City of Mississauga
Agenda

MISSISSAUGA

Environmental Action Committee

Date: November 3, 2020
Time: 9:30 AM
Location: Online Video Conference

Members

Councillor Matt Mahoney	Ward 8 (Chair)
Councillor Stephen Dasko	Ward 1 (Vice-Chair)
Councillor George Carlson	Ward 11
Brad Bass	Citizen Member
Chelsea Dalton	Citizen Member
Lea Ann Mallett	Citizen Member
Pujita Verma	Citizen Member
Carina Suleiman	UTM (University of Toronto Mississauga) Student
Nandini Menon	PEYA (Peel Environmental Youth Alliance) Student
Alice Casselman	Association for Canadian Educational Resources
Britt McKee	Ecosource
Jeff Robertson	Partners in Project Green
Melanie Kramer	Credit Valley Conservation
Andrea Rowe	Greening Sacred Spaces (Non-Voting Member)
Brad Butt	Mississauga Board of Trade (Non-Voting Member)
Sid Gendron	Sawmill Sid Inc. (Non-Voting Member)

Participate Virtually

Any member of the public interested in speaking to an item listed on the agenda may register at dayna.obaseki@mississauga.ca or call 905-615-3200 ext. 5425 by October 30, 2020 before 4:00 P.M.

Please note the Environmental Action Committee will not be streamed or video posted afterwards. If you are interested in attending the meeting virtually, please contact dayna.obaseki@mississauga.ca or call 905-615-3200 ext. 5425 by October 30, 2020 before 4:00 P.M. in order to join the meeting.

Contact

Dayna Obaseki, Legislative Coordinator, Legislative Services
905-615-3200 ext. 5425
Email dayna.obaseki@mississauga.ca

1. CALL TO ORDER

2. APPROVAL OF AGENDA

3. DECLARATION OF CONFLICT OF INTEREST

4. MINUTES OF PREVIOUS MEETING

4.1. Environmental Action Committee DRAFT Minutes – October 6, 2020

5. DEPUTATIONS

5.1. Gabriella Kapalos, Executive Director, Clean Air Partnership to present on the Inter-Governmental Declaration of Clean Air and Climate Change for Clean Air Council

(Related to Item 7.1)

5.2. Dianne Zimmerman, Manager Environment and Sumeet Jhingan, Manager, Asset Management to present on Energy Efficiency in Buildings and Low Carbon Energy Supply

5.3. Sharon Chapman, Manager, Parks Planning to present on Parkland Acquisition

5.4. Alex Legrain, Project Leader, Transportation Planning and Mojan Jianfar, Project Lead, Planner, City Planning Strategies to present on the Downtown Movement Plan

6. PUBLIC QUESTION PERIOD - 15 Minute Limit

Public Comments: Any member of the public interested in speaking to an item listed on the agenda may register at dayna.obaseki@mississauga.ca or call 905-615-3200 ext. 5425 by October 30, 2020 before 4:00 P.M.

Pursuant to *Section 42 of the Council Procedure By-law 0139-2013*, as amended:

Environmental Action Committee may grant permission to a member of the public to ask a question of Environmental Action Committee, with the following provisions:

1. The question must pertain to a specific item on the current agenda and the speaker will state which item the question is related to.
2. A person asking a question shall limit any background explanation to two (2) statements, followed by the question.
3. The total speaking time shall be five (5) minutes maximum, per speaker.

7. MATTERS TO BE CONSIDERED

7.1. Clean Air Council Declaration: 2019-2023 Intergovernmental Declaration on Clean Air and Climate Change

(Related to Item 5.1)

7.2. Green Fleet and Equipment Policy and Electric Vehicle Charging Station Standard

7.3. Environmental Action Committee (EAC) Work Plan

8. INFORMATION ITEMS

8.1. Adopt-A-Park Litter Clean-Up Update (Verbal)

8.2. Environmental Action Committee 2021 Meeting Dates

9. OTHER BUSINESS

10. ENQUIRIES

11. DATE OF NEXT MEETING

Tuesday, December 8, 2020 at 9:30am

Online Video Conference

12. ADJOURNMENT

Clean Air Council Update and 2019 – 2023 Declaration on Clean Air and Climate Change

City of Mississauga Environmental Action Committee

November 3rd, 2020

Gabriella Kalapos, Executive Director, Clean Air Partnership

CLEAN AIR COUNCIL

Clean Air Partnership

About Clean Air Partnership

- Charitable Environmental Organization
- Works with municipal governments and partners to reduce GHGs and air pollution, increase resiliency to extreme weather and make advancements towards a low carbon economy.
- Outreach, Awareness Building & Collaboration
- Capacity Building and Implementation Support
- Transfer of Actions & Scale Up of Actions
- Serves as the Secretariat for CAC & PCP (Ontario)

About Clean Air Council

- Working collaboratively since 2001 to:
- reduce air pollution and greenhouse gas emissions
- Increase resilience to extreme weather
- Make the connection between financial competiveness, community livability and the low carbon transition

How the Clean Air Council Works

- As each municipality undertakes a clean air/climate change action we get them to share what they have done with others
- Bring collective brain power together to identify the barriers to transfer and improvement of action across municipalities
- Support the transfer/implementation and improvement of actions across municipalities

Upcoming Priorities

- **Corporate Leadership: Continuous Improvement and progress reporting related to the ambition and implementation of**
- Facility Energy Conservation Plans
- Green Fleets Plans
- Green Procurement Policies and Practices
- Community Energy, Climate Mitigation & Resilience Plans

Upcoming Priorities

- **Advancing Air Pollution, Low Carbon and Resilience Financial Mechanisms** ex. Revolving Funds, Green Bonds, LICs

- **Scaling-Up Low Carbon Buildings** through the uptake and transfer of green development standards, energy efficiency retrofits, air quality improvements, resilient building measures, and building energy disclosure and labelling

Upcoming Priorities

- Strengthening municipal capacity to consider and develop **Value Propositions and Businesses Cases for Green Infrastructure**
- **Maximizing Transportation Air Pollution and Carbon Reductions** through the increased uptake of electric vehicles, implementation of active transportation/Complete Streets/Vision Zero plans, and integrated transportation and land use planning

Upcoming Priorities

- Incorporating Climate Change **Mitigation and Resilience Considerations into Municipal Decision Making**
- Working collaboratively with a **Broadening Stakeholder Base** to increase the understanding of the links between climate action, public health, equity, community livability and financial sustainability

CAC Declaration Progress Report

ARTICLE 4 - PROGRESS REPORT ON PAST CLEAN AIR COUNCIL DECLARATION ACTIONS

AS OF FEBRUARY 2020

	DECLARATION ACTIONS																
MUNICIPALITY	Active Transportation	Green Development Policies - Corporate	Green Development Policies - Community	Community GHG reduction targets	Community Energy Plans	Corporate Energy Plans	Corporate Green Energy Production	Community Climate Action Plan	Green Procurement Policies/ Procedures	Urban Forest Plans	Urban Infestation Plans	Community Gardening Policies	Urban Agriculture Plans	Local Food Procurement Policies	Climate Change Adaptation/ Resilience Plans - Community	Climate Change Adaptation/ Resilience Plans - Corporate	Green Fleet Action Plan	Community Climate Change Action/ Environment Funds
Ajax	Approved	Approved	In Development	Approved		Approved	Approved	Approved	Approved	Approved	Approved	Approved			Approved	Approved	Approved	
Aurora	In Development		In Development	In Development	In Development	Approved	Approved		In Development		Approved					In Development	In Development	
Brampton	Approved		Approved	Approved	In Development	Approved	Approved	Approved	In Development	In Development		Approved	In Development				Approved**	
Burlington	Approved**	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved			In Development		Approved**	
Caledon	Approved	Approved**	Approved	Approved**	In Development	Approved	Approved	Approved	Approved	Approved		In Development		Approved	In Development	In Development	In Development	In Development
Clarington	In Development					Approved			In Development			Approved					In Development	
Durham Region	Approved	In Development		Approved	Approved	Approved	Approved	Approved	In Development						Approved	Approved		Approved
Guelph	Approved			Approved	Approved	Approved				Approved	Approved	Approved		Approved	In Development	In Development		
Halton Region	Approved	Approved		In Development	In Development	Approved**	Approved	Approved	Approved					Approved		In Development	Approved	
Halton Hills	Approved**	Approved**	Approved	Approved	Approved	Approved	Approved	Approved	Approved	In Development					In Development	In Development	In Development	Approved
Hamilton	Approved			Approved	In Development	Approved	Approved	Approved		In Development	Approved	Approved	Approved	In Development	In Development	In Development	Approved	
King	In Development	In Development	In Development	In Development	In Development	In Development	Approved	Approved	In Development						In Development	In Development	In Development	
London	Approved	Approved	In Development	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved		In Development	In Development	In Development	Approved
Markham	Approved	Approved	In Development	Approved	Approved	Approved	Approved	Approved	Approved		Approved	Approved	Approved					Approved
Mississauga	Approved	Approved	Approved	Approved		Approved		Approved	Approved	Approved	Approved	Approved	In Development		Approved	Approved	In Development	
Newmarket	Approved			Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	In Development	In Development	In Development	In Development	In Development		In Development

Resolution Request

- That the Environmental Action Committee are in support of Clean Air Council's 2019-2023 Intergovernmental Declaration on Clean and Climate Change and recommend endorsement from General Committee on November 18, 2020.

Thank You for Your Time

- Contact information: Gabriella Kalapos
- gkalapos@cleanairpartnership.org

CLIMATE CHANGE

ENERGY EFFICIENCY IN BUILDINGS AND LOW CARBON ENERGY SUPPLY

Dianne Zimmerman, Manager Environment and
Sumeet Jhingan, Manager, Asset Management

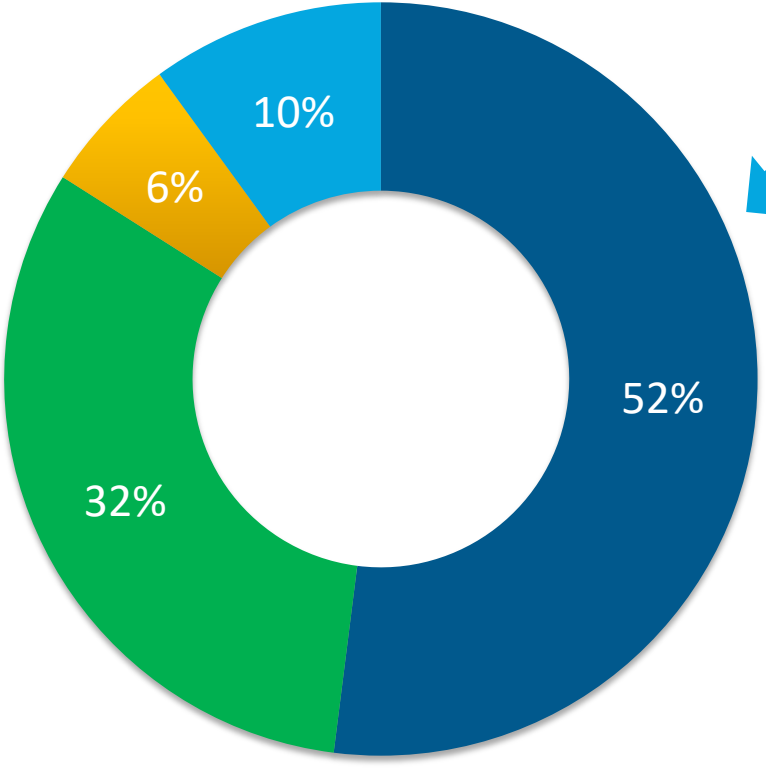
Environmental Action Committee

November 3rd 2020

MISSISSAUGA

COMMUNITY GHG'S

5.2 CLIMATE CHANGE



The majority of community emissions come from buildings

- buildings
- transportation
- air travel
- industrial

6.2 million t/eCO_2 TOTAL

CITY'S CLIMATE COMMITMENTS

Goal: Mitigation

Reduce GHG emissions by **80% by 2050** (below 1990 levels) with the goal of becoming a net zero community

Goal: Adaptation

Increase resilience and the capacity to deal with and respond to **current and future** climate-related risks

5 Action Pathways

Buildings & Clean Energy	Resilient & Green Infrastructure	Accelerating Discovery & Innovation	Low Emissions Mobility & Transportation	Engagement & Partnerships

BUILDINGS & CLEAN ENERGY

- Reduce greenhouse gases from homes and buildings
- Increase the supply of renewable energy
- Advance low carbon neighbourhoods
- Encourage energy conservation

HOW WILL THE CITY ACHIEVE ITS GOALS?

To meet Mississauga's climate goals, a combined approach to energy from both a demand perspective (e.g. improved energy efficiency) and supply perspective (from low carbon energy sources) will be necessary.

BUILDINGS & CLEAN ENERGY ACTIONS

- **Action #1:** Advance Renewable Energy and Low Carbon Energy Systems
- **Action #2:** Update Mississauga's Official Plan to Strengthen Existing Climate Change Imperative
- **Action #3:** Improve the Energy Efficiency and Climate Resilience of New Buildings
- **Action #4:** Increase the Use and Supply of Renewable Energy at Municipally-Owned Facilities
- **Action #5:** Advance Energy Efficiency and Climate Resilience of Municipally-Owned Buildings
- **Action #6:** Develop a Low Carbon and Resilient Retrofits Program

ACTIONS # 2 & 3

To Improve the energy efficiency and climate resilience of new buildings, the City will:

- Update the 2012 Green Development Standard to include energy and resilience considerations within building, site features, and boulevard.

