

CITY OF CAMBRIDGE CLEAN FLEET POLICY

Overview

Whereas, the City of Cambridge has committed to net zero emissions for municipal operations by 2050; and

Whereas, Cambridge, as a member of the Metro Mayor's Climate Task Force, committed to carbon neutrality by 2050; and

Whereas, on July 14, 2020, Massachusetts was one of 15 states plus the District of Columbia that signed a Memorandum of Understanding committing to medium- and heavy-duty fleet electrification, specifically 30% electrification by 2030 and 100% by 2050; and

Whereas, the Commonwealth of Massachusetts has committed to net zero emissions by 2050 through passage of the Climate Roadmap bill in 2021.

The City of Cambridge hereby issues a new Clean Fleet Policy.

Introduction. The Policy shall support the City of Cambridge's transition to fossil-fuel-free and net zero emissions in municipal operations to

- Reduce greenhouse gas emissions and climate change
- Reduce air pollutants emitted from vehicles and equipment powered by fossil fuels that contribute to asthma, respiratory disease and other negative health impacts, particularly in children, the elderly and other vulnerable populations.

Living Document. This Policy is intended to be a living document to be reviewed and changed based on technology improvements, budgetary constraints, and municipal priorities.

Goals. Through the implementation of this Policy, the City will work to achieve the following goals:

- Minimize greenhouse gas and air pollutant emissions
- Incorporate zero emission vehicles into the City fleet
- Increase the average fuel economy of the City fleet
- Minimize vehicle miles traveled to the extent operationally feasible
- Right-size vehicles, including mode shifts to walking, biking and using public transportation
- Optimize the costs of operating and maintaining the fleet
- Eliminate vehicles from the City fleet that are unnecessary, high-emitting or not cost-effective.

Applicability. This Policy applies to all departments of the City of Cambridge and pertains to all vehicle classes.

Policy Context. The City is committed to making the transition to a Zero Emissions Fleet. There are many components of this plan that must come together for it to succeed, including:

- Available vehicles/equipment that can perform the work successfully
- Charging infrastructure, including electrical capacity
- Maintenance ability, including properly outfitted facilities, equipment and training for fleet technicians
- Local/regional repair vendors
- Ability to perform critical operations, and
- Implementation strategy to provide for an orderly transition

THIS DOCUMENT CONTAINS TWO PARTS: I. THE CLEAN FLEET POLICY AND II: THE IMPLEMENTATION PLAN.

I. The Clean Fleet Policy

A. Core Policy Elements

1. All departments shall **acquire** the lowest greenhouse gas-emitting vehicles and heavy equipment for municipal use when such items are commercially available, practicable and capable of performing the necessary functions, with consideration to the **total cost of ownership**, which includes (1) acquisition cost, (2) operating and maintenance costs and (3) other costs/benefits to society, including greenhouse gas emissions from fuel use and public health and societal impacts.
2. The City of Cambridge shall **operate and maintain** vehicles in a manner that minimizes energy use, emissions of greenhouse gases and conventional air pollutants. This includes but is not limited to:
 - a. deploying technologies, implementing management practices and providing operator education to minimize engine idling, and
 - b. implementing maintenance practices to optimize vehicle performance and minimize emissions.
3. The City shall develop data-driven vehicle **replacement** strategies to prevent the degradation of fleet performance and ghg reductions over time.
4. The City shall develop plans to provide sufficient **charging** infrastructure to support this transition to fossil-fuel-free transportation, including coordination with the electric utility to ensure sufficient electrical capacity is available.

B. **Targets.** Individual departments and the City in total shall work to meet or exceed the following targets.

1. **Greenhouse Gas Emissions Reduction Targets.**

2008: Baseline

2025: 20% reduction / stretch target of 25%

2030: 55%

2040: 75%

2050: 100%

2. **Vehicle Category Ownership Targets.**

75% zero emission Light Duty vehicles by June 30, 2030, stretch target of 100%

100% zero emission Marked Police Cruisers by June 30, 2035

100% zero emission Solid Waste Collection vehicles by June 30, 2035

3. **Electric Vehicle Charging Infrastructure Targets.** To support the targets above, the City shall increase the number of electric vehicle charging station ports for fleet use¹ to a total of:

