

Date: 2023-04-03

Subject: Peel Zero Emission Vehicle Strategy

Contact: Pam Cooper, Environmental Planner,
Environment and Development Engineering Division

Report Number: Planning, Bld & Growth Mgt-2023-330

Recommendations:

1. That the report from Pam Cooper, Environmental Planner, Environment and Development Engineering Division to the Committee of Council Meeting of April 26, 2023, re: Peel Zero Emission Vehicle Strategy, be received;
2. That the Peel Zero Emission Vehicle Strategy (Attachment 1), be received.

Overview:

- Transportation accounts for 59% of the City of Brampton's community greenhouse gas (GHG) emissions, (Community Energy and Emissions Reduction Plan (CEERP), 2020.
- Increasing use of electric vehicles is one of the objectives to achieve the Strategic Direction of Transportation Efficiency in the CEERP.
- To date, efforts to support the community in transitioning to zero emission vehicles includes the installation of more than 65 public charging stations for electric vehicles across City of Brampton community centers, facilities and administrative buildings.
- The Peel Climate Change Partnership (PCCP), of which the City of Brampton is a Member, collaborated to develop the Peel Zero Emission Vehicle (ZEV) Strategy.
- The ZEV Strategy is a five (5) year plan with 16 actions that aims to accelerate the uptake of light-duty battery and plug-in hybrid electric vehicles within the community across Peel Region

- **The ZEV Strategy will be implemented collectively by all Peel municipalities, the Toronto Region Conservation Authority and Credit Valley Conservation.**
- **The ZEV Strategy includes the following objectives: reduce GHG emissions and air pollution; improve business and resident knowledge; increase ZEV driving experiences, availability, and ownership; enhance planning processes and access to charging infrastructure; and promote local job creation and economic development.**
- **Corporate fleets are outside of the scope of the ZEV Strategy, as each Peel area municipality has separate strategies to manage corporate fleet emissions, including the Brampton Sustainable Fleet Strategy endorsed by Council in 2022.**
- **Supporting the transition to ZEVs is essential to meet community GHG emissions reduction targets.**

Background:

Accelerating the uptake of zero emission vehicles (ZEVs) is a crucial strategy to meet Council approved targets from Brampton's Community Energy and Emissions Reduction Plan ([CEERP, 2020](#)) of reducing greenhouse gas GHG emissions by:

- 30% from 2016 levels by 2030;
- 50% from 2016 levels by 2040; and,
- establishing a pathway to reduce GHG emissions by at least 80% by 2050.

Transportation is the largest source of community wide GHG emissions in Brampton, accounting for 59% of emissions by sector. Facilitating the use of zero emission vehicles is one of the key objectives to achieve the Strategic Direction of Transportation Efficiency within CEERP.

Zero Emission Vehicles are defined as a vehicle that has the potential to produce no tailpipe emissions (e.g. battery-electric, plug-in hybrid electric, hydrogen fuel cell).

According to the Intergovernmental Panel on Climate Change, ZEVs powered by low carbon electricity offer the largest potential to reduce land-based transportation emissions on a life cycle basis ([IPCC, 2022](#)). Ontario currently has one of the cleanest electricity systems in North America; an electric vehicle produces only 3% of emissions of gasoline-fueled car when charging occurs during off-peak hours (IESO, 2021). Supporting the transition to ZEVs is essential to achieving corporate and community GHG emissions reduction targets.

ZEV sales are set to accelerate rapidly over the next decade, but support is needed to meet the Government of Canada's mandatory 100% sales target for all new light-duty cars and passenger trucks to be zero-emission by 2035 – with interim targets set for at least 20% sales by 2026 and at least 60% sales by 2030 ([Canada, 2022](#)).

The Peel Zero Emissions Vehicle Strategy (ZEV Strategy) outlines actions that can be undertaken at the municipal scale to accelerate the community's transition to ZEV.

Current Situation:

Progress to date

Brampton has made progress in supporting the community in transitioning to zero emission vehicles by installing more than 65 public charging stations for electric vehicles across City of Brampton community centers, facilities and administrative buildings.

Brampton has been successful and will continue to submit joint grant funding applications with the City of Mississauga, Town of Caledon and local conservation authorities to the Federal Zero Emissions Vehicle Infrastructure Program (ZEVIP) to install more EV charging stations in the community.

While outside the scope of the ZEV, municipal fleet strategies for GHG emissions reductions are complementary to the ZEV in achieving the goal of cutting vehicle emissions. The Brampton Sustainable Fleet Strategy sets out an emissions reduction target to cut GHG emissions across Transit, Fire/EMS, and corporate vehicles by 85% compared to 2019 levels. There are 6 zero-emission vehicles in the corporate fleet currently, as well as acquisition underway for 32 more this year, at which point 10% of the licensed corporate fleet will be zero-emission vehicles.