- Revise the development application requirements and update the complete application criteria in the Official Plan to align with the updated Green Development Standards

- Identify opportunities to introduce new legal and/or policy tools, including by-laws, to require implementation of climate resilience measures (e.g., green roof by-law) in new buildings

ACTIONS # 4 & 5

ENERGY MANAGEMENT:

- Solar studies
- 5-year Energy Conservation Plan
- Corporate Green Building Standard

SOLAR STUDIES

7 Rooftops analyzed:

- Carmen Corbasson CC
- Clarkson CC
- Erin Mills Twin Arena
- Mississauga Valley CC
- Paramount Fine Foods Centre
- Edward J. Dowling Transit Facility

Potential Capacity: 3.5 MW

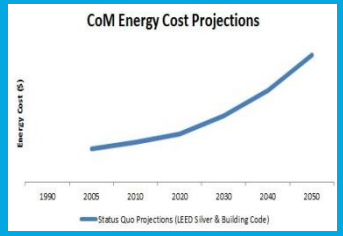
5 YEAR ENERGY CONSERVATION PLAN (2019 – 2023)

Ontario Regulation 507/18

- Provincial Requirement to report usage
- Develop & implement a CDM Plan starting in 2019

80% GHG reduction by 2050

- Need to meet the City's aggressive Community & Corporate targets



Utility Budget Stability

- Need to mitigate the rising utility costs (projected at 3% annually)

Net-zero Carbon City

- Need to support this Visionary Action
- Need to demonstrate environmental leadership

NEED TO ADDRESS ENERGY & CLIMATE CHANGE IN CITY BUILDINGS

5 YEAR ENERGY CONSERVATION PLAN

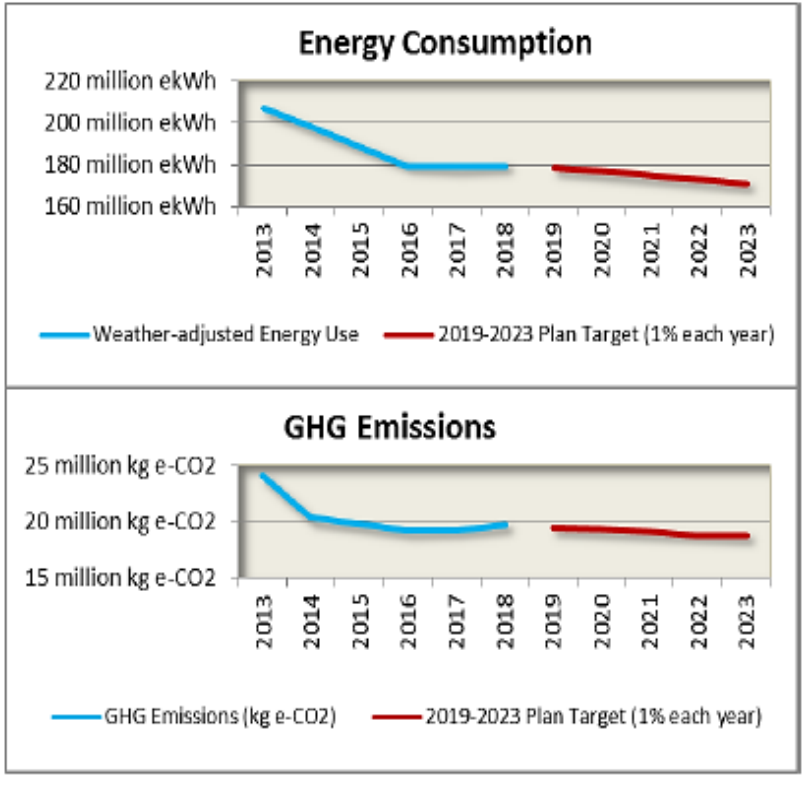
ISO 50001 Continual Improvement Framework

- PLAN: Set a target of 5% energy use and GHG emissions by 2023 over 2018; plan a list of projects
- DO: Request funding each year and execute projects over the 5 years
- CHECK: Utilize real-time utility metering to track performance
- ACT: Utilize the data to make improvements and continually drive energy performance

5 YEAR ENERGY CONSERVATION PLAN

Key Performance Indicators:

- Energy Consumption
  - Electricity & Natural Gas
- Greenhouse Gas Emissions
  - Using site factors to account for distribution losses
- Measured annually over 2018



CORPORATE GREEN BUILDING STANDARD

- Approved by Council in December 2019
- Applies to City-owned Buildings for new Construction and Major Renovations
- To improve environmental performance
- Reduce operating & maintenance costs
- Place Mississauga as a leader in green building

the CLIMATE CHANGE project

	LEED Silver (old City Standard)	CGB Standard (New)
Energy & Climate Change	• Energy performance • Commissioning • Ozone depleting compounds	• Energy and emissions performance • Monitoring-based commissioning/verification • Air tightness testing • On-site renewables • Metering and benchmarking • Resilience performance • Ozone depleting compounds
Sustainable Sites	• Erosion and sediment control • Bicycle infrastructure • Stormwater management	• Erosion and sediment control • Bicycle infrastructure • Stormwater management • Light pollution • Biodiversity*
Water	• Water use intensity	• Water use intensity
Materials & Resources	• Construction waste management • Recycled Content	• Construction waste management • Low-impact materials (recycled content) • Embodied carbon footprint*
Indoor Environmental Quality	• Low-emitting materials (adhesives, sealants, paints, coatings, flooring)	• Low-impact materials (adhesives, sealants, paints, coatings, flooring)

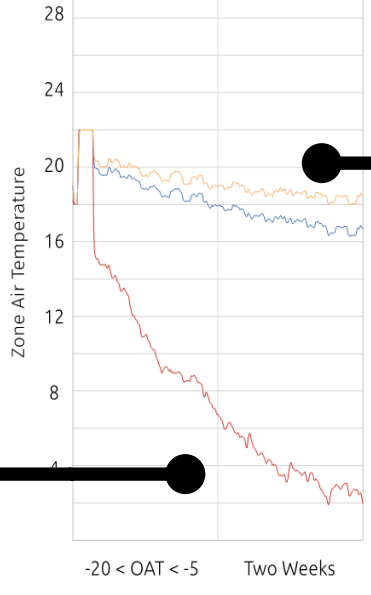
the CLIMATE CHANGE project

OUR APPROACH – THREE LEVELS OF PERFORMANCE

Level 1: 'Must Have'
Performance targets that are required in all buildings and facilities

Level 2: 'Highly Desirable'
Performance targets that represent a more ambitious level of performance

Level 3: 'If Possible'
Performance targets that are considered 'best in class' and that should be pursued when project parameters allow



Current approach:
- Increased mechanical equipment
- Increased dependence on energy
- Complicated controls to operate

Building envelope–first approa
- Reduced mechanical equipme
- Increased resiliency to extren events
- Easy to operate

What does this mean for Mississauga's buildings?

Source: City of Mississauga

the CLIMATE CHANGE project

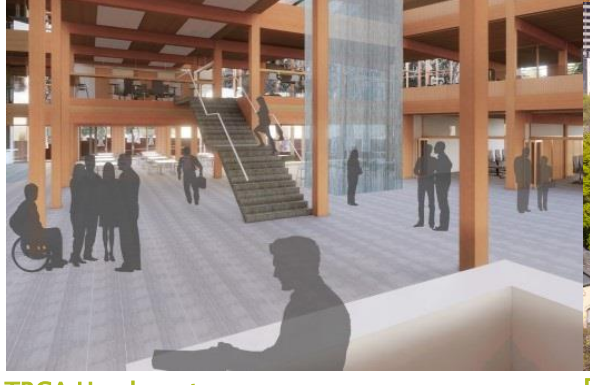
Comfortable Buildings

EcoLock

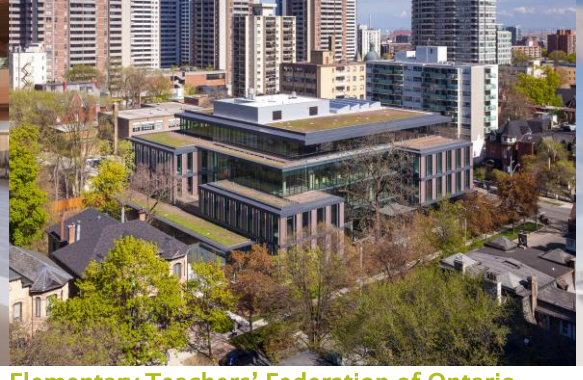
George Brown College

TRCA Headquarters

TRCA Headquarters



Elementary Teachers' Federation of Ontario



Vancouver Fire Hall No. 17

Cost & Benefits of High Performance Buildings

- ✓ Cost Premium over current LEED® Silver building
  - ✓ 2.6% – 5% for Level 1
  - ✓ 7.6% – 12.5% for Level 2
  - ✓ 20% – 30% for Level 3
- ✓ Lower greenhouse gas emissions
  - ✓ 2.5% – 12.5% lower for Level 1
  - ✓ 20.0% – 50.0% lower for Level 2
  - ✓ 60.0% – 85.0% lower for Level 3
- ✓ Lower energy, waste, and water costs
- ✓ Lower operational and maintenance costs
- ✓ Other Benefits:
  - ✓ Increased productivity and staff retention
  - ✓ Improved health and reduced sick days
  - ✓ Improved resilience to extreme events
  - ✓ Create jobs and GDP

Telus Garden (Vancouver) | LEED Platinum

CLIMATE CHANGE

Feedback and questions

Park Acquisition Program

Environmental Action Committee

November 3, 2020

Park Planning

Parks, Forestry & Environment Division

- Long term park & park amenity planning
- Leads public engagement processes for parks
- Review impacts to the City's parks and natural areas and recommends measures to protect, enhance and expand these assets
- Contributes to the development application process with an emphasis on protection of parkland/natural heritage system, parkland/greenland dedication and Cash-in-Lieu of Parkland
- Leads strategic land acquisitions for parkland

Parkland Acquisition

Guided by Policy and Master Plans

Mississauga Official Plan

- Parkland provision targets and policies
- Expand the Green System for the benefit of existing and future generations
- Acquisition of parkland to provide public access to and protection of the waterfront

2019 Parks and Forestry Master Plan

- Update evaluation criteria acquisition factors to identify and rank properties to secure for parks
- Target 1.2 ha of parkland per 1000 residents for residential districts
- Target 12% minimum parkland for urban character areas
- Achieve park distribution to allow for pubic playgrounds within a 10 minute walk for every resident

Parkland Acquisition

Guided by Policy and Master Plans

Waterfront Parks Strategy

- Secure continuous public access along the edge of Lake Ontario
- Protect, enhance and expand natural heritage areas
- Expand parkland through acquisition along the shoreline

Credit River Parks Strategy

- Expand the area of publicly owned parkland within the Credit River Valley
- Acquire lands to address missing links in the trail system and to protect and enhance natural areas

Natural Heritage & Urban Forest Strategy

- Expand the natural heritage system and urban forest through acquisition

Park Acquisition Evaluation Criteria

2019 Parks and Forestry Master Plan

1. Supports a healthy environment
2. Expands and connects trail systems
3. Park design and development potential
4. Supports population growth
5. Provides for recreational program and facilities

Cash-in-Lieu of Parkland (CIL)

Funding Acquisitions

- The Planning Act empowers the City to require the conveyance of parkland or Cash-in-Lieu of parkland through the development process
- Funding for the purchase of parkland comes from accumulated monies in the City's Cash-in-Lieu of Parkland Reserve
- Increased cost of land makes parkland acquisition challenging within current cash-in-lieu (CIL) of parkland revenue collection practices
- Increased CIL revenue is needed to sustain current service levels and execute long-term parkland acquisition strategies

Park Acquisition Program

Current Status

- The City has 505 parks and 3100 ha (7660 acres) of parkland and open space
- Parks include 26 waterfront parks along the City's 22 kilometre Lake Ontario shoreline
- Parks include over 300 publicly owned woodlands and natural areas covering 1124 hectares (2777 acres)
- The current city-wide per capita supply of parkland is 2.36 hectares per 1000 residents

Culham Trail, Mississauga
Photo Credit: City of Mississauga

Park Acquisition Program

Achievements

- In the last five years, approximately **33 hectares (81 acres)** have been acquired for parkland purposes – of that total, **21 hectares (53 acres)** have been greenlands
- In 2018 the Ninth Line parkland consolidation was completed resulting in cohesive City owned parkland within the corridor
- New parkland in the amount of approximately **25 hectares (62 acres)** is recommended for dedication through active major waterfront developments
- The Cooksville Parkland Acquisition project identified 31 properties totaling **10 ha (25 acres)** to acquire for parkland purposes. 15 properties have already been secured and negotiations are ongoing
- In 2009 and 2016 the expansion of Credit Meadows was completed with **62 ha (153 acres)** of new parkland being added to Credit Meadows

Credit Meadows Expansion

Formerly Harris Farm

62.2 Hectares

- Acquisition through direct purchase
- Park amenities and trail system
- Meadow regeneration
- Forest regeneration
- Natural area protection, expansion and enhancement

Addition to Fletcher's Flats

Greenlands

3.49 Hectares

- Gratuitous dedication
- Potential trail network expansion
- Natural area protection, expansion and enhancement

Credit River Flats

Greenlands

3.36 Hectares

- Natural area protection, expansion and enhancement
- Protection of Credit River shoreline

Park Acquisition Program

Future Acquisitions

- Continue with the **Cooksville Parkland Acquisition** project which when complete will add **10 ha (25 acres)** of new parkland in an area of the City currently facing a parkland deficit. The new parkland will be added to existing parks within the Cooksville Creek corridor creating a cohesive and connected park system with urban park spaces, trail connections, and natural feature enhancement.
- Build on the Credit Meadows expansion success where **62 ha (153 acres)** of park was added the **Credit River Valley** system by working towards acquisition of additional key properties identified in the Credit River Parks Strategy to address missing trail system links and further enhance natural areas.
- Continue to expand parkland through acquisition along the **Lake Ontario shoreline** through purchase and dedication.
- Continue to identify and pursue properties of interest for parkland purposes in order to ensure **equitable City-wide distribution of parkland** as well as **expansion of the natural heritage system and urban forest.**

Help shape our City
Downtown Strategy

Downtown Movement Plan – Project Overview and Update

Environmental Action Committee
November 3, 2020

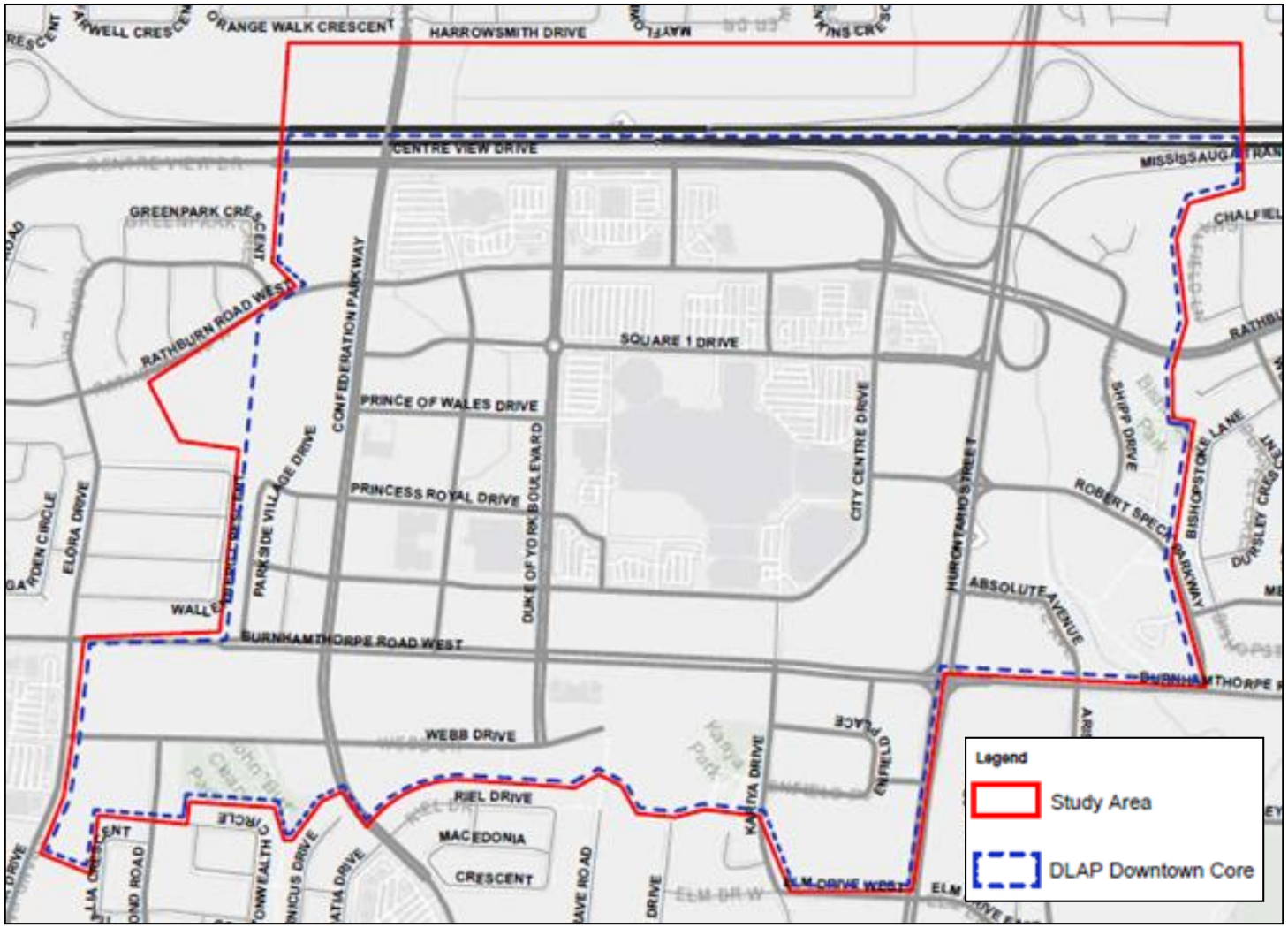
Downtown Movement Plan

- Technical study of the **Downtown Strategy & Action Plan**
- Delivering a multi-modal transportation master plan for the Downtown.

