narrow range of temperature and precipitation conditions are most likely to decline or die out completely
- climate change may affect:
 - wildlife reproduction
 - relationships between predators and prey
 - survival
 - rates of disease in wildlife species
 - the availability of food and habitat

For example, if migratory songbirds arrive at their breeding grounds earlier, the food they need for successful reproduction may be unavailable.

Wetlands

- wetlands help reduce the effects of climate change by capturing and storing carbon
- climate change alters wetlands and the native species living there
- changes in precipitation and temperature may change wetland water systems, causing flooding and droughts
- when there is a decrease in precipitation and increased evaporation due to warmer air, wetlands may dry up or disappear
- it is likely that as wetlands dry up, plants living in the area will shift and marshes may become more swamp-like as woody plants move into marsh areas.

Appendix D-2 – Overview of Federal Government- Canada’s Action on Climate Change

(<https://www.canada.ca/en/services/environment/weather/climatechange/climate-action.html>)

Canada’s action on climate change

Carbon pricing, clean electricity, transportation, buildings, innovation, Pan-Canadian Framework.

Most requested

- [Expert panel on sustainable finance](#)
- [Pan-Canadian Framework on Clean Growth and Climate Change](#)

Services and information

Actions to reduce emissions

Clean electricity, buildings, transportation, industry, forestry, agriculture and waste, short-lived climate pollutants (SLCPs), methane regulations for the oil and gas sector.

Funding for reducing emissions

Low Carbon Economy Fund, allocations to provinces and territories, Pan-Canadian Framework on Clean Growth and Climate Change.

Putting a price on pollution

Guidance on carbon pollution pricing benchmark, federal carbon pricing backstop.

Modelling and reporting

Greenhouse gas emissions, inventories and reporting, modelling, projections, science activities, federal actions for a clean growth economy.

Adaptation and climate resilience

Adapting to the effects of climate change.

Clean technology, innovation and jobs

Innovating for clean growth and a low-carbon future.

Parks and protected areas

Canada's national parks and national marine conservation areas, protecting our lands and waters

Canadian Council of Ministers of the Environment

Federal, provincial and territorial ministers of the environment, jointly working on environmental issues.

Women and climate change

Effects of climate change on women and girls, profiles of women leaders.

Climate Action Fund

Support for projects that raise awareness of climate change.

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.

London, Ontario ... on the path to being a “pollinator sanctuary”

Londoners are concerned about the effects of habitat loss and insecticides on pollinators. **How can we support pollinators here in the Forest City?**

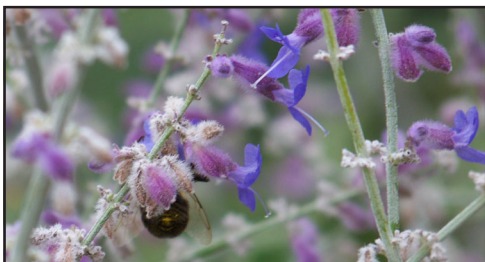
Appeal for strong policies to preserve and restore ecological services, including enhanced pollinator habitat in The London Plan, London’s Official Plan, under such categories as Trees and Forests, Parks and Recreation, Natural Areas.

Request and support by-law changes to allow property owners to plant pollinator gardens.

Engage the City to lead by example by planting pollinator friendly landscapes throughout the City’s parks and other green spaces.

Contribute to pollinator gardens in backyards, boulevards, and other relevant spaces. Do not use synthetic pesticides or pesticide treated seeds and plants.

Create linked natural areas to preserve and increase pollinator habitat, while educating the community on the importance of pollinator health.



Bumblebee busy on a late September Russian Sage flower. photo: C. Downing

Resources:

* *The London Public Library is always a great place to start!*

<http://www.londonpubliclibrary.ca>

* **Upper Thames River Conservation Authority (UTRCA)**

<http://www.thamesriver.on.ca/watershed-health/native-species>

* **City of London**

<http://www.london.ca/residents/Property-Matters/Lawns-Gardens/Pages/Garden-Care-Tips.aspx>

Related staff - ecologist, urban forester and environment outreach coordinator.