Within Transit, there is an 8-vehicle electric bus pilot program and plans to purchase 10 more zero emission buses anticipated to be in service next year, with ongoing work with funding agencies to support the purchase of up to 450 buses over the next several years. The City continues to make progress on the goals laid out in the Sustainable Fleet Strategy, but the pace of conversion to ZEVs is also dependent on the development and construction of the electric infrastructure and equipment required to power the vehicles.

Peel Climate Change Partnership

The Peel Climate Change Partnership (PCCP), formed in 2009, is comprised of six Member Organizations: Town of Caledon, City of Brampton, City of Mississauga, Region of Peel, Credit Valley Conservation, and Toronto and Region Conservation Authority. The goal of the PCCP is to advocate for climate change policy reform and develop and implement strategies that increase collective action around member organization mandates to accelerate climate change action in three core areas:

- Low Carbon Communities: Reduce GHG emissions in buildings and vehicles;
- Flood Resiliency: Prepare for extreme weather by managing flood risk;
- Green (natural) Infrastructure: Enhance tree canopy to address extreme heat risk.

Peel Zero Emission Vehicle Strategy Development

The ZEV Strategy was developed in collaboration through the Peel Climate Change Partnership (PCCP), represented by the City of Brampton, Town of Caledon, City of Mississauga, Region of Peel, Credit Valley Conservation, and Toronto and Region Conservation Authority. The PCCP works together to address climate change in the Region. By working together to implement a region-wide strategy, the aim is to efficiently support residents and businesses to reduce GHG emissions and air pollution.

The ZEV Strategy development included producing several background research studies that examined expected ZEV uptake and associated electricity grid impact within the region as well as region-specific health, climate change and socioeconomic impacts. The list of background research studies included:

- Expected ZEV uptake and the impact on the local electricity distribution system;
- Region-specific health, climate change and socioeconomic impact;
- Residents and businesses survey to better understand perception, opportunities and barriers to ZEV adoption and what municipal actions were supported; and,
- Best practice scan and literature review of actions that can be taken to increase uptake

The ZEV Strategy also involved conducting community surveys with both residents and businesses and a best practice scan was completed to evaluate potential actions proposed in similar municipal plans in Ontario and more broadly.

Finally, significant internal and external consultations were conducted (stakeholders engaged are outlined in Schedule B) to review ZEV Strategy actions, including various municipal divisions, Federal and Provincial government, local utilities and electric vehicle non-profit organizations.

Peel Zero Emission Vehicle Strategy Summary

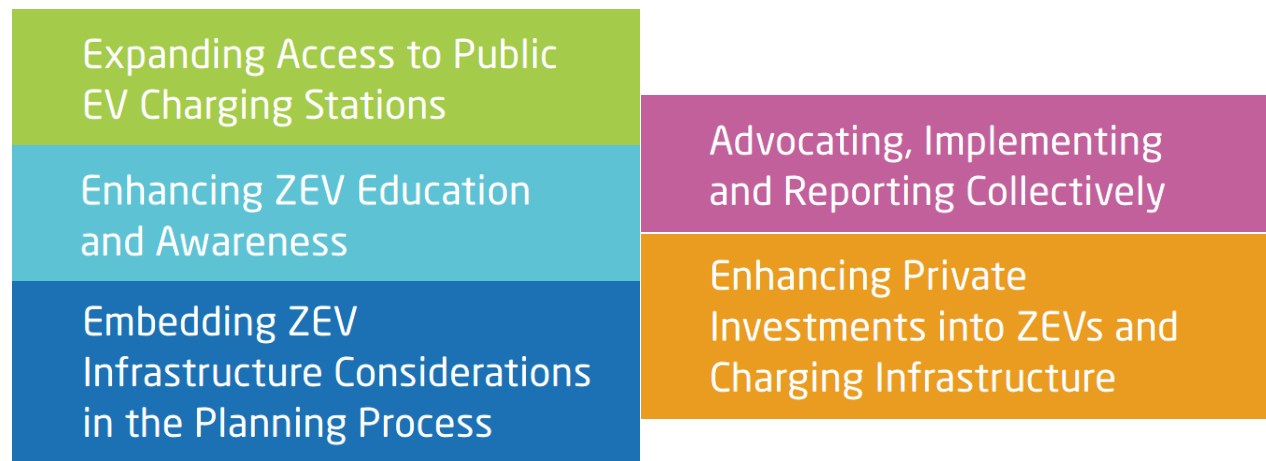
This ZEV Strategy focuses on light-duty vehicles – cars, trucks and vans – owned by the public and businesses, and the charging infrastructure needed to support these vehicles. Municipal fleet and transit vehicles were excluded from the scope of this ZEV Strategy, as each partner has addressed corporately-managed vehicles through existing plans and commitments.