How?

- Consolidating / sense-checking previous plans
- Developing a suite of transportation options
- Going through the Environmental Assessment process to speed up implementation and determine the most effective options for the Downtown

Study Area


HARROWSMITH DRIVE
CENTRE VIEW DRIVE
GREENPARK CRESCENT
RATHBURN ROAD WEST
CONFEDERATION PARKWAY
SQUARE 1 DRIVE
PRINCE OF WALES DRIVE
PRINCESS ROYAL DRIVE
PARKSIDE VILLAGE DRIVE
DUKE OF YORK BOULEVARD
CITY CENTRE DRIVE
HURONTARIO STREET
ELORA DRIVE
ABSOLUTE AVENUE
BURNHAMTHORPE ROAD WEST
WEBB DRIVE
RIEL DRIVE
MACEDONIA CRESCENT
KARIYA DRIVE
ELM DRIVE WEST
Legend
Study Area
DLAP Downtown Core

Downtown 21 Master Plan

- Downtown21 Master Plan (2010) outlined a vision to transform the Downtown from suburban to urban.

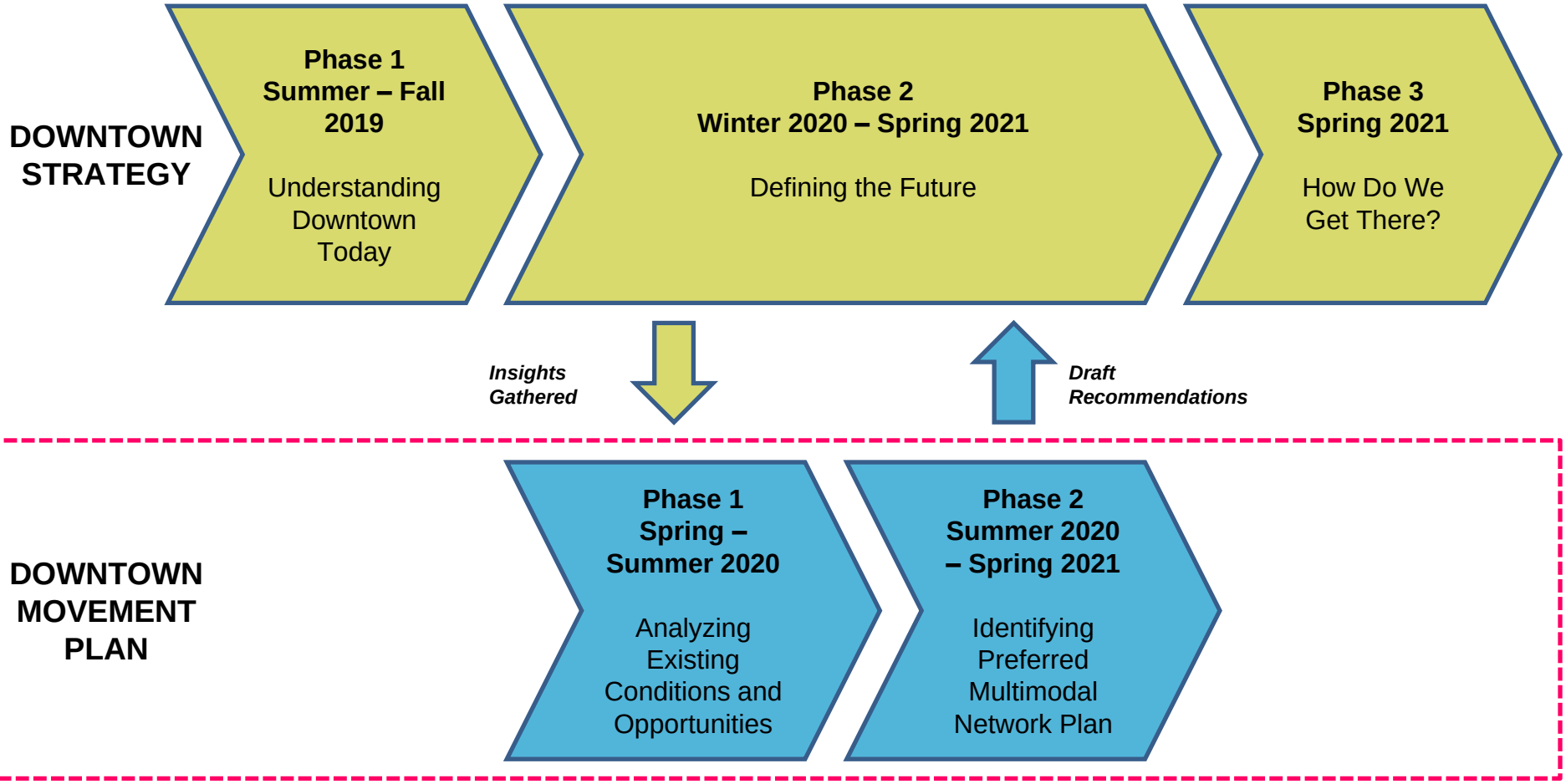
- Identified 6 guiding principles:
  - Parks and Open Spaces
  - Trails and Cycling
  - Transit
  - Urban Design
  - Districts
  - Street Character

What is the Downtown Strategy and Action Plan?

- Building on the foundation of Downtown21, the **Downtown Strategy** will be a guiding document to ensure we are building a vibrant Downtown

- The Downtown Strategy will:
  - Guide the Downtown's future growth and transformation
  - Identify planning, policy, process, operations, programming and infrastructure improvements
  - Strategically direct efforts and resources to where they will have the most impact

Downtown Movement Plan



Phase 1 Engagement

- Multiple approaches:
  - Shared online project webpage – yoursay.mississauga.ca/downtown
  - Mail-out flyers
  - E-newsletter
  - Digital signage
  - Outreach to stakeholders
  - Comments via mail, phone, online, email
  - On-demand meeting

What we heard in Phase 1

Theme	Top 3 Concerns	Top 3 Improvements
Walking	• Vehicle speeds • Safety at crossings • Large blocks	• Sidewalks • Green infrastructure • Advanced pedestrian signal timing
Cycling	• Conflict with drivers • Lack of cycling paths • Safety	• Buffered bike lane • Protected cycle tracks • Multi-use pathways
Transit	• Long wait times • Bus stop location or hard to reach stops • Transfers difficult	• Improved bus shelters • Bus-only lanes • More bus service
Driving	• Congestion • Safety • Difficulty making left turns	• Reduced lane width • Reduce number of lanes • Roundabouts

Existing Transportation Conditions

Source: 2016 TTS Data

Problems & Opportunities

Problems	Opportunities
Cars are the first choice for travel	Encourage the use of transit, cycling, and walking
Large land parcels are dedicated to surface parking	Create new connections through redevelopment
Major barriers and gaps in the road network	Build a fine-grid street network for all modes
Transit frequency, access and convenience can be improved	Improve service, user experience, and first and last mile connections
Competition between high volumes of cars and transit.	Focus on road, safety, and efficiency improvements

DMP Next Steps

Next Steps

- **Review feedback from the public**
- **Refine and evaluate alternative solutions**
- **Evaluate, select and develop preferred solutions**
- **Present the preferred solution to the Public at Phase 2 Meeting**

Thank you

Alex Legrain

Project Lead

Transportation Planning,
Transportation and Works

alex.legrain@mississauga.ca

Mojan Jianfar

Project Lead, Downtown Strategy

Planner, City Planning Strategies

mojan.jianfar@mississauga.ca

Please visit https://yoursay.mississauga.ca/downtown for more information and engagement summaries

City of Mississauga
Memorandum

MISSISSAUGA

Date: 2020/10/22

To: Environmental Action Committee

From: Leya Barry, Climate Change Specialist

Meeting Date: 2020/11/03

Subject: Clean Air Council Declaration: 2019-2023 Intergovernmental Declaration on Clean Air and Climate Change

Addressing air quality and climate change is complex and requires the collaboration of multiple sectors. The Clean Air Council is an intergovernmental working group that has worked collaboratively to develop and implement clean air and climate change actions since 2000.

The goals of the Clean Air Council are to:

- Address air quality and climate change challenges through a dynamic network that expands knowledge and encourages practical policies and actions;
- Promote a better understanding of air quality and climate change challenges and opportunities among municipalities and public health units to improve their ability to address problems in a cost-effective way;
- Explore opportunities for joint initiatives to reduce air pollution and greenhouse gas (GHG) emissions and increase climate change adaptation and resilience actions;
- Develop and report on progress of Intergovernmental Declarations on Clean Air and Climate Change, tracking the implementation, transfer and scale up of clean air and climate change actions across jurisdictions; and,
- Liaise with municipalities in Ontario, and internationally, and with organizations and stakeholders that are committed to sharing efforts and best practices for reducing air pollution and GHG emissions and increasing community livability and resilience.

The Clean Air Partnership is the secretariat for the Clean Air Council. The Clean Air Council is currently comprised of 27 municipalities from across southern Ontario, including The Region of Peel, City of Brampton, Town of Caledon and City of Mississauga. The City of Mississauga has been a member municipality since 2001.

The Intergovernmental Declaration on Clean Air and Climate Change serves as the Clean Air Council's workplan. Member jurisdictions sign on to the Declaration, making a commitment to work collaboratively with partners. The Region of Peel recently approved the 2019-2023 Declaration in February, 2020. Similarly, staff are recommending that the City of Mississauga continues to work with the Clean Air Council and become a signatory to the 2019-2023

Declaration. The City of Mississauga has been a signatory to the Declaration since 2001. Article 4 of the 2019 - 2023 Intergovernmental Declaration on Clean Air and Climate Change (see Appendix 1) provides a high-level progress report on commitments made in past Declarations.

The Declaration is aligned with Ontario's four-year municipal election cycle and for each Declaration item, targets are set, and progress reports are published. At the start of a new municipal Council term, each Clean Air Council member, including the City of Mississauga, provides their jurisdiction's priority environmental actions related to air quality and climate change. Through a prioritization exercise, the commonly identified actions become renewed Clean Air Council Declaration commitments.

The commitments identified in the 2019 - 2023 Intergovernmental Declaration on Clean Air include:

1. Demonstrating corporate leadership in sustainable municipal operations.
2. Advancing financial mechanisms for a resilient low carbon economy.
3. Accelerating the transition to low carbon in new and existing buildings.
4. Value propositions and business cases for green infrastructure.
5. Maximizing reductions in air pollution and carbon emissions from transportation.
6. Incorporating climate change mitigation and resilience considerations into municipal decision making.
7. Working collaboratively with a diverse stakeholder base.

The Declaration aligns well with the City of Mississauga's Climate Change Action Plan (CCAP), which was unanimously endorsed by Council in December, 2019. The CCAP identified five Action Pathways to advance low carbon resilience:

1. Buildings and Clean Energy
2. Resilient and Green Infrastructure
3. Accelerating Discovery and Innovation
4. Low Emissions Mobility
5. Engagement and Partnerships

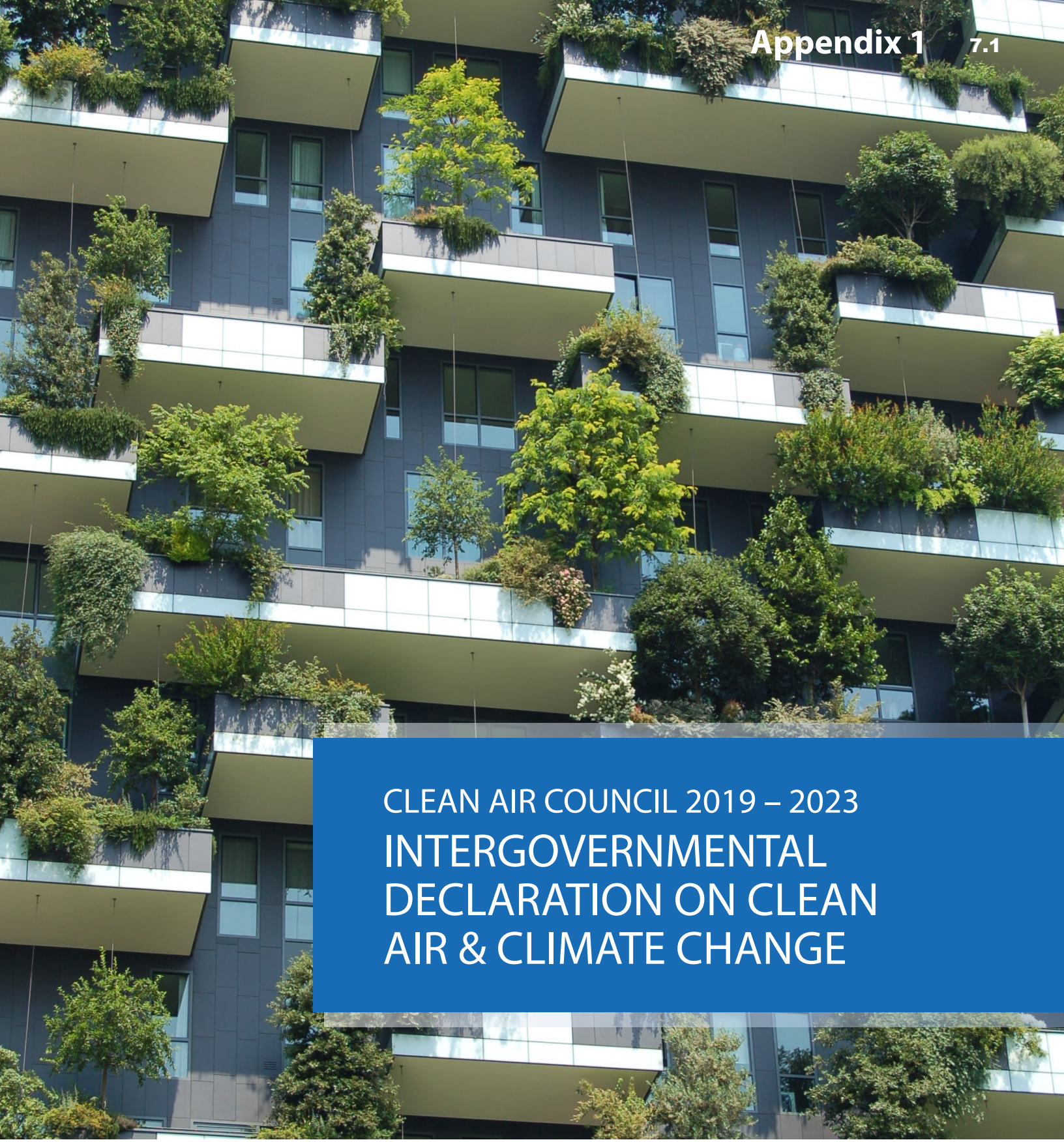
The full 2019 - 2023 Intergovernmental Declaration on Clean Air and Climate Change can be found in Appendix 1. The City's participation on the Clean Air Council provides Mississauga with numerous benefits and helps to advance the City of Mississauga's work on climate change. It is recommended that the City sign on to the 2019 - 2023 Intergovernmental Declaration and continue to work with CAC members to improve air quality and address climate change.