30 in 2025

90 in 2030

150 in 2040

180 in 2050

The charging port installation targets may change based on a determination of appropriate EV-to-port ratios

C. **Acquisition Guidelines.** The following guidelines shall be followed for acquisition of all classes of vehicles.

1. **Passenger Vehicles.** All vehicles with a gross vehicle weight (GVW) of 6,000 pounds or less acquired by the City will be battery electric (BEV). In the exception that an all-electric vehicle that meets the functional requirements is not commercially available or practicable a plug-in hybrid (PHEV) shall be selected

2. **Vehicle Selection.** For all vehicles other than passenger vehicles, described above, a department shall first identify a Zero Emissions Vehicle (ZEV), if available.

3. **Operational Screen.** The vehicle or equipment shall be reviewed to determine if:

- It is commercially available for purchase, preferably, in New England,
- Maintenance and repair vendors exist within a 100-mile radius of Cambridge City Hall,
- It is properly sized for the required function,

¹ Includes ports that are shared City fleet/public use

- d. The vehicle's charging or fueling requirements allow it to perform its required function effectively and
- e. A charging facility is or will be available by the expected delivery date. If the vehicle is a Plug-in Hybrid (PHEV), the vehicle may be acquired if the City will be able to provide charging infrastructure within twelve months of delivery.

If the ZEV vehicle is not able to meet each of these conditions, the department shall select the next lowest-emitting vehicle of its type. In most cases this will be a Plug-in Hybrid (PHEV) or Hybrid Electric (HEV), in that order. The most efficient internal combustion engine (ICE) vehicle shall be the last resort.

Medium-duty (MD) and heavy-duty (HD) vehicles (8,500 pounds and greater):

MD/HD vehicles that are not EV shall include advanced technologies to reduce idling or a battery-electric Power Take Off (PTO)-assist where applicable, whether Original Equipment Manufacturer (OEM) or after-market.

Medium- and heavy-duty vehicles have higher costs and longer useful life than light-duty vehicles. When considering a replacement of a vehicle when a suitable ZEV is expected to be available within the next three years the City may consider leasing a PHEV or ICE vehicle in the interim in order to acquire the ZEV as soon as possible.

4. **Cost Effectiveness Analysis.** When the lowest emitting vehicle that meets the Operational Screen has been selected, the City will utilize a cost-effectiveness model that calculates the
 - Total cost of ownership, which includes purchase/leasing, maintenance and fuel costs over the expected life of the vehicle.
 - Monetized calculation of the environmental, societal and public health costs associated with of the vehicle's fuel use. These costs shall be derived from published metrics estimating the regional cost per ton of greenhouse gas emissions and conventional air pollutant emissions. These metrics shall be reviewed annually and updated as appropriate.
5. **Decision Framework.** If the costs are more than 50% higher than the next lowest emitting model, the department shall not be required to select the ZEV model.
6. If a ZEV vehicle is disqualified because it does not meet the Decision Framework, the next lowest emitting vehicle shall be analyzed using the same decision-making framework, beginning with the Operational Screen and then the Cost-Effectiveness test.
7. The costs of installing **charging infrastructure** shall not be included in the cost analysis. Charging installation is not expected to be a part of a department's vehicle and heavy equipment budget.

8. Notwithstanding the results of the Cost-Effectiveness Analysis, the City may choose to acquire ZEV vehicles that meet the Operational requirements when significant benefits will accrue, including and not limited to the following:
 - Demonstrating leadership in climate protection and serving as a role model for the public and other municipalities
 - Acquiring the vehicle will have a significant and immediate impact on reducing greenhouse gas emissions, resulting in a greater cumulative benefit over time than delaying action until costs decrease.
 - Piloting one or more pieces of equipment to assess their viability for broader deployment

D. Clean Fleet Committee

1. A **Clean Fleet Committee** will be appointed by the City Manager to support the implementation of this Policy. The Committee shall be chaired by the Public Works Department and shall comprise members of the Community Development, Fire, Police, Public Works, and Water departments.
2. **Role of the Committee.** The Committee shall review acquisition requests for alignment with this Policy and make recommendations as to the vehicle to be approved for purchase.
3. The Committee shall also **serve as a resource** to departments for information about new vehicles and technologies, operational and management practices and for implementation, fleet replacement and charging infrastructure planning.
4. By **September 30th** of each year, the Committee shall prepare an **annual report** documenting its work for the previous fiscal year. The report shall include:
 - a. Description of the City's actions in implementing this Policy over the past year.
 - b. Progress in achieving Policy targets.
 - c. a list of zero- and low-emission vehicles that have recently become available on the market and/or are good candidates for City use. This will help encourage fleet standardization and development of expertise among staff,
 - d. Recommended changes to the Policy.