* **Community Gardens London**

www.communitygardenslondon.ca



Milkweed - now allowed - is the only food for Monarch caterpillars. photo: C. Downing

* **Pollination Canada/Seeds of Diversity**

<http://www.pollinationcanada.ca>

* **Pollination Guelph:**

<http://www.pollinationguelph.ca>

* **Xerces Society**

<http://www.xerces.org>

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Brochure developed for the Advisory Committee on Environment, London, with assistance from many, in support of the goal to make London a Pollinator Sanctuary. November 2014

POLLINATOR FRIENDLY GARDENS



photo: C. Downing

Make your garden and London a safe haven for pollinators

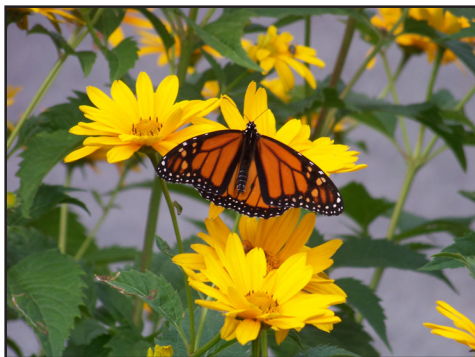
A POLLINATOR FRIENDLY GARDEN

All seasons, all life stages.

Plant it, they will come!

Bees, butterflies, moths, dragonflies, wasps, flies and hummingbirds live on pollen and nectar supplied by shrubs and trees, perennial and annual flowers, herbs and vegetables.

Their foraging pollinates plants and fruit, and then seeds develop and feed birds and mammals. Pollinators and other wildlife need gardens, hedgerows, thickets, set-asides, trees and brush piles for food, cover and nest sites.



Monarch butterfly takes nectar from Coreopsis, a native plant. photo: C. Downing

Proactive Protection

- * Do not use synthetic herbicides or insecticides (especially the neonicotinoids) in your garden.
- * Hybrid plants may have little pollen or nectar, or hard to reach pollen, and may be contaminated with pesticide at the nursery.
- * **Be bold in the questions you ask of your plant supplier.**

Positive Planting

- * Plant for each stage of a pollinator's life — nectar producing plants for adults, food plants for caterpillars, plants for pupae. Leave overwintering space like brushpiles.
- * Plant the widest range of plant types you have space for; plant in groupings.
- * Perennials with flower clusters or a long bloom period, grasses, and trees give much nectar and pollen.
- * Native pollinators appreciate native plants; they evolved together.
- * 3 seasons of flowering in all the colours give continuous, varied food for the many different pollinators.
- * Provide water, especially during drought. Insects can drink safely at the wet edges of water running over rocks, or the puddles from rain run-off and slow drip irrigation.
- * Some native bees live solitary lives in ground burrows so keep a sunny, well-drained (sloped) area free of mulch. Other solitary bees nest in hollow, cut stalks or abandoned insect tunnels; you can make nesting areas from wood blocks or tubes.
- * Talk to friends, neighbours, local organizations, businesses and politicians about becoming more pollinator friendly.



Bee gathers pollen and nectar from perennial Meadowsweet. photo: N. Beauregard

Pollinator Friendly Plants



Goldenrod for late forage. photo: C. Downing

Spring flowering

- * Red and Black Currants, Raspberries, and Serviceberry feed bees ... and later give birds and humans tasty fruit!
- * Willow for Orchard Mason bees, and Mourning Cloak & Viceroy butterflies.

Summer flowering

- * Perennial flowers for butterflies include Phlox, Swamp Milkweed, Rue, English Lavender and Butterfly Weed.
- * Hummingbirds enjoy Bee Balm and Nicotiana; and Nasturtiums, which flower 'til fall.

Late summer & fall flowering

- * Perennial Goldenrod & Michaelmas Daisy; self-sowing cosmos for bees.

Remember herbs & vegetables!

- * Kitchen thyme in bloom attracts myriad tiny bees, wasps and flies.
- * Lemon balm, catnip, peppermint, and sage feed pollinators, provide kitchen herbs, and may flower again.
- * Vegetables like squash, cucumbers, beans, and peas must be pollinated to let humans have a meal and for seeds to develop for future crops.

London's Climate Emergency - Be Part of the Solution - Green in the City

Dr. Dianne Saxe Keynote Presentation - "Climate Changes Everything"

November 19, 2019

KNOWLEDGE (*hold on, it's grim!*) Dr. Saxe presented on why climate changes everything drawing from the latest reports of the International Panel on Climate Change (IPCC) among other sources. Our country is among the top ten polluters in the world. The country has the highest rate of climate pollution, among highest levels of climate pollution and it is heating up faster than the global average. The heat buildup has occurred in the last three generationsher lifetime. 1% of the heat is in the air, 3% is trapped in solid vegetation, 3% with warmed up ice. The bulk is in the water! Warmed up water takes more space, (sea levels rise) and has less oxygen (greater acidity). The oceans have become the storm engines. The warmer the water, the more powerful and explosive the storms.