Attachments

Appendix 1: 2019 – 2023 Intergovernmental Declaration on Clean Air and Climate Change

---

Leya Barry, Climate Change Specialist



CLEAN AIR COUNCIL 2019 – 2023

INTERGOVERNMENTAL DECLARATION ON CLEAN AIR & CLIMATE CHANGE

CLEAN AIR COUNCIL

Clean Air Partnership

PREAMBLE

The Clean Air Council (CAC) is a network of municipalities and health units that work collaboratively to combat air pollution and climate change. Since 2001, CAC members have worked to make our communities more livable, competitive, and resilient through actions that reduce energy use, minimize greenhouse gas (GHG) and air pollution emissions, and make the movement of people and goods more efficient.

Air pollution in Ontario is linked to premature deaths, hospitalizations, increases in chronic heart and lung diseases including lung cancer, and acute respiratory and cardiovascular diseases. In Ontario, air pollution results in over 5000 annual premature deaths, costing the province over $500 million yearly in direct health care costs.

Climate change adversely affects Ontario municipalities through rising temperatures and increased severe weather events which result in impacts to public health, infrastructure, industry, food production, and natural resources. Immediate action is required to mitigate GHG emissions and minimize these impacts.

Ontario municipalities are working to address climate change and air pollution while also strengthening their economies. The policies needed to fight air pollution and climate change can also produce health benefits and economic growth, reduce costs, and improve social equity in our communities. The CAC presents an opportunity to take a cohesive approach, pooling research findings, expertise, and lessons learned, while enabling actions that benefit our communities and beyond.

THE GOALS OF THE CLEAN AIR COUNCIL ARE TO:

- Address air quality and climate change challenges through a dynamic network that expands knowledge and encourages practical policies and actions;
- Promote a better understanding of air quality and climate change challenges and opportunities among municipalities and public health units to improve their ability to address these problems in a cost-effective way;
- Explore opportunities for joint initiatives to reduce air pollution and GHG emissions and increase climate change adaptation and resilience actions;
- Develop and report on progress of Intergovernmental Declarations of Clean Air and Climate Change, tracking the implementation, transfer and scale-up of clean air and climate change actions across jurisdictions; and
- Liaise with municipalities and other partners in Ontario, Canada and internationally to share efforts and best practices for reducing air pollution and GHG emissions and increasing community livability and resilience.

Clean Air Partnership (CAP) would like to acknowledge and thank the City of Toronto, CAC member jurisdictions, and provincial, federal and other partners for providing financial and in-kind support for the CAC. These partners have provided invaluable assistance in developing, implementing and reporting on progress on actions listed in the various CAC Intergovernmental Declarations on Clean Air and Climate Change.

CAP is a charitable environmental organization whose mandate is to work with municipalities and their partners to reduce air pollution and GHGs, increase resiliency to extreme weather, and advance a low carbon economy. CAP serves as the secretariat for the CAC.

ARTICLE 1 – STATEMENT OF COMMON UNDERSTANDING & COMMITMENT

1. Air pollution adversely affects human health, the economy, and quality of life through its impacts on health, degradation of the environment, and damage to buildings and property.

2. Climate change projections predict increased extreme weather events in Ontario such as floods, drought, forest fires, increased air pollution and heat waves – all of which increase health risks and economic costs to Canadians.

3. Municipalities, having significant influence on development, land use and transportation are fundamental to achieving our local, provincial and national air pollution and GHG emission reductions.

4. Greater authority and support from provincial and federal governments is needed to enable municipalities to reduce air pollution and GHG emissions.

5. In recognizing and understanding the value of ecosystem services to human health, CAC members aim to improve the health of their residents and resilience of their communities through a collective EcoHealth approach, reducing pollution and GHGs while also protecting urban forests, green space, natural heritage systems, watersheds and biodiversity.

6. CAC members recognize air pollution and climate change do not impact all populations equally. Socially and economically disadvantaged community members will be affected first and most severely. CAC members commit to applying an equity lens to air pollution and GHG reductions, resilience and green infrastructure policies and actions.

7. CAC members recognize the importance of future climate scenarios and their impacts on local communities for building resilience into current decision making processes. CAC members' commitment to undertaking actions to reduce air pollution and GHG emissions will make their communities more efficient and livable through improvements to our health, economies and ecosystems.

8. CAC members commit to monitoring and reporting on their progress and outcomes achieved related to present and past CAC declaration actions.

ARTICLE 2 – SIGNATORIES TO THE CLEAN AIR COUNCIL INTER-GOVERNMENTAL DECLARATION ON CLEAN AIR AND CLIMATE CHANGE

Town of Ajax By the Lake

Aurora You're in Good Company

Flower City Brampton

City of Burlington

Town of Caledon

Clarington

Durham Region

City of Guelph

Halton Region

Hamilton

King

Kingston

London Canada

Markham

Mississauga

Newmarket

Northumberland County

Oakville

Oshawa Prepare To Be Amazed

Region of Peel Working for you

City of Pickering

Richmond Hill

Toronto

Vaughan

simcoe muskoka District Health Unit

Region of Waterloo

The City of Windsor Ontario, Canada

Whitby

York Region

ARTICLE 3 – CALL FOR FUTURE CLEAN AIR COUNCIL ACTION

While GHG emissions and air pollutants have been reduced in Ontario over the past decade, CAC members ensure that commitments made under the current and past Intergovernmental Declarations support continuous improvement. CAC members commit to advancing the development of a sustained collaborative process with the Province of Ontario and Government of Canada to advance the actions and policies listed in Article 4 and below.

Clean Air Council members commit to advancing healthy, lower carbon, sustainable communities through[1]:

1. Demonstrating Corporate Leadership in Sustainable Municipal Operations through continuous improvement and progress reporting related to implementation of municipal energy conservation, green procurement, green fleets, community energy, and climate mitigation and resilience plans.

2. Advancing Financial Mechanisms for a Resilient Low Carbon Economy as they relate to expanding and scaling up proven mechanisms, and leveraging intergovernmental and private sector opportunities.

3. Accelerating the Transition to Low Carbon New and Existing Buildings through the uptake and transfer of green development standards, energy efficiency retrofits, air quality improvements, resilient building measures, and building energy disclosure and labelling.

4. Strengthening municipal capacity to consider and develop Value Propositions and Businesses Cases for Green Infrastructure.

5. Maximizing Reductions in Air Pollution and Carbon Emissions from Transportation through the increased uptake of electric vehicles, implementation of active transportation/Complete Streets/Vision Zero plans, and integrated transportation and land use planning.

6. Incorporating Climate Change Mitigation and Resilience Considerations into Municipal Decision Making.

7. Working Collaboratively with a Diverse Stakeholder Base to increase the understanding of the links between climate action, public health, equity, community livability and financial sustainability.

---

1 The numbering sequence does not correlate to a prioritization of Declaration Actions.

ARTICLE 4 - PROGRESS REPORT ON PAST CLEAN AIR COUNCIL DECLARATION ACTIONS

AS OF FEBRUARY 2020

	DECLARATION ACTIONS																
MUNICIPALITY	Active Transportation	Green Development Policies - Corporate	Green Development Policies - Community	Community GHG reduction targets	Community Energy Plans	Corporate Energy Plans	Corporate Green Energy Production	Community Climate Action Plan	Green Procurement Policies/ Procedures	Urban Forest Plans	Urban Infestation Plans	Community Gardening Policies	Urban Agriculture Plans	Local Food Procurement Policies	Climate Change Adaptation/ Resilience Plans - Community	Climate Change Adaptation/ Resilience Plans - Corporate	Green Fleet Action Plan	Community Climate Change Action/ Environment Funds
Ajax	Approved	Approved	In Development	Approved		Approved	Approved	Approved	Approved	Approved	Approved	Approved			Approved	Approved	Approved	
Aurora	In Development		In Development	In Development	In Development	Approved	Approved		In Development		Approved					In Development	In Development	
Brampton	Approved		Approved	Approved	In Development	Approved	Approved	Approved	In Development	In Development		Approved	In Development				Approved**	
Burlington	Approved**	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved			In Development		Approved**	
Caledon	Approved	Approved**	Approved	Approved**	In Development	Approved	Approved	Approved	Approved	Approved		In Development		Approved	In Development	In Development	In Development	In Development
Clarington	In Development					Approved			In Development			Approved					In Development	
Durham Region	Approved	In Development		Approved	Approved	Approved	Approved	Approved	In Development						Approved	Approved		Approved
Guelph	Approved			Approved	Approved	Approved				Approved	Approved	Approved		Approved	In Development	In Development		
Halton Region	Approved	Approved		In Development	In Development	Approved**	Approved	Approved	Approved					Approved		In Development	Approved	
Halton Hills	Approved**	Approved**	Approved	Approved	Approved	Approved	Approved	Approved	Approved	In Development					In Development	In Development	In Development	Approved
Hamilton	Approved			Approved	In Development	Approved	Approved	Approved		In Development	Approved	Approved	Approved	In Development	In Development	In Development	Approved	
King	In Development	In Development	In Development	In Development	In Development	In Development	Approved	Approved	In Development						In Development	In Development	In Development	
London	Approved	Approved	In Development	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved		In Development	In Development	In Development	Approved
Markham	Approved	Approved	In Development	Approved	Approved	Approved	Approved	Approved	Approved		Approved	Approved	Approved					Approved
Mississauga	Approved	Approved	Approved	Approved		Approved		Approved	Approved	Approved	Approved	Approved	In Development		Approved	Approved	In Development	
Newmarket	Approved			Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	In Development	In Development	In Development	In Development	In Development		In Development

** in process of updating

CONT. ARTICLE 4 - PROGRESS REPORT ON PAST CLEAN AIR COUNCIL DECLARATION ACTIONS

AS OF FEBRUARY 2020

	DECLARATION ACTIONS																	
MUNICIPALITY	Active Transportation	Green Development Policies - Corporate	Green Development Policies - Community	Community GHG reduction targets	Community Energy Plans	Corporate Energy Plans	Corporate Green Energy Production	Community Climate Action Plan	Green Procurement Policies/ Procedures	Urban Forest Plans	Urban Infestation Plans	Community Gardening Policies	Urban Agriculture Plans	Local Food Procurement Policies	Climate Change Adaptation/ Resilience Plans - Community	Climate Change Adaptation/ Resilience Plans - Corporate	Green Fleet Action Plan	Community Climate Change Action/ Environment Funds
Oakville	Approved	Approved		In Development	In Development	Approved	Approved	Approved	Approved	Approved	Approved	Approved			Approved	Approved	Approved	
Oshawa	Approved			Approved		Approved		In Development		Approved	Approved	Approved			Approved			
Peel Region	Approved	In Development		Approved		Approved	In Development	Approved	In Development	Approved	Approved		Approved		Approved	Approved	Approved	
Pickering	In Development	In Development		Approved	Approved	Approved	Approved	Approved	Approved		Approved	Approved			Approved		Approved	In Development
Richmond Hill	In Development	Approved	Approved	In Development	In Development	Approved	Approved	Approved	In Development	In Development	Approved	Approved				In Development		
Toronto	Approved	Approved	Approved	Approved	Approved		Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved		Approved	Approved
Vaughan	Approved	Approved	Approved	Approved	Approved**	Approved	Approved	Approved	In Development	Approved		Approved	Approved		In Development		Approved**	
Whitby	In Development		Approved**	Approved	Approved	Approved**	Approved		In Development	In Development	In Development	Approved			In Development		In Development	
Windsor	Approved			Approved	Approved	Approved	Approved	Approved	Approved			Approved			In Development	Approved**	Approved	
Waterloo Region	Approved	Approved		Approved	Approved	Approved	In Development	Approved**		Approved					Approved	In Development		Approved
York Region	Approved	Approved	Approved	In Development	In Development	Approved	Approved	Approved		Approved	Approved		Approved		In Development	In Development	Approved	

** in process of updating

City of Mississauga
Corporate Report

MISSISSAUGA

Date: October 22, 2020 To: Chair and Members of Environmental Action Committee From: Shari Lichterman, CPA, CMA, Commissioner of Community Services	Originator's files: Meeting date: November 3, 2020

Subject
Green Fleet and Equipment Policy and Electric Vehicle Charging Station Standard

Recommendation
That the draft Green Fleet and Equipment Policy, attached as Appendix 1, the Decision Making Framework and Electric Vehicle Charging Station Standard, attached as Appendix 2 and 3 be supported by the Environmental Action Committee and recommend endorsement by General Committee.

Report Highlights
- In December 2019, Council approved the City's first comprehensive Climate Change Action Plan (CCAP). This followed a resolution from Council in June 2019, declaring a climate emergency in Mississauga.
- The CCAP sets out two main goals for both the Corporation and community:
    - Reduce greenhouse gas (GHG) emissions 80% below 1990 levels by 2050, with a long-term goal of becoming a net-zero community. The interim target being 40% GHG emissions reduction by 2030; and
    - Increase resilience and the capacity of the City to withstand and respond to climate events. The goals are the same for the City and for the community.
- The majority of Corporate emissions are the result of operating the City's fleet and equipment, which accounts for 78% of total Corporate emissions (as of 2017). In order to achieve the City's GHG reduction targets of 40% by 2030 and 80% by 2050, the City will need to significantly decrease emissions from its fleet and equipment.
- The Green Fleet and Equipment Policy (Policy) is a critical first step and required course of action that will lay the foundation for management and staff on how to prioritize low or zero emissions fleet and equipment purchases and improve in-service utilization of

existing fleet and equipment (e.g. driver behaviour training, right-sizing) to reduce GHG emissions.

- The Electric Vehicle Charging Station (EVCS) Standard describes minimum requirements and specifications for EVCS hardware, networking and management platforms, and customer support services provided at buildings and spaces owned and/or operated by the City of Mississauga.
- Once the Policy is approved by Council, a Green Fleet and Equipment Working Group will be established to provide expert advice on the direction the City should be taking with respect to the acquisition of low or zero emissions fleet and equipment and the sustainability of existing assets in service (e.g. training programs).

Background

In December 2019, Council approved the City's first comprehensive Climate Change Action Plan (CCAP).

The CCAP sets out two main goals for both the Corporation and the community:

- Reduce GHG emissions 80% below 1990 levels by 2050, with a long-term goal of becoming a net-zero community. The interim target being 40% GHG emissions reduction by 2030; and
- Increase resilience and the capacity of the City to withstand and respond to climate events. The goals are the same for the City and for the community.

Currently, the majority of emissions from municipal operations are the result of operating the City's fleet and equipment (including corporate fleet, fire, and transit), which accounts for 78% of total corporate emissions (as of 2017). While total corporate emissions have decreased since 1990, emissions from the transit fleet have continued to increase. This is largely due to the growth in the MiWay diesel bus fleet and levels of service throughout the City.

