

## Greening Hamilton's Fleet

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Fleet Technology Development to Reduce GHG Emissions For  
The City of Hamilton's Fleet Division

Transportation accounts for 24% of GHG emissions in Canada. It is the second largest source of total emissions.



Hamilton



### The Green Fleet Strategy

- Maintain sustainable fleet strategies to prioritize climate change.
- Reduce GHG emissions within Fleet Service Vehicles
- 18.4% emission reduction target by 2024
- Improve fuel efficiency of vehicles
- Fleet vehicle electrification

### Fleet Electrification

#### Heavy-Duty Electric Vehicles

- An electric packer truck can save 2,668 gallons of fuel a year and reduces greenhouse gas emissions by 68 tons.

#### Engine Retrofitting

- Convert a medium-duty internal combustion vehicle to a 100% electric engine.



### Vehicle Modifications

#### Transit Plasma System for Fuel Ignition

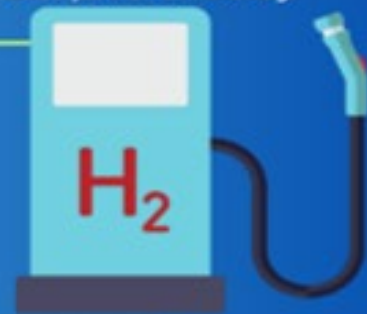
- The ignition system uses nanosecond pulsed power plasma to burn fuel. Increase fuel efficiency by 20% and reduce NOx emissions by 50%

#### Speed of Air Piston to Increase Power

- A high-performance piston reduces fuel consumption and emissions. Increases power efficiency.

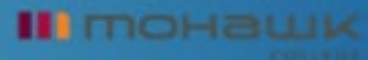
### Hydrogen Fuel Cell

- Fuel cell technology generates electricity and heat while producing water from oxygen and hydrogen. An efficient fuel alternative for medium and heavy-duty vehicles due to its long-range capability and fast refueling.
- Hydrogen is fairly new to Canada but there are developments happening within Canada and Ontario.



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CityLAB Hamilton is an innovation hub that brings together student, academic, and civic leaders to inspire, energize, and build a healthy, sustainable, and more vibrant Hamilton by co-creating and designing real-world projects. CityLAB is a collaboration between the City of Hamilton, McMaster University, Mohawk College, and Redeemer University.



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