"When people get bad news, people want to hang on and wait for normal to come back". The reality is that is not going to happen. Our infrastructure, insurance, laws are designed for a 20th century that no longer exists and to which we can never return. Dr. Saxe debunked the thinking that we're living in the new normal. As she put it, the new normal is when you gain 10 lbs and buy a new pair of pants.

But that doesn't make sense if you're getting fatter every month. That's what we're doing, emitting more climate pollution every month, and at faster rates. 350 ppm: was our best estimate of how high carbon dioxide can be and still enable a world that has low-island states, predictable weather, coral reefs and mountain glaciers. The planet hit 415.70 ppm in May 2019. We are in completely uncharted territory. <https://350.org/science/>

Ontario is in a blessed position – not near any oceans, fairly removed from the equator. The province is however on track to be warmer than most other places in a range of > 2.5-3.7c by 2050. While it's a global problem, the impacts differ regionally and often are felt more acutely. Winter is wetter; cities are warmer (Toronto 3c +). Then there are climate extremes. Just going back to the 1960s, climate extremes are 4 xs worse in North America.

It's not if, it's when: drought, floods, fire, storms. It is showing up in insured losses. Just in Ontario, insured losses were up \$1.4B in 2018. The insurance companies issued a report in March where they said that for every billion they are spending for losses due to catastrophic weather; their best guess is that the public sector (all levels of govt) is losing \$3B in damaged assets. The biggest short-term Canadian risk is catastrophic damage to physical infrastructure in the next 20 years i.e., damage that will cost billions of dollars.

The emergency is coming into focus. The Intergovernmental Panel on climate change (IPCC) was established after the signing of the Paris Accord to provide reliable, scientific, factual data. They issued their 5th assessment report in 2014 and more recently a series of special reports. Staying under 2c may not be okay. (We're almost at 1.5c) One of their recent reports says that the difference between 1.5 v 2c is **major**. A world that is 2c warmer will be much worse off: Heavy precipitation, extreme heat, droughts, sea levels and most importantly, the ability of human and natural systems to adapt will be near collapse.

IPCC Scnd report August 2019 on land and food: The climate crisis is already affecting food quality and security. It was a similar assessment on the oceans and cryosphere (everything frozen). The oceans are in crisis and everything frozen is melting faster, and faster and faster. The coast of Alaska was ice-free in summer 2019; last year one-third of the Bering Sea melted in the dark in five days (before the sun started to come out)....

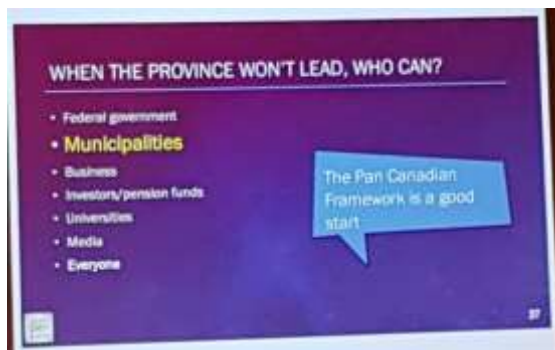
Another set of science coming out on biodiversity shows 1 M species are at risk. The World Health Organization considers climate change as one of the biggest global health threats of this century. The health damage is going to be twice as much as the cost of climate change.

Life-changing infections are on the move. Lyme disease incidence is soaring as ticks can overwinter. In Dr. Saxe's opinion, we have already wasted so much time – The science tells us that without massive, immediate reversal; i.e., getting off fossil fuels, it really means the bringing human and natural systems to the brink of extinction.

If we want a 2c world, which is much less stable and safe than today, with major economic damage but survivable for most, then we can only emit 75% of 2010 GhGs by 2030. We must cut emissions annually by 5% NOW. And Canada is among the luckiest places in the world.

Is it too late for today's young people to have the environment we have enjoyed? Yes, it is too late. YET there is time to forestall more damage.

ACTION



Set Paris Agreement consistent targets: for a 2c (warmer) world or a 1.5c (warmer) world. Set an emissions budget that is linked to capital planning, fleet operations, building renovations, flights, waste management, and investments. You must measure and be accountable. If building a new road, something else has to be given up.