The Climate Change Action Plan identifies a series of actions to reduce emissions from the Corporate and transit fleets, including:

- Action #17: Reduce Emissions from the City's Corporate and Transit Fleet
    - 17-2: Develop a green fleet policy to (1) prioritize electrification opportunities for all City fleets and equipment; and (2) continue to identify opportunities for proper vehicle allocation, route optimization, and right-sizing fleet
    - 17-3: Electrify the light duty transit vehicles and Corporate fleet and equipment and expand use of renewable fuels

In order to achieve the City's GHG reduction targets of 40% by 2030 and 80% by 2050, as outlined in the CCAP, the City will need to significantly decrease emissions from its fleet and equipment. This can be achieved by making investments in zero emissions options, such as electric vehicles (EVs), which will require new and/or upgraded infrastructure, and by optimizing

the operations of current fleet and equipment through driver behaviour, training, and route optimization, which can result in a reduction of fuel use by as much as 25%.

Present Status

Electrification of the City's fleet and equipment will be phased in over time and will depend on available products (e.g. vehicles and equipment), technologies, and infrastructure. Between 2020-2030, there is an opportunity to replace over 50% of the Corporate light-duty fleet and equipment, 100% of all light-duty (support vehicles) in the Fire fleet, and ~100% of the MiWay fleet, which includes both buses and light-duty (non-revenue) fleet vehicles, to low or zero emissions technologies. This is based on anticipated technology availability and replacement schedules. Together, this could lead to a reduction in Corporate GHG of ~22,000 tonnes of carbon dioxide equivalency (t/eCO2) by 2030, which will result in a 28% reduction in Corporate GHG emissions (below 1990 levels). This will help the City achieve the majority of its 2030 GHG reduction target of 40% (below 1990 levels).

Comments

City leadership on climate action is essential to creating momentum for broad uptake and action in the community. The Green Fleet and Equipment Policy is a critical first step and required course of action that will lay the foundation for management and staff on how to prioritize low or zero emissions fleet and equipment purchases and improve in-service utilization of existing fleet and equipment (e.g. driver behaviour training, right-sizing) to reduce GHG emissions. The Policy complements other efforts in the City that contribute to reducing GHG emissions and improving air quality, such as the Idling Control By-law and the Unnecessary Vehicle Idling policy.

To support the implementation of the Green Fleet and Equipment Policy, a decision making framework (Appendix 2) has been developed for management and staff for asset acquisition as well as optimizing the sustainability of assets already in service. The framework will be included as an appendix to the Policy.

The Green Fleet and Equipment Policy is also supported by an Electric Vehicle Charging Station (EVCS) Standard (Appendix 3), which outlines the appropriate information to base specifications and designs for facilities owned and operated by the City of Mississauga in relation to electric vehicle charging stations. The Standard describes minimum requirements and specifications for EVCS hardware, networking and management platforms, and customer support services provided at buildings and spaces owned and/or operated by the City of Mississauga. It will be included as an appendix to the policy and will be used to guide the installation of EVCSs on City property (for both public and private use) going forward.

The Policy and the supporting EVCS Standard have been developed in consultation and ongoing collaboration with both a Core Team and a Steering Committee, which included representatives from Works Operations Maintenance, MiWay, Risk Management, Capital

Design and Construction, Environment, Energy Management, Corporate Performance and Innovation, IT, and Municipal Parking.

To drive the implementation of the Green Fleet and Equipment Policy and to support the coordination of electrifying the City's fleet, a Green Fleet and Equipment Working Group has been established. This Group will continue to provide advice on the direction the City should be taking with respect to the acquisition of low or zero emissions fleet and equipment and the sustainability of existing assets in service (e.g. training programs); ensure roles and responsibilities throughout the organization are clearly defined; and, track new advancements in low or zero emissions technologies for fleet and equipment.

As the City continues to electrify its fleet and equipment, sufficient charging infrastructure will be required in order to put electric fleet and equipment into operational use. This will require an enhanced level of inter-departmental coordination to ensure all departments and divisions are appropriately engaged.

Strategic Plan

The Green Fleet and Equipment Policy supports four pillars of the City's Strategic Plan:

- Move: the Policy supports the strategic goal to Develop Environmental Responsibility.
- Connect: the Policy supports the strategic goal to Provide Mobility Choices.
- Green: the Policy supports the strategic goals to Lead and Encourage Environmentally Responsible Approaches; and Promote a Green Culture.

Financial Impact

There are no financial impacts resulting from the Recommendations in this report. The policy acts as a framework for decision making on conversion of fleet and equipment. Any premiums associated with alternate fleet and equipment will be captured through regular capital and operating budget requests.

Conclusion

It is the aspiration of the City of Mississauga to become a net zero community, recognizing the need to further accelerate climate action and limit global temperature rise to 1.5 degrees Celsius. The Green Fleet and Equipment Policy is a critical first step and required course of action that will lay the foundation for management and staff on how to prioritize low or zero emissions fleet and equipment purchases and improve in-service utilization of existing fleet and equipment (e.g. driver behaviour training, right-sizing) to reduce GHG emissions from the City's fleet, which is currently the most significant source of Corporate emissions. Dedicating the appropriate resources to the implementation of the Policy will be crucial to its success and, by extension, the success of the City's climate change program and the City's ability to achieve the targets outlined in the CCAP.

Once approved, the Green Fleet and Equipment Policy will demonstrate the City's commitment to reducing Corporate GHG emissions and will help the City achieve its climate change goals and targets.

Attachments

Appendix 1: Green Fleet and Equipment Policy
Appendix 2: Decision Making Framework
Appendix 3: Electric Vehicle Charging Station Standard

Shari Lichterman, CPA, CMA, Commissioner of Community Services

Prepared by: Leya Barry, Climate Change Specialist

City of Mississauga

Corporate Policy & Procedure

Policy Title: Corporate Green Fleet and Equipment Policy

Policy Number: [Policy No.]

Draft Only – September 30, 2020

Section:	**Environment and Conservation**	Subsection:	**General**
Effective Date:	**[Effective Date]**	Last Review Date:	**[Last Review]**
Approved by: **Click here to enter text.**		Owner Division/Contact: **Environment Section, Parks, Forestry and Environment Division, Community Services Department**	

Policy Statement

The Corporation of the City of Mississauga is committed to reducing Greenhouse Gas (GHG) emissions that contribute to Climate Change by prioritizing investment in low and zero emissions Fleet, Equipment and Infrastructure.

Purpose

This policy:

- Communicates the City's commitment to Climate Change and sustainable environmental stewardship (e.g. improved air quality and decreased noise pollution)
- Provides direction to management and staff to meet the goal of prioritizing investment in low or zero emissions City Fleet and Equipment, as defined in this policy, and improve in-service utilization of existing City Fleet and Equipment (e.g. driver behaviour training, right-sizing, upgrades to existing equipment) to reduce Greenhouse Gas emissions (GHG)
- Outlines the City's guiding principles and objectives in managing Corporate GHG reductions from Fleet and Equipment, and
- Identifies roles and responsibilities of staff for the electrification of the City's Fleet and Equipment and aligning Infrastructure (as needed)

Scope

This policy applies to all City departments and to all City-owned or operated Fleet and Equipment that consume fossil fuels, therefore producing GHG emissions.

This policy is supported by an Electric Vehicle Charging Station Standard attached as Appendix A.

In addition to this Policy, several key strategic documents form part of the City's overall response to Climate Change, including but not limited to the City's:

- Strategic Plan
- Living Green Master Plan
- Climate Change Action Plan
- Transportation Master Plan
- Unnecessary Vehicle Idling policy
- Sustainable Procurement policy
- Business Plan and budget and long-range financial plans

Definitions

For the purposes of this policy:

"Auxiliary Power Unit" (APU) is a type of Equipment that provides energy for functions other than propulsion to provide electrical, hydraulic, heating and air-conditioning functions while a vehicle is stationary.

"City" means the Corporation of the City of Mississauga.

"Climate Change" means a change in global or regional weather patterns that persists for an extended period, usually decades or longer.

"Electric Vehicle (EV)" is a vehicle that uses one or more electric motors for propulsion. They can be classified as Battery Electric Vehicles (BEVs), which use only electricity, or Plug-in Hybrid Electric Vehicles (PHEVs), which use fossil fuels via an internal combustion engine and electricity via a high capacity battery. Both plug in to recharge.

"Electric Vehicle (EV) Charging Station", also known as Electric Vehicle Supply Equipment, is equipment that connects an EV to a source of electricity to recharge the battery.

"Equipment" includes all City-owned or operated units, including but not limited to non-licensed off road and hand-held equipment (e.g. trimmers , chain saws), riding and push lawn mowers, forklifts, backhoes/loaders, snow blowers, generators, Auxiliary Power Units, and other auxiliary equipment (e.g. pumps, wood chippers, generators and handling tools).

"Fleet" includes all City-owned or operated on-road licensed light, medium and heavy-duty vehicles, including but not limited to cars, trucks, transit (including buses) and fire vehicles.

"Fleet Managers" are responsible for the procurement and life cycle management of Fleet and/or Equipment.

“Greenhouse Gases (GHGs)” are a set of gases created by the burning of fossil fuels: gasoline, diesel fuel, natural gas or propane. GHGs absorb infrared radiation that can trap heat from the sun’s rays, contributing to a rise in global temperatures. The key GHGs of concern are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

“Green Fleet and Equipment Working Group” means the cross-departmental/divisional team of subject matter experts that carry out the responsibilities outlined in this policy and may include the creation of sub-working groups to further support implementation of the policy.

“Infrastructure” means the items required to support low or zero emissions Fleet and/or Equipment, including vehicle charging stations, electrical infrastructure, Information Technology (IT) infrastructure, networks and management software, or other charging devices.

“Internal Combustion Engine” (ICE) is a vehicle that uses an engine that is powered by the burning of gasoline, diesel or other fossil fuels.

“Low Emissions Vehicle” (LEV) is a vehicle that emits relatively low amounts of tailpipe emissions, including mild hybrid vehicles (with no plug-in capabilities) and alternative fuel vehicles which have combustion engines that run on lower emissions fuels, such as compressed natural gas or biodiesel.

“Right-Sizing” is a management practice that examines fleet size and composition in conjunction with fleet operations to identify opportunities to reduce fleet size, repurpose or convert vehicles to more fuel efficient alternatives (e.g. diesel-electric hybrids).

“User Groups” are the end user(s) and/or operators of the Fleet or Equipment.

“Zero Emissions Vehicle” (ZEV) is a vehicle that has the potential to produce no greenhouse gas emissions during its operation. Battery-electric vehicles (BEV) and hydrogen fuel cell vehicles are all considered to be zero emissions vehicles.

Administration

This policy is administered by the Green Fleet and Equipment Working Group, in consultation with all City departments. Administrative revisions to this policy (e.g. changes to definitions) or updates to the appendices may be made by the Environment Section, with the support of the Green Fleet Working Group and the approval of the Director, Parks, Forestry and Environment, Community Services Department.

Background

The majority of emissions from municipal operations are the result of operating the City's Fleet and Equipment, which accounts for ~80% of total corporate emissions (as of 2017). In order to achieve the City's GHG reduction targets of 40% by 2030 and 80% by 2050, the City will need to significantly decrease emissions from its Fleet and Equipment. This can be achieved by making investments in zero emissions options, such as EVs, which will require new and/or upgraded Infrastructure. The electrification of the City's Fleet and Equipment will be phased in over time and will depend on available Infrastructure. The Green Fleet Policy will complement other efforts in the City that contribute to reducing GHG emissions and improving air quality, such as the Idling Control By-law and the Unnecessary Vehicle Idling policy.

Guiding Principles

The City's guiding principles for the Green Fleet Policy are to:

- Continue to work towards being a leader in climate action, with a long-term goal of becoming a net zero community
- Coordinate decision making across divisions/departments to meet operational goals while reducing the City's overall Fleet and Equipment emissions, and
- Ensure decisions are made within a consistent framework and are informed through discussion with all relevant internal stakeholders

Objectives

The following objectives will support the Corporate Green Fleet and Equipment Policy:

- Reduce Greenhouse Gas (GHG) emissions by investing in low carbon and fuel efficient Fleet, Equipment and Infrastructure
- Prioritize and optimize the electrification of all City Fleet and Equipment that is sustainable, market ready and meets operational requirements
- Increase the overall number of zero and low emission Fleet and Equipment
- Establish a hierarchy to facilitate decision making criteria for the procurement of Fleet and Equipment (see Low Emissions Technology Hierarchy attached at Appendix 2)
- Optimize current operations of in-service Fleet and Equipment and continue to identify opportunities for proper vehicle allocation, route optimization and Right-Sizing Fleet and Equipment
- Establish the roles and responsibilities of staff to support the electrification of Fleet and Equipment
- Coordinate the purchase of electric Fleet and Equipment with installation and/or upgrading of Infrastructure
- Align the City's Business Plan and budgeting process with the principles of the Corporate Green Fleet and Equipment Policy to advance electrification, and
- Create consistent standards for EV charging infrastructure and technology

- To document decision making and outline the implications of deferral or choosing conventional technology on the City's Climate Change targets

For more information on asset acquisition and optimizing operations, please see Appendix B.

The Asset Acquisition Worksheets are included as Appendix C.

Roles and Responsibilities

Directors

Directors are responsible for:

- Ensuring applicable managers/supervisors are aware of and trained on this policy and any related policies (e.g. acceptable use, data retention) including subsequent revisions
- Fostering and supporting the objectives of this policy wherever possible
- Facilitating decision making that favours electrification opportunities for the City's Fleet and Equipment
- Ensuring resources and budgets are available to support the implementation of this policy
- Ensuring alignment of Strategic and Business Plans in relation to this policy
- Incorporating GHG reduction and green Fleet and Equipment procurement initiatives into their business planning processes, where applicable

Managers/Supervisors

Managers/supervisors are responsible for:

- Ensuring applicable staff are aware of and trained on this policy and any subsequent revisions
- Creating and initiating implementation plans to meet the objectives of this policy
- Developing and implementing GHG reduction improvements
- Applying the decision making framework when procuring new Fleet or Equipment and ensuring appropriate documentation is completed and approved for all Fleet and Equipment acquisitions
- Optimizing the operations of assets currently in service in consultation with the Green Fleet and Equipment Working Group and as per the framework outlined in this policy,
- Facilitating decision making that favours electrification opportunities of the City's Fleet and Equipment, and
- Maintaining records, such as documentation of decision making, acquisitions, etc.

Green Fleet and Equipment Working Group

The Green Fleet and Equipment Working Group is responsible for:

- Being GHG reduction ambassadors

- Ensuring that the criteria and hierarchy for evaluating potential purchases of Fleet and Equipment, criteria for optimizing current operations, and the EVCS standard are current and are kept up to date through annual reviews
- Supporting alignment of Strategic and Business Plans in relation to this policy
- Recommending the appropriate tools and resources to ensure the City meets the objectives of this policy
- Ensuring roles and responsibilities throughout the organization are clearly defined
- Promoting cross-collaboration within the City to ensure standardized and consistent methodologies are followed in decision making related to the procurement of Fleet and Equipment
- Developing an 1-3 year implementation plan for the policy to support the of installation of associated Infrastructure
- Track new advancements in low or zero emissions technologies for Fleet and Equipment
- Providing expert advice on the direction the City should be taking with respect to the acquisition of low or zero emissions Fleet and Equipment and the sustainability of existing assets in service (e.g. training programs),
- Attending ongoing meetings (e.g. quarterly) to review and address any overarching issues or concerns, as needed
- Establishing sub-groups as appropriate (e.g. internal engagement, training, etc)

All Employees
All Employees are responsible for:

- Identifying opportunities for GHG reduction during day-to-day operations and/or when planning for procurement and following the process outlined in the policy

Records Retention

Official records must be retained in accordance with the Records Retention By-Law 0097-2017, as amended.