E. Procedures for Acquiring a Vehicle

1. To begin the vehicle acquisition process, a department shall submit a Clean Fleet Review Form to the Clean Fleet Committee. The Review Form shall include the need for the purchase, vehicle function, cost, size (hp, GVW, other relevant metrics), estimated fuel efficiency, Operational Screen, evaluation of rightsizing and the existing vehicle that is being replaced. The Committee may request additional information to assist in its review and shall be available to assist departments in identifying vehicle options and life-cycle costs.

2. The Committee shall submit a written recommendation to the requesting department and the Purchasing Agent upon completion of its review. The requested vehicles shall comply with the Clean Fleet Policy as described in this document and the Massachusetts Green Communities guidelines on fuel efficiency.
3. If a department disagrees with the recommendation of the Committee or seeks an exemption from the Clean Fleet Policy, it may provide additional information to the Committee. The Committee shall recommend approval or an alternative decision to the City Manager, who shall have the authority to grant or deny an exemption.

F. Other Policy Items

1. Fleet Replacement Strategies. With the assistance of the Clean Fleet Committee, departments shall begin to implement fleet evaluations that incorporate vehicle utilization, total cost of ownership and fuel and emissions data to identify vehicles for removal or replacement in order to inform vehicle acquisition decisions.
2. Biodiesel. The Clean Fleet Committee will work with departments as appropriate to evaluate the effectiveness and suitability of biodiesel fuel sourced from waste oil for use in all City fuel tanks and recommend expansion of its use if appropriate.
3. Monitoring and Reporting. Each department with vehicles shall maintain a comprehensive vehicle inventory and shall submit their vehicle inventory to the Department of Public Works by July 31 of each year. The inventory shall be maintained in a manner that is consistent with the Massachusetts Green Communities guidelines. The Department of Public Works may advise other departments as to the fields of data that should be maintained in the inventory and otherwise coordinate the maintenance and compilation of department vehicle inventories.
4. Operational and Maintenance Practices
 - a. All City vehicles shall comply with the state anti-idling law, MGL Ch.90, s.16A, which limits idling to no more than 5 minutes, except where necessary.
 - b. Departments shall provide training to vehicle operators on procedures and practices to minimize emissions.
 - c. Departments shall also consider advanced vehicle technologies to reduce idling on new purchases and for retrofits on existing vehicles as appropriate.
 - d. Departments shall maintain vehicles at optimal efficiency by following manufacturers' guidelines for maintenance and shall increase maintenance when applicable to the goals of this Policy.

II. Clean Fleet Implementation Plan

1. **Charging Infrastructure Plan.** The City shall develop a plan for the installation of electric vehicle charging stations to support this Clean Fleet Policy. New construction and major renovation projects shall be EV-ready, with sufficient electrical capacity for current and projected needs. New construction and major renovation project budgets shall include EV infrastructure and charging installation costs.
2. **Fleet Maintenance Capacity.** The Clean Fleet Committee shall ensure that fleet maintenance staff have the necessary training, certifications and equipment to repair zero emission vehicles. Fleet maintenance facilities shall be outfitted with the appropriate electrical infrastructure, supplies and equipment to ensure safe operations.
3. **Departmental Implementation Plan.** In year one each City department will develop an implementation plan to meet the goals of this Clean Fleet Policy. The Plan shall lay out annual projected vehicle acquisition plans for the first five years followed by longer term plans in five-year increments. The Plan shall include fleet and heavy equipment, associated charging infrastructure, fleet maintenance and staff training needs. The Clean Fleet Committee will work with departments to support the development of Implementation Plans. Department Plans shall be updated every five years.
4. **Funding.** In addition to City funding, staff shall actively seek funding assistance from Eversource, the state and federal government and other entities to support this program.

Issued by:



Yi-An Huang, City Manager

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