- Study what other leading communities are doing. Carbon-free Boston: become carbon neutral by 2050. In 30 years, the community can only release as much carbon pollution as the environment can safely absorb. <https://www.boston.gov/departments/environment/carbon-free-boston>

Transportation (examples)

- electric buses
- Set examples and send messages through action: City officials on bikes, e-bikes, small EVs
- Visible EV charging at all municipal sites
- Priority bike parking

Presentation synopsis to the City of London Advisory Committee on the Environment Rose Sirois

- Approach Libro for loans to buy e-bikes

Buildings (examples)

- Building energy benchmarking and disclosure (live reports on energy use in foyer of muni bldgs.)
- Establish green building standards
- Cool/Green roofs
- Sensor activated LEDs (sensors are cheap!) Send messages constantly and consistently
- Renewable energy/storage systems
- Implement top climate change makers from Drawdown.org
- Solar on waste facilities (Raymond AB)
- Fayetteville Alabama - solar panel supplier built a solar generation system and the city signed a multi-year contract to buy that power.

Operations (examples)

- Serve no meat
- Use no disposables
- Temperature regulation (dress codes, persona space fans and heaters)
- Ban organic waste
 - o Co-digest with sewage sludge, use the methane for transport (intermediate step to electric buses or for city fleet (City of Stratford is going this way!) Toronto organic waste-fuelled garbage trucks
- Transparency on flights- How many? How far? Purchase of carbon offsets?
- Who is accountable? Are you prepared to accept responsibility for emission budgets?

Nobody can do it all, but we all can do something. Municipalities can lead in areas they control.

- Direct footprint
- Infrastructure
- Bylaws (ban idling, ban drive-throughs, launch a no idling campaign)
- Tax structure
- Procurement
- Investments
- Site Use

Lead through collaboration

- Partnerships with business / NGOs / UWO and Fanshawe
- Act as host or enabler of: tool library, clothing swaps, waste exchange, EV charging, community solar, B2B dating service... helping to match small businesses with markets and suppliers who want to make a change for the better
- joint purchasing with other municipalities to have the buying power to make bigger investments in solar or other green investments

Have a climate lens for every discussion

- Will this reduce our total GhGs per service-based target?
- Will this make the transition to a low carbon economy easier?

Transportation is the #1 GHG emitter in Ontario. Ontarians drive more than ever, in the most polluting cars. In fact Canada has beat out all other countries...

Exhaust from tail pipe emissions has enormous public health harm. We drive so much b/c of land use decisions. 3 out of 4 Ontarians live in areas that require them to drive to work, shop, recreate.... Need to stop urban sprawl.

We need to grow in, not out and make zero carbon mobility fast and safe. Seville Spain turned 5,000 parking spots into 170 km of raised bike lanes, built at the same level as the sidewalks. It started with a poll “would you like to ride safely around Seville” majority said yes. It was followed by lots of public input (on the how) and the first 80 km were done in 18 months. This was all done before the next civic election, such that everyone had a chance to get used to it. The investment had a BIG payoff: the 32M euros cost serves 70,000 bike trips/day - - the same cost as a 6km highway. Subway cost 800M euros to serve 44,000 trips / day.

Urban-rural opportunities

- Measure and value ecosystem services, e.g. Protection of woodlots and wetlands by farms and other landowners – given them compensation, or at least recognition
- Perhaps offsets can be created from the above example. With the carbon tax having survived the federal election, there will be a growing market for offsets from the industrial sector.
- Consider food waste to animal feed; compost to soil amendments
- Bike tourism

Having a future will cost money; no one will do it for us. Since we've put money first for so long it's time to change the yardstick used to measure progress and development.

Some options: generate local revenue through road pricing, parking

Polluter pays re. Land use costs, e.g., storm water

Reallocate existing assets / revenue

Collaborate with major local players

Community ownership (create opportunities for local people to invest in green economy initiatives, e.g.

Approach libro)

Seville arranged for affordable bike rentals by approaching a marketing company who put up billboards in area of the bike rentals in exchange for subsidizing first half-hour free on bikes.

KNOWLEDGE + ACTION = HOPE

Brief update on City action by Jan Stanford

Panel discussion:

Amber Cantell - Director of Programs, ReForest London

John Fleming - Managing Director, Planning and City Planner, City of London

Genevieve Langille - Grade 12 Student and the London Climate Strike Organizer

All panelists endorsed Dr. Saxe's message that climate change is THE single most critical issue for life on the planet. London won't face the kind of flooding coastal cities will, or the wildfires already impacting the west coast and the boreal forest to the north. Drinking water supplies may not be in immediate danger; but at the end of the day - if food, water, and resource systems are collapsing in other communities around the globe, it is reason enough to take action. The knock-on effects to water supply, air quality, food security, demand for housing, and the dramatic increase in the need for humanitarian aid will all be devastating. Climate change will impact everything, and we need to start considering that impacts elsewhere can be every bit as important as impacts here.