Revision History

Reference	Description
Enter previous review - e.g. GC-1234-2015	Click here to enter text.

Green Fleet and Equipment Policy - Decision Making Framework

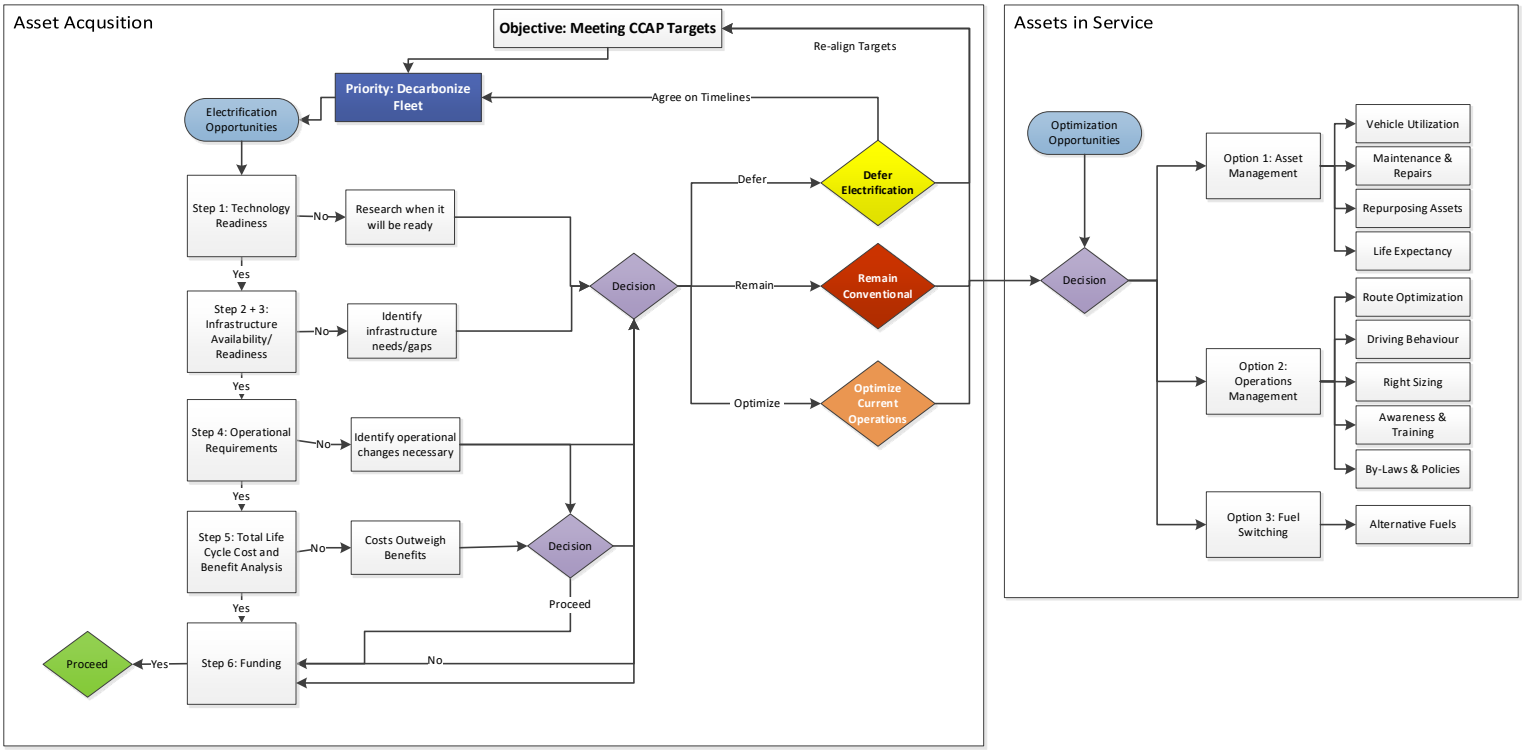
Prepared by the Green Fleet and Equipment Working Group

Date: 19/09/2020

Appendix 2

Decision Making Framework

To support the Green Fleet and Equipment Policy, a decision making framework has been developed to guide decision making through both asset acquisition and optimizing the sustainability of assets already in service. This framework is summarized in the following graphic:



Asset Acquisition

The following will be considered for all procurement of Fleet and Equipment and to optimize current operations of assets in service. These guidelines are supported by a series of Worksheets which will help staff to document decision making, especially in cases where a ZEV or LEV is not being acquired, and track the progress on electrification. This information will be compiled and shared annually with the Leadership Team to highlight opportunities (e.g. grants), barriers (e.g. lack of Infrastructure), and implications to the City's Climate Change goals and targets.

Note: When considering the questions in the guidelines below, please be sure to consider only the risks, opportunities, cost increases, cost savings and other adjustments related to the core differences between the technology being assessed (e.g. ZEV) and the conventional technology (e.g. internal combustion engine). Please disregard aspects that will impact both options. For instance, if certain costs are related to increased service levels (e.g. the electric vehicle includes GPS locators linked to a cloud-based app), they should not be considered in the comparative analysis, as they do not relate to the difference in the core technology – even if the other option does not offer them.

Appendix 2

Acquisition Considerations	Guidelines
Trigger	**A need to purchase new or replacement Fleet or Equipment has been identified** **A funding opportunity (for Fleet, Equipment, or Infrastructure) has arisen** Examples: • Fleet and/or Equipment have met the criteria for life cycle replacement • New Fleet and/or Equipment needs to be purchased to meet service needs
Step 1: Technology Readiness **Who: Fleet Managers, User Groups, IT**	Q1: Is the zero or low emissions technology currently available on the market (e.g. local vendor)? (See Low Emissions Technology Hierarchy on page 8 below) Q2: Is the technology proven reliable and/or tested for its intended use and meets applicable Canadian standards (e.g. Canadian Standards Association, Underwriters Laboratories Canada) and the City of Mississauga's EVCS Standard? Q2A: If not, what is the level of risk that the technology will not be able to achieve the standards for reliability and operability? If the risk is within a tolerable level, management and the leadership can still adopt pre-maturity technologies. If the level of risk is considered high at present, can the replacement be deferred to extend the life of the Fleet or Equipment (e.g. defer until low or zero emissions technology becomes available)? *Example:* - *Technology is not yet available but market trends indicate that it will likely become available within the next 1-2 years.* Q2B: If not, is there an opportunity for a demonstration or pilot project to test technology readiness? *Example:* - *Technology is available and meets Canadian Motor Vehicle Safety Standards but has yet to be tested by users and/or municipalities and there may be an opportunity for a small scale pilot.* Q3: Is there vendor support for this new technology? Q4: Are there parts available in the local market or easily acquirable from other markets?
Step 2: Infrastructure	Q1: Is Infrastructure available to support the low or zero emissions

Appendix 2

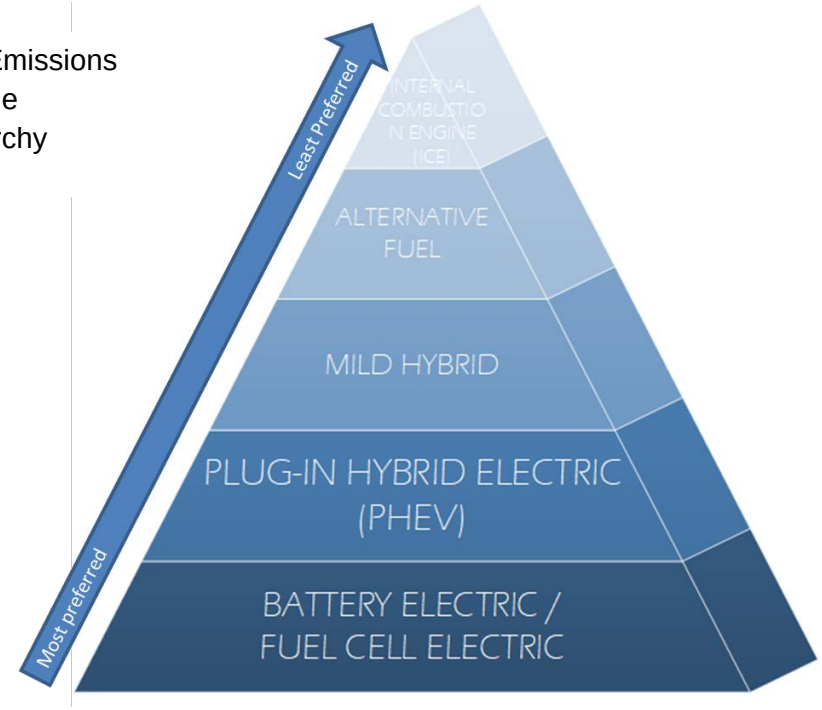
Availability Who: Fleet Managers, User Groups, IT, and Facilities and Property Management	technology? Q1A: If not, what are the timing considerations of installing the appropriate Infrastructure? Q1B: If not, can the procurement/replacement be deferred until infrastructure becomes available? Q1C: Is the available Infrastructure owned/operated by the City (e.g. Level 3 Fast Charging networks)? If not, what are the risk considerations of relying on charging or refuelling Infrastructure that is owned by a third party against the City's ability to install the necessary infrastructure?"
Step 3: Infrastructure Readiness Who: Green Fleet and Equipment Working Group	Q1: What impact will the new Fleet and/or Equipment have on energy load and electrical infrastructure at the site? Are there options to distribute the new load requirements to other locations and to favourable time-of-day? Q2: Does the charging technology have the ability to monitor usage/consumption? See EVCS Standard for reference. (For Fleet Only) Q3: What IT infrastructure (e.g. cellular/network connection, software systems, integrations, data sharing) is needed/available at the site?
Step 4: Operational Requirements Who: Fleet Managers, User Groups, IT	Q1: What are the Fleet or Equipment specifications and do the low or zero emissions technologies meet operational requirements when compared to conventional technology (e.g. internal combustion engines)? Q2: What changes would be needed to operate and maintain the low or zero emissions technology, and associated infrastructure? Q3: Is a skills and/or training upgrade required to operate and/or maintain the Fleet or Equipment?
Step 5: Total Life Cycle Cost/Benefit Analysis Who: Fleet Managers, User Groups, Finance, Facilities, Environment, IT	Q1: What are the capital cost impacts (including all soft costs) of the zero or low emissions technology and its associated Infrastructure when compared to conventional technology (e.g. internal combustion engines)? Q2: What are the annual operating cost impacts – both in terms of increases and savings (including resourcing, utility, maintenance, and licensing) of the low or zero emissions technology, and its associated Infrastructure (e.g. annual subscription fees) when compared to conventional technology (e.g. internal combustion engines)? Q3: What are the training and/or operational adjustment costs (if applicable) or staff resources implications when compared to the conventional technology (e.g. internal combustion engines)?

Appendix 2

	Q4: Will there be a decrease in greenhouse gas emissions as a result of the new technology (e.g. fuel saved/avoided, $/eC02 tonnes)? Q5: Are there any other associated benefits of the new technology (e.g. improved air quality, reduced noise)? Q6: What is the total life cycle cost (e.g. total cost of ownership) of the low or zero Fleet or Equipment when compared to the conventional technology (e.g. internal combustion engine)?
Step 6: Funding Who: Business Planning, Fleet Managers, Facilities, IT	Q1: Has budget been secured for the purchase of the new low or zero emissions Fleet or Equipment? Q2: If infrastructure if not currently available, is there budget secured for the required Infrastructure? Example: *Budget has been requested and approved by the appropriate department for the procurement of the new ZEV or LEV and associated infrastructure is currently available at site.* *Example:* *Budget has been requested and approved by the appropriate department for the procurement of the new ZEV or LEV, however associated infrastructure is note currently available. Additional budget requests are required to install charging infrastructure prior to procurement of Fleet and/or Equipment.* Q1/2B: If not, are there alternative funding streams available (e.g. grants, rebates, sponsorship opportunities)? Q1B: If not, have additional operating expenses (e.g. keeping an asset in use beyond its useful life) been taken into account?

Appendix 2

Low Emissions Vehicle Hierarchy



It is important to note that while the desired technology from a Climate Change perspective is a Zero Emissions Vehicle, there are other options available on the market which also help to reduce fuel consumption and, by extension, greenhouse gas (GHG) Emissions (e.g. mild hybrid).

Optimizing Current Operations

Optimizing operations of in-service Fleet and Equipment will also contribute to a reduction in GHGs. These guidelines can be applied to existing Fleet and Equipment at any time.

Optimizing Current Operations	**Guidelines**
Option 1: Asset Management Who: Fleet Managers, Fleet/Equipment Operators	1) Vehicle Utilization (allocation, rentals, pooling/sharing) o Ensure proper utilization levels o Are there opportunities to update/revise vehicle allocation (e.g. rentals, pooling/sharing)? 2) Maintenance and Repairs o Optimize workshop activities ▪ Are parts being replaced prematurely? ▪ Are service intervals too short/long? ▪ Is the technology operating efficiently? o Optimize preventative maintenance schedules 3) Repurposing Assets (Equipment) o Is there an opportunity to repurpose the asset in a different capacity (e.g. chainsaws from Forestry to Park Operations)? 4) Repurposing Assets (Fleet) o Is there an opportunity to repurpose the asset (within the life expectancy) in a different capacity (e.g. change off vehicles

Appendix 2

	moving locations)? o Is there an opportunity to repurpose the asset (beyond the life expectancy) in a different capacity (e.g. buses as barriers/ blockades) 5) Life Expectancy o What is the expected useful life of the Fleet (or Equipment)? Can or should this be extended? o If not, refer to Disposal of Surplus City Assets Policy.
Option 2: Operations Management Who: Fleet Managers, Fleet/Equipment Operators, Driver Training Staff, Enforcement, Environment	1) Route Optimization 1. Are drivers taking the most efficient route to their destination? 2) Driving Behaviour 1. Are drivers operating the vehicles responsibly (non-aggressive acceleration/braking, adhering to speed limits)? 2. Is the Idling Control By-law being adhered to? 3. Is there sufficient onboarding and safety training? If not, consider whether additional training programs may be required. 3) Right-Sizing 1. Is the right size/type of vehicle being used for the task? 2. Is there an opportunity to replace, repurpose, or convert vehicles to more fuel efficient alternatives (e.g. hybrids)? 4) Awareness and Training 1. Is there a need for additional awareness and/or training programs generally or for specific issues (e.g. to address aggressive driving/idling/route issues)? 5) By Laws and Policies 1. Does the Idling Control By-Law need to be updated and/or enhance? 2. Are additional enforcement procedures/practices required?
Option 3: Fuel Switching Who: Fleet Managers	1) Alternative Fuels • Is there an opportunity to switch to alternative fuels (e.g. biodiesel)?

Appendix 3

City of Mississauga - Electric Vehicle Charging Stations (EVCS) Standard

Prepared by the Green Fleet and Equipment Working Group

Date: 19/08/2020

1.0 Standard Application

1.1 General

This technical design standard supports the Green Fleet and Equipment Policy and is meant to provide the appropriate information to base specifications and designs for facilities owned and operated by the City of Mississauga in relation to Electric Vehicle Charging Stations (EVCS) specifically. These standards should apply to the design of new buildings as well as for maintaining, upgrading, and renovating existing buildings.