Endorsed through the Peel Climate Change Partnership (PCCP) Steering Committee (May 2022) and received by Regional Council (June 2022), the Peel ZEV Strategy is a five year plan that identifies actions to accelerate ZEV uptake across the Region of Peel.

The Peel ZEV Strategy objectives are to:

- Reduce GHG emissions and air pollution from the transportation sector;
- Improve business and resident knowledge on the benefits and costs of ZEVs;
- Increase ZEV driving experiences, availability and ownership;
- Enhance planning processes and access to charging infrastructure; and,
- Promote local job creation and economic development.

To support these objectives, the strategy includes 16 actions within five focus areas that reflect PCCP Members' role in accelerating ZEV uptake in the community:



In collaboration with PCCP Members, the City of Brampton will be a key implementation stakeholder across all focus areas. Progress on ZEV Strategy implementation will be reported by each municipality to their local Council annually through each municipalities' community climate change plan updates.

Policy, Plan and Strategy Alignment

The Peel ZEV Strategy aligns with many existing municipal plans, policies and strategies that enable climate action and clean transportation in the community. ZEVs are one component of the sustainable transportation hierarchy. The ZEV Strategy will compliment actions in the:

- Environmental Master Plan
- Brampton Plan
- Brampton Mobility Plan
- Sustainable New Communities Program
- City of Brampton Energy and Emissions Reduction Plan: A Zero Carbon Transition 2019-2024
- Community Energy and Emissions Reduction Plan (CEERP)

The CEERP recognizes that the current energy transition of deep decarbonization and distributed energy will require Brampton to initiate a transformation that involves well-designed communities that facilitate the adoption and use of ZEV.

Brampton is currently working to accelerate ZEV uptake through:

- updates to official plan policies in Brampton Plan;
- zoning updates through the Comprehensive Zoning By-Law Review;
- provision of points in the Sustainable New Communities Program for including electric vehicle charging stations in new development;
- installing public chargers in municipal parking lots across the city to help make electric vehicles more convenient for residents and businesses in Brampton;
- providing a public webpage with information on public charging station availability; and,
- leveraging the new legislative change for Ontario to ensure electric vehicle (EV) charging spaces are only used by vehicles that are plugged-in and ensuring this is in effect at all City of Brampton EV charging stations as of January 2021.

Engagement and Consultation

The ZEV Strategy was developed in consultation with the public, PCCP staff, and external agencies such as the Federal and Provincial government, local electric utilities, and ZEV focused not-for-profit organizations and societies. An online and telephone survey was conducted to better understand Peel Region residents and business' attitudes towards ZEVs, their appetite for using ZEVs, and to determine potential steps by municipalities to accelerate the transition to ZEVs. A total of 541 Region of Peel residents and 33 companies with facilities located in Peel were surveyed.

For a list of stakeholders who were consulted, see Attachment 2.

Corporate Implications:

Financial Implications:

Implementation and funding of specific ZEV Strategy actions will be subject to the annual budget process.

Term of Council Priorities:

This report directly aligns with the Strategic Direction – Brampton is a Green City, in particular, implementing a green framework by coordinating with Regional and Provincial governments on efforts to address climate change.

The Peel ZEV Strategy aligns with other city electric vehicle initiatives such as being the first municipality in Ontario to procure a fully electric powered fire truck, and adding eight electric buses to our Brampton Transit fleet, part of a first-of-its-kind electric bus trial, making it the largest global deployment of interoperable buses and chargers.

Next Steps:

Environment and Development Engineering staff will participate in a working group comprised of municipal, conservation authority and other stakeholders as required to:

- oversee and track progress on ZEV Strategy implementation of the priority actions; and,
- create an infrastructure plan for subsequent projects to install more public EV chargers.

Additional municipal members of the working group may include staff from Energy Management, Building Design and Construction, Community Services, Legal and Strategic Communications, as required.

Conclusion:

The Peel Zero Emission Vehicle Strategy outlines actions Peel Climate Change Partnership members can take to accelerate ZEV uptake in the community. Brampton has already begun to initiate many of the actions within the Strategy. Working together with our Peel partners to implement additional actions will contribute significantly to the achievement of community GHG emissions reduction targets and will support the transition to a low carbon transportation system.

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Attachments:

Attachment 1: Peel Zero Emission Vehicle Strategy
Attachment 2: Stakeholder Consultation