This standard describes minimum requirements and specifications for EVCS hardware, networking and management platforms, and customer support services provided at buildings and spaces owned and/or operated by the City of Mississauga.

These design standard requirements need to be used in conjunction with all current and relevant standards, codes, and regulations, as noted in section 4.0 – Relevant Codes and Standards. Design consultants and contractors are ultimately responsible for their designs, product selections, and installations.

1.2 Applicable Project Types

This standard shall be applied to any of the following typical project types whether for use by members of the public, City employees, or Corporate Fleet vehicles:

- New Electric Vehicle Charging Station installations;
- Adding to existing charging stations
- Replacements of EVCS
- New building construction;
- Major renovations to existing facilities; and
- Parking lot/structure upgrades and replacements.

1.3 Standard Users

The standard applies to the following parties:

- Consultants;
- Contractors;
- Project Managers;
- Building Operators/Property Managers;
- Fleet Services Representatives;
- Procurement Analysts; and
- Other groups/stakeholders involved in the provision of EVCS for staff and the general public.

2.0 Definitions

Access Card: A radio frequency identification (RFID) card allowing users access to an EV Charging Station. Each Access Card bears a unique identification number and enables an EV Charging Station to identify that user and the corresponding User Account with the network provided by the EV Charger Service Provider.

Actively Charging: When an electric or plug-in hybrid vehicle is connected to and receiving power from an Electric Vehicle Charging Station.

Charging Station Management System (CSMS): A network connected software platform that manages EV Charging Station access, collects and stores data, and performs analytics.

Electric Vehicle: A vehicle that uses one or more electric motors for propulsion. They can be classified as Battery Electric Vehicles (BEVs), which use only electricity, or Plug-in Hybrid Electric Vehicles (PHEVs), which use fossil fuels via an internal combustion engine and electricity via a high capacity battery. Both plug in to recharge.

Electric Vehicle Charger Service Provider (EV Charger Service Provider): A third-party organization that supplies EV Charging Stations, remote diagnostics and troubleshooting, maintenance services, a data collection and analytics platform, and/or customer support.

Electric Vehicle Charging Station (EVCS): Also known as Electric Vehicle Supply Equipment, this equipment connects an EV to a source of electricity to recharge an Electric Vehicle and/or battery.

Level 2 Charging Station: A charging station which operates at 240 volt AC, and typically ranges between 6.0 – 7.2 kW of power output.

Level 3 Charging Station: A direct current fast charger (DCFC) rated for a minimum of 50 kW of power output. One hour of Level 3 charging delivers approximately 250 km of vehicle range.

Open Charge Point Protocol: The Open Charge Point Protocol (OCPP) is the industry-supported de facto standard for communication between an EV Charging Station and a Charging Station Management System (CSMS) and is designed to accommodate any type of charging technique. OCPP is an open standard with no cost or licensing barriers for adoption.

Operators/Property Managers: City of Mississauga Departmental or Divisional representative(s) responsible for maintaining the infrastructure and amenities of a building where EV Charging Stations are installed.

Service-level Agreement (SLA): A contract between a service provider and the City of Mississauga that documents what services the provider will furnish and defines the service standards the provider is obligated to meet.

3.0 Description

3.1 EV Charging Station Type(s)

It is recommended that any EVCS installed on City property be a minimum of Level 2. Installation of EVCS higher than Level 2 shall be based on the needs and speed required for EV charging.

Since Level 3 Charging Stations can lead to spikes in electricity demand, concerns associated with higher electricity demand should be considered by the Operator/**Property Manager** and discussed with Energy Management and the Environment Section before moving forward with any Level 3 charger installation.

3.2 Revenue and Rates

Initially, where applicable, general parking fee revenues from Municipal Parking Lots will be used to offset the administration costs of the electricity charging service (e.g. EV charging services and transaction service fees). As the City expands its installation of EVCS, distinct revenues related to the EV charging service will be re-evaluated and updated as appropriate.

4.0 Relevant Codes and Standards

All materials, installation methods, and software platforms associated with EVCS on City of Mississauga properties must comply with the following standards, where applicable.

- Canadian Standards Association (CSA) Standard 22.2 No. 107.1 or equivalent
- NFPA® 70 Standard for Electrical Safety in the Workplace®
- NEC ® Article 625 Electric Vehicle Charging System which covers the installation
- of Electric Vehicle Charging Systems
- UL 2202 - Standard for Electric Vehicle (EV) Charging System Equipment or
- equivalent
- UL 2231 – Personnel Protection Systems for Electric Vehicles supply circuits or
- equivalent
- UL 2594 – EV Supply Equipment
- UL 991 – Safety-Related Controls Employing Solid-State Devices
- ICES-003 - Interference-Causing Equipment Standard or equivalent
- IEC 61851-1 - EV Supply Equipment
- ISO 15118-1- Communication between EVs and EV Supply Equipment
- OCPP 1.6 or newer - Standard for communication between an EV Charging Station and an EV SCSMS
- Ontario Electrical Safety Code (OESC)
- All other standards/codes as applicable by authorities having jurisdiction

5.0 EV Charging Station Hardware

4.1 General

This section provides the technical specifications and requirements for Electric Vehicle Charging Station hardware installed across City properties. It is highly preferred by the City that selected EVCS can support operability with multiple OCPP compliant Charging Station Management System (CSMS).

4.2 Level 2 Charging Stations

- 208-240 volt (V) alternating current (AC) with SAE J1772 connector
- Commercial grade and certified for use in Canada nationally recognized certification agency CSA, Underwriters Laboratories of Canada (uLC) or other certification marks approved by the Technical Standards and Safety Authority (TSSA);
- Enclosure must be rated for outdoor operation and achieve a minimum National Electrical Manufacturers Association (NEMA) 3 certification
- Enable OCPP - version 1.6 or higher
- Have certified operating temperature range between minus 35 Degree Celsius (^{0}C) and plus 50^{0}C;
- Surge protection 6 kV @ 3,000A
- Cable length must be 5.49 meters (18 feet) or longer, and a cable management / retraction system must be an option and is preferred
- Electricity metering accuracy of +/- 3%
- Ability to remotely adjust and manage power supply (energy management and power sharing/limiting features (i.e. adjustable operating current (amperage))
- Cellular network enabled / connectivity (3G or better)
- RFID access in accordance with ISO 14443 A/B, ISO 15693, NFC, NEMA interoperability protocol
- Payment Card Industry (PCI) compliant card reader
- Light Emitting Diode (LED) status indicator

4.3 Level 3 Charging Stations

- Direct current (DC) vehicle fast charger with SAE J 1772 combo and/or CHAdeMo charging connectors
- Both power factor and efficiency greater than 93 per cent
- Commercial grade and certified for use in Canada nationally recognized certification agency CSA, uLC or other certification marks approved by the Technical Standards and Safety Authority (TSSA);
- Enclosure must be rated for outdoor operation and achieve a minimum NEMA 3 certification
- Enable OCPP - version 1.6 or higher
- Have certified operating temperature range between minus 30 Degree ^{0}C and plus 40^{0}C;
- Cable length must be 5.49 meters (18 feet) or longer and a cable management / retraction system must be an option and is preferred
- Electricity metering accuracy of +/- 3%

- Ability to remotely adjust and manage power supply (energy management and power sharing/limiting features (i.e. adjustable operating current (amperage))
- Cellular network enabled / connectivity (3G or better)
- RFID access in accordance with ISO 14443 A/B, ISO 15693, NFC, NEMA interoperability protocol
- Surge protection 6 kV @ 3,000A
- PCI compliant card reader
- LED status indicator
- Push buttons for start, stop and emergency stop

6.0 EV Charger Service Provider

5.1 General

All EVCS installed across City owned sites are to have network operability through an EV Charger Service Provider. The City of Mississauga requires that the EV CSMS be OCPP compliant, with the most up to date OCPP versions being favourable. Accordingly, it is highly preferred by the City that the EV CSMS has the capability, and has been proven through field testing, to work with EVCS hardware from multiple manufacturers.

This section outlines the City's requirements and preferences for the system used to manage EVCS operations, the functionalities needed to support a satisfactory user experience, the process for collecting, distributing, and reporting on revenue generation, the minimum requirements for remote monitoring and EV Charger troubleshooting, and the ability for the City to procure maintenance and repair services from the EV Charger Service Provider.

5.2 EV Charging Station Management System

- The following data points are to be continuously tracked, stored, and remain accessible to the City of Mississauga in .xls or .csv format in perpetuity by the EV CSMS.
    - EV Charger Identification (ID)
    - EV Charger location
    - Unique customer identifier (a non-personal identifier (e.g. Network user ID))
    - Charging session date
    - Charging session start time
    - Charging session end time
    - Amount of power provided during charging session (kWh)
    - Amount of revenue generated (CAD)
    - Encountered malfunctions (including issue codes and descriptions, and duration of downtime)
- The EV CSMS will include a dashboard that communicates and/or displays at a minimum:
    - A map showing the number and location of EV Charging Stations
    - Real-time EV Charger status (e.g. in-use, available, inoperable, etc.)
    - Cumulative electricity provided to vehicles, revenue generation, and GHG emissions avoidances are preferred

- The EV CSMS and/or subsidiary reporting features must provide the following analytical functions at a minimum:
    - Isolate all data points by the entire EV Charging Station portfolio, specific site where chargers are installed, charger type (i.e. Level 2 vs. Level 3), and individual charger.
    - Determine the charging utilization ratio, between a specified calendar or time interval, across the EV Charger portfolio, a specific site, or individual EV Charger *(e.g. between 8:30am and 4:30pm at a specified office location, determine what percentage of time are chargers in use)*
    - Determine the length of time EVs are plugged in but not Actively Charging across the EV Charger portfolio, a specific site, or individual EV Charger
    - Report on revenue generation between a specified calendar or time interval
    - Set tiered and flexible pricing models for use *(e.g. applying a time-based fee for vehicles which are Actively Charging AND a different rate for vehicles which remain plugged-in after charging has completed)*
    - Automatically program and manually adjust maximum power output and power-sharing modes in EVCS
    - Enable or disable EV Charger operation
    - Adjust messaging that appears on EV Charger displays
    - Automatically notify operations staff and EV Charger Service Provider of charger malfunctions and loss of functionality
- The EV CSMS will ideally provide the following additional management functions (Optional):
    - The ability to report on GHG emissions avoidances is preferred
    - The ability to integrate EV Charger operation with electric utility demand response programs is preferred
    - The ability to integrate with fleet fuel cards, telematics, and asset management systems is preferred
    - The ability to integrate with on-site energy storage and generation systems (e.g. solar photovoltaics with battery banks) is preferred
    - The ability to generate real time notices of vehicles plugged in but not actively charging is preferred

5.3 User Services

- The City of Mississauga requires the following functionalities from the EV Charger Service Provider's networking platform to be provided for users of EV Charging Stations on City owned sites:
    - Free subscription to the networking platform
    - Locating and providing directions to EV Chargers, communicating accessibility *(e.g. hours of operation, public or private)*, and conveying fees for use via an online and mobile application accessible map
    - Unlocking station and facilitating payment for use via a mobile application
    - Real-time visibility of the vehicle battery's state of charge, power provided, and fees incurred during a charging session via a mobile application
    - Notifications sent to EV drivers once a vehicle is fully charged, or reached a user determined battery charge level, via short message service (SMS) or a mobile application

- The EV Charger Service Provider will have the option to provide an Access Card to users that can enable EV Charger use via RFID, without the use of a mobile application
- The EV Charger Service Provider will operate a toll-free 24/7 customer support call-center for users who need assistance accessing the EVCS

5.4 Revenue Collection and Management Services

The EV Charger Service Provider will:

- Collect EV Charger user payments from credit/debit cards and mobile application accounts and when required remit proceeds the next business day
- Directly connect with the City's Merchant Acquirer (Global Payments) to deposit transaction revenues and deduct transaction expenses to/from the City designated bank account (CIBC)
- Be compliant with Payment Card Industry Data Security Standard (PCI DSS) standards to manage transactions, as determined by the City's Qualified Security Assessor (QSA)
- Automatically issue transaction receipts directly to registered users within 24 hours, via email, following use of an EVCS
- Manage user disputes regarding payment errors and requests for reimbursements
- Provide financial statements to the City within 21 days of each Calendar month-end containing, at a minimum: gross revenues, charging fees, taxes charged and paid to the relevant authorities, net revenues, transaction fees/EV Charger Service Provider commissions, and distributable revenues.
- Demonstrated ability to integrate currently with existing parking payment collection technology at site or a roadmap which demonstrates that capability and the timelines associated with it.
- Provide secure access to designated City staff to: intra-day transaction activity, end-of-day transaction summary and next day bank-deposit information for tracking and audit purposes

5.5 Remote Monitoring and Troubleshooting

The EV Charger Service Provider will:

- Attempt to resolve any EV Charger issues remotely within four business hours of issue detection
- If the issue cannot be remotely resolved, notify the City's designated Operator/Property Manager of the issue

5.6 Availability of Maintenance and Repair Services

The EV Charger Service Provider will have offerings for the City to enter into SLAs to carryout preventative maintenance and repair services as needed for City owned EVCS. It is highly preferred by the City that the EV Charger Service Provider has the ability to maintain and repair EVCS hardware from multiple manufacturers, and can troubleshoot connectivity and communications issues between EVCS and multiple CSMS.

7.0 Installation

6.1 General

This section outlines installation requirements as they relate to electrical and civil work, and prescribes signage and parking space painting requirements to ensure EVCS locations and terms of use are clearly communicated. All EVCS and associated equipment and infrastructure will be installed in accordance with the equipment manufacturer's installation requirements.

6.2 Electrical

Plans for installation or expansion of EV Charging Stations should consider potential impacts that charging stations may have on the electric capacity of a building or location. If there are significant impacts, mitigation should be addressed under the implementation / capital plan for the charging station project, with timing tied to planned replacement of capital, when feasible.

- Where a site is undergoing its first installation of EVCS, the contractor design shall include for spare conduits to a number of additional parking spaces as determined by the City.
    - The number of spaces to 'future-proof' for future EV Charger installations shall be determined in consultation with key City of Mississauga staff (e.g. project controller or project manager). If no provisions for future EV Chargers are desired, this can be considered on a case-by-case basis.
- Metering and logging capabilities for the panel serving the EVCS shall be designed in accordance with City standards
- Dedicated panel and associated infrastructure (e.g. transformer) is preferred wherever applicable.
- Sizing of wiring, conduit, transformer, panel, etc should accommodate a minimum of 20% growth
- The consultant is responsible for creating and submitting detailed system design drawings and any accompanying documents to the City of Mississauga, and other regulatory agencies as needed to obtain permits and approvals. These include, but are not limited to Alectra Utilities and the Electrical Safety Authority.
- Provide surge protection equipment as part of the installation.

6.3 Civil

- The location of all utilities and underground service connections are to be performed by the contractor prior to the installation of EV Chargers.
- All curbs, gutters, raised traffic inlands, walkways, piers, foundations, duct works etc. shall be designed and constructed in accordance with City Standards
- Positive surface drainage shall be ensured to avoid water ponding
- Underground ducts for all power cables required to feed chargers, lights and ancillary equipment may be necessary

- EVCS (e.g. not wall mounted) shall me mounted on a pedestal on a concrete pad (4" minimum height,) and/or protected with bollards (if a unit is 4 feet or less from the vehicle)
- EVCS installed on a wall the bottom of the unit should be minimum 3 feet above finished floor (aff)
- All trees in the vicinity of parking should be retained and protected during construction

6.4 Signage and Parking Space Painting

Note: This is typically carried out by the City of Mississauga, particularly in Municipal Parking Lots.

- Provide permanent signage, at least one sign for every two dedicated parking spaces, to read ELECTRIC VEHICLE PARKING – ONLY WHILE CHARGING
- Provide permanent signs, one per charging station site, to outline the terms of use
    - This signage must make reference to the appropriate By-Law(s) and Policies
    - This signage must outline acceptable payment methods (where applicable)
- Provide adequate way finding signage to direct EV drivers to the EV Charger site from the parking lot entrance and/or the nearest street, where deemed necessary by the City
- Provide parking space pavement markings and painting as per City specifications (where applicable)

8.0 IT

8.1 Software (Vendor hosted solution):

- Vendor is required to complete the City's SaaS Checklist
    - To be reviewed by IT Security and IT Architect
- Vendor is to provide proof that a third party audit has occurred
- Vendor is to regularly perform software & firmware updates.
    - Vendor to provide a schedule
    - Vendor to provide proof that they are at a certain patch level
    - Vendor to provide reports. IT will periodically review to ensure that that they are in compliance
- Vendor to provide proof that they have untaken Vulnerability & Security testing.

8.2 Data

- Privacy Impact Assessment (PIA) must be performed if Personally Identifiable Information (PII) is in scope
- Data in transit must be encrypted (TLS) and at rest (AES-256) on all systems where data traverses or is stored (including all third party vendors)
- No PII data to be stored locally on the EVCS
- EVCS must be tamper proof
- Data from the EVCS must be one-way (i.e. vehicle to the EVCS) to prevent against cyberattacks such as "juice jacking"

- Vendor to clarify whether or not the EVCS has the ability to inject data from the EVCS to the vehicle
- EVCS access must be limited to authorized users only
- Vendor is required to outline what data is being collected
- Vendor is required to specify whether they are they tracking the frequency and locations of where users charge, time spent charging, and whether the data is tied to the device or a user's ID.
- A non-disclosure agreement (NDA) is required with the Vendor if Personally Identifiable Information (PII) data is in scope
- Certificate of data destruction is required from vendor upon termination of contract or discontinuation of business relationship
- Data governance role must be established with vendors to ascertain *data owner* from *data custodians*
- Preference for the vendor to provide an API which provides the City with access to data that can be for analyzing adoption rates

8.3 Payment infrastructure

- Vendor is to meet all PCI requirements
- Vendor must provide the City a certificate of PCI compliance on an annual basis
- All PCI payment data should logically segmented as per PCI DSS recommendation
- Any payment data has to go through a separate VLAN
- All financial transaction processing must be conducted off City network
- Transaction and payment information should not be stored on the EVCS
- No credit card data or personal information to be stored locally
- Transactions must be secure and need to be encrypted including when at rest

8.4 Network

- No inbound from the internet to internal resources, if inbound is required (push of data, NOT a pull data)
- Vendor is responsible for providing network connectivity (LTE is preferred) to the charging stations.
- Vendor is responsible for managing all devices, managing network connectivity as well as all data transfers required for the full functionality of the system.

8.5 Cellular

- Cell signal needs to be present and the signal strength needs vendor solution's requirements.
- Vendor is responsible for determining if the strength of the signal meets their requirements
- Antennae may be required in underground or covered areas

8.6 Guidance

- NISTIR – 8228 (Should PII become in scope)
- NIST SP- 800-122 (Should PII become in scope)

9.0 Role and Responsibilities

8.1 General

The installation of EVCS on City property is an emerging area of work for the City. As best practices and standard operating procedures are developed and implemented, roles and responsibilities will likely evolve.

8.2 Responsibilities of City of Mississauga Staff

City of Mississauga staff are responsible for becoming familiar with this Standard and are required to follow the requirements outlined in these documents when installing EVCS on City property.

8.3 EV Charging Station Asset Management

All EVCS installed on City property must be logged with Asset Management in Facilities and Property Management in order to ensure proper demand and preventative maintenance.

8.4 Data Management, Operations, and Expansion

The Operator/Property Manager of the charging station is responsible for data acquisition, operations, and decisions regarding expansion of services. The Environment Section will support corresponding teams with associated analysis and decision-making tasks where required.

10.0 Term

Electric Vehicles and their associated charging station technology have been evolving rapidly and it is anticipated that this trend will continue in the future. As a result, this Standard will be reviewed every two years to ensure it remains up to date with the state of Electric Vehicles and associated charging technology.

2019-2022 Environmental Action Committee Work Plan

WORK PLAN ITEM	ACTION FOR EAC MEMBERS	TIMING	PROGRESS *Action Taken or Date Completed*	
Climate Change	Support approval and implementation of the Climate Change Action Plan.	Ongoing	***May 29, 2019***	At the May 29, 2019, General Committee meeting, students from Camilla Road Senior Public School requested the City of Mississauga declare climate change an emergency. The following recommendation was issued; *That a motion provided by the students of Camilla Road Senior Public School regarding the City of Mississauga declaring climate change an emergency be referred to the Environmental Action Committee for further consideration*. ***GC-0306-2019***
			June 11, 2019	Referred from the May 29, 2019 GC meeting, the Eco Team Students from Camilla Road Senior Public School provided an overview on the crisis surrounding climate change and requested that the City of Mississauga declare a Climate Emergency at the June 11, 2019 EAC meeting. The following recommendation was issued; *That the Environmental Action Committee supports Camilla Road Sr. Public School Eco Team's position that the City of Mississauga will declare a Climate Emergency and create an action plan to help achieve net zero emissions and increased renewable energy by 2050.* ***EAC-0016-2019***
			June 19, 2019	At the June 19, 2019 Council, the following EAC-0016-2019 recommendation was amended and approved as; *Climate change is a real and urgent crisis, driven by human activity, that impacts the environment, biodiversity, human health and the economy.* *The City of Mississauga is committed to taking action on climate change, therefore the City if Mississauga declares a climate emergency and direct staff to develop and bring forward a climate change action plan to Council for approval by the end of 2019.* *That the students of Camilla Road Senior P.S. be thanked for their initiative on this matter.* ***0149-2019***
			July 9/2019	Deep dive discussion surrounding the Climate Change Action Plan with the EAC Members gaining insightful comments and feedback for consideration during the finalization of the overall plan.
			July 25/2019	The Climate Change Stakeholder Panel workshop was held, where several EAC Members participated. Comments received at this workshop were incorporated in the draft Climate Change Action Plan (CCAP). The updated CCAP will go to Council at the September 18th meeting for information. If public consultation for this draft CCAP is approved by Council at this meeting, public consultations will run from Mid-September to October.

2019-2022 Environmental Action Committee Work Plan

Climate Change	Support approval and implementation of the Climate Change Action Plan.	Ongoing	***Sept. 9/2019***	The Corporate Green Building Standard for New Construction and Major Renovations Building Projects takes into account the Climate Change Action Plan to reach 80% GHG Reduction by 2050.
			Sept. 19/2019	An email was sent to EAC Members to share public consultation opportunities (e.g., open houses, survey) for the draft Climate Change Action Plan. Consultation opportunities available between September 18, 2019 and October 18, 2019.
			Nov. 12/2019	At the November 12, 2019 EAC meeting – A deputation and memo related to the final draft version of the Climate Change Action Plan were presented to the EAC Members and the Committee approved the following recommendation; *That the Environmental Action Committee are in support of the Climate Change Action Plan and bringing it to General Committee on December 4, 2019 for endorsement.* ***EAC-0041-2019***
			Dec. 4/2019	At the December 4, 2019 General Committee meeting – The Climate Change Action Plan was unanimously supported and approved by the Members of Council. *That the Climate Change Action Plan (CCAP), and its supporting vision, goals, and actions, attached as Appendix 1 to the Corporate Report dated November 22, 2019 entitled "Climate Change Action Plan" from the Commissioner of Community Services be approved, subject to the City of Mississauga's annual budget process.* ***GC-0650-2019***
			Sept. 15/2020	City staff presented to EAC on the Climate Change Online Public Education and Engagement Tools.
Volunteering	Participate in volunteering opportunities as members of the Community Green Leaders volunteer program.	Spring 2020	***Sept. 26/2019***	Opportunities for EAC Members to participate in the program will be brought to the Committee in spring 2020.
		Ongoing	***Oct. 8/2019***	Adopt-a-Park deputation and discussion around the Members of EAC participating in a litter pick-up at a local park. Pujita Verma, EAC Citizen Member will be coordinating the details of the next volunteer event (date to be determined).
			Mar. 3/2020	Pujita Verma, EAC Citizen Member coordinated the details of Adopt-A-Park Clean Up for the Members of the Committee. The Committee decided on the following; *2. That the Environmental Action Committee selected the proposed dates of April 18, August 22, and October 17, 2020 at 10:00AM to participate in the Adopt-A-Park Clean-Up Program.* *a. That the April 18, 2020 Adopt-A-Park Clean Up be located at the R.K. McMillan Park along the banks of the Cooksville Creek from Lakeshore Road to Lake Ontario.* *b. That the locations of the August 22 and October 17, 2020 proposed Adopt-A-Park Clean-up dates be determined at a future date.* ***EAC-0009-2020*** Due to the COVID-19 Pandemic – the April and August dates for the Adopt-A-Park Clean Ups have been postponed.

2019-2022 Environmental Action Committee Work Plan

Volunteering	Participate in volunteering opportunities as members of the Community Green Leaders volunteer program.	Ongoing	***Aug. 14/2020***	City staff have developed COVID protocols for safely reengaging volunteers and on August 14, 2020 conducted a trail litter clean up at R.K. McMillan Park with the Environment staff to test these protocols. Based on this, a date to conduct a litter clean-up with EAC Members will be discussed on September 15, 2020 EAC Meeting.
			Oct. 6/2020	Pujita Verma, EAC Citizen Member provided an update to EAC on the Committee's upcoming October Litter Clean Up and new health and safety protocols surrounding COVID-19. An email was sent post meeting outlining the volunteer participation; Saturday, October 17, 2020 from 10AM to 12PM at R.K. McMillian Park.
			Oct. 17/2020	EAC Members participated in Litter Clean Up at R.K. McMillian Park.
Support City Action on Environment	Be prepared to comment on City-led items brought forward to EAC meetings (E.g., strategic plans, by-laws).	At EAC meetings	***Sept. 9/2019***	The Corporate Green Building Standard for New Construction and Major Renovations Building Projects was presented to EAC and recommended by the Members of Environmental Action Committee to General Committee for endorsement.
			Sept. 9/2019	The Downtown Strategy was presented at EAC, where the Members provided comments and feedback. An email was sent post meeting asking for participation from the EAC Members to fill out the survey to provide more insightful feedback.
			Nov. 12/2019	The Stormwater Master Plan was presented at EAC, where the Members provided comments and feedback.
			July 7/2020	An email was sent to EAC Members requesting feedback on the Stormwater Master Plan.
			Sept. 15/2020	City staff presented to EAC an Update on District Energy in the City of Mississauga.
			Oct. 6/2020	A deputation regarding the Pedestrian Master Plan was presented at EAC, where the Members provided comments and feedback.
			Oct. 6/2020	A deputation regarding the Green Fleet and Equipment Policy was presented at EAC, where the members provided comments and feedback.
			Oct. 6/2020	City staff presented to EAC on the Home Energy Retrofit Program.
Report on Committee Progress	Report to General Committee bi-annually on the progress of the EAC's work plan and activities. (Includes the EAC Actions Summary as an appendix)	Twice per year	***Mar. 3/2020***	At the March 3, 2020 EAC Meeting – the Committee approved the following recommendation; 1. *That Carina Suleiman and Shazerah Qureshi, Environmental Action Committee Student Members have been selected to present on the Committee's Progress and Achievements outlined in the Environmental Action Committee Work Plan to Members of Council at the June 10, 2020 General Committee.* 2. *That the Environmental Action Committee Work Plan be approved as discussed at the March 3, 2020 Environmental Action Committee meeting.* ***EAC-0010-2020***

2019-2022 Environmental Action Committee Work Plan

Report on Committee Progress			***July 22/2020***	At the July 22, 2020 Virtual Council Meeting - Carina Suleiman and Shazerah Qureshi, Environmental Action Committee Student members presented (deputation) the Committee's Progress and Achievements based on the Environmental Action Committee Work Plan.
Additional/Other			***Nov. 12/2019***	At the November 12, 2019 EAC meeting – the Committee supported going paperless and approved the following recommendation; *That the Legislative Coordinator for the Environmental Action Committee (EAC) eliminates the distribution of paper copies of the agenda and will only provide electronic copies of the agendas for all EAC meetings starting December 10, 2019.* ***EAC-0042-2019***
			Oct. 6/2020	The Citizen Satisfaction Survey was presented at EAC. Members provide comments and feedback pertaining to expanding the Environmental section to include a question on Climate Change.
			Oct. 6/2020	A verbal update on the Smart City Challenge was provided at EAC. If interested, Members can be invited to attend the industry presentations and the closing awards session.
Next Steps	Upcoming suggested environmental actions and initiatives to be implemented.	Ongoing	***Feb. 4/2020***	At the February 4, 2020 EAC Meeting – Two external deputations presented on the decline of birds as result of unfriendly bird glazing. The Committee requested that staff contact FLAP (Fatal Light Awareness Program) Canada to gather birds of prey statistics and report back to EAC. The Committee approved the following recommendation; 2. *That staff be directed to report back to a future Environmental Action Committee meeting to investigate the feasibility of becoming a Bird City.* 3. *That Animal Services staff be requested to provide a list of programs and services related to injured animals and wildlife rehabilitation to be circulated to the Environmental Action Committee and Members of Council.* ***EAC-0002-2020***

City of Mississauga
Memorandum

MISSISSAUGA

Date: October 15, 2020

To: Chair and Members of Environmental Action Committee

From: Dayna Obaseki, Legislative Coordinator

Meeting date: November 3, 2020

Subject: **Environmental Action Committee 2021 Meeting Dates**

The 2021 meeting dates for the Environmental Action Committee (EAC) have been scheduled as follows:

- Tuesday February 2, 2021
- Tuesday March 2, 2021
- Tuesday April 6, 2021
- Tuesday May 4, 2021
- Tuesday June 1, 2021
- Tuesday July 6, 2021
- Tuesday September 14, 2020 at 1:30PM
- Tuesday October 5, 2021
- Tuesday November 2, 2021
- Tuesday December 7, 2021

Unless otherwise advised, all meetings will be held at 9:30 AM via Online Video Conference and/or at the Mississauga Civic Centre, Hearing Room, 2nd Floor, 300 City Centre Drive, Mississauga. Virtual (Online Video Conference) meetings will continue to take place until further noted and pending the current COVID-19 Pandemic.

Meetings may be cancelled at the call of the Chair due to insufficient agenda items or lack of quorum. Please kindly contact me in advance of the meeting if you will be absent or late so that quorum issues can be anticipated and dealt with accordingly.

For the most up to date Council and Committee dates please visit the Council and Committee Calendar Listings webpage at http://www.mississauga.ca/portal/cityhall/calendar.

Prepared by: **Dayna Obaseki**
Legislative Coordinator, Office of the City Clerk, Legislative Services Division
905-615-3200, ext. 5425 | dayna.obaseki@mississauga.ca