

City of Columbia Fleet Electrification Policy

A strategic look at the present and future of the electrification of the City of Columbia fleet system.



Table of Contents

Summary & Goals	1
Objectives	2
1. Vehicle Replacement Strategy	2
(a) Light-Duty Vehicles	2
(b) Medium- and Heavy-Duty Vehicles	3
(c) Exemptions	3
2. EV Charging Infrastructure	4
3. Right-Sizing the Fleet	4
4. Education & Training	5
Metrics and Reporting	5

Definitions

Alternative Fuels - any materials or substances that can be used as fuels in vehicles, other than conventional fuels such as fossil fuels

Automatic Vehicle Location (AVL) - the system used for determining the geographic location of a vehicle and transmitting this information to dispatchers and supervisors

Electric Vehicles - vehicles that have a battery instead of a gasoline tank, and an electric motor instead of an internal combustion engine

EV Charging Infrastructure - structures, machinery, and equipment necessary and integral to support an electric vehicle; including battery charging stations, rapid charging stations, and battery exchange stations

Heavy-Duty Vehicles - a heavy-duty vehicle that is rated at 14,001 or more pounds gross vehicle weight rating (GVWR)

Internal Combustion Engine Vehicle (ICE)- conventional vehicles fueled by gasoline, diesel, and other nonrenewable fuels sources

Light-Duty Vehicles - a mobile machine that is primarily used to transport passengers and cargo (e.g., cars, vans, SUVs, pickup trucks), with a GVWR less than or equal to 10,000 pounds

Medium Duty Vehicle - any motor vehicle having a gross vehicle weight rating of more than 8,500 pounds but not more than 14,000 pounds

Zero Emission Vehicle - a vehicle that does not emit exhaust gas or other pollutants from the onboard source of power

Summary & Goals

The City of Columbia is committed to operating its vehicle fleet responsibly and sustainably. City Council first expressed their commitment to clean transportation in Resolution 160-06 and later reasserted this position when adopting the Climate Action & Adaptation Plan (CAAP) in June 2019. The CAAP sets greenhouse gas (GHG) emissions reduction goals for both community and municipal operations. It states that the 2015 municipal GHG emissions shall be reduced by 50% by 2035 and 100% by 2050. Thus, the goal for municipal transportation is to replace all internal combustion engine (ICE) fleet vehicles with zero-emissions vehicles to achieve the GHG reduction targets set forth in the CAAP. This Fleet Electrification Policy (FEP) is promulgated to implement the CAAP targets. This Policy addresses CAAP action T-2.1.1: "Introduce a policy to replace City fleet vehicles and buses with electric and hybrid options at the time of replacement, and require emissions standards, testing and biofuel preference for any combustion vehicles remaining in the fleet."

Objectives

1. Vehicle Replacement Strategy

- The purpose of this policy is to convert the municipal fleet to zero-emission vehicles in support of the CAAP goal of 100% Municipal GHG reduction by 2050. This policy applies to all vehicles acquired through purchase, lease, donation or rental.
- All departments will prioritize battery electric vehicles (BEVs) or other zero-emission vehicles in the procurement process. The order in which departments will prioritize alternative fuels, highest to lowest, will be:
 - Battery electric;
 - Fuel cell electric (FCEVs) or plug-in hybrid electric (PHEVs);
 - Hybrid electric (HEVs);
 - Compressed natural gas (CNG);
 - Renewable diesel (RD);
 - Ethanol or biodiesel.
- The Fleet Operations Division will identify all market-ready electric vehicles (EVs) and share the list with Department Directors, Managers and the Fleet Optimization Committee (FOC).
- BEVs will be purchased for the municipal fleet when a cost-effective, market-ready vehicle is available and matches the planned operations for that vehicle.
- Cost-effective will be defined to be within 10% of the value using the Total Cost of Ownership model, which includes the vehicle's capital cost and expected lifetime cost of its operations, including maintenance and fuel.
 - This model will be kept and updated on a biannual basis, by the FOC, to determine the Total Cost of Ownership for each fiscal year.
- Department Directors and Managers will proactively identify vehicles due for replacement.
- Fleet Operations, Purchasing and the Fleet Optimization Committee will take advantage of all applicable rebates and incentives to ensure increased purchasing power and increased access to EV models.
- Electric vehicle batteries will be disposed of according to all state and federal regulations and in a manner that minimizes waste. Repurposing and recycling will be prioritized over hazardous waste disposal.

(a.) Light-Duty Vehicles:

- Sedans will be considered the default passenger vehicles for City operations. SUVs and trucks due for replacement must have an identified, specific use that cannot be achieved with a sedan or crossover.
- Light-duty vehicles will be replaced with BEVs when:
 - Scheduled for replacement or decommissioned due to emergency or when requested;
 - The vehicle is anticipated to travel less than 200 miles total per day;
 - All specialized functions required of the vehicle can be found in available BEVs.
- Light-duty vehicles will be replaced with FCEVs, PHEVs or HEVs when:

- Scheduled for replacement or decommissioned due to emergency or when requested;
- No available BEVs can provide the necessary range or specialized functions to meet City obligations;
- All specialized functions required of the vehicle can be identified in available FCEVs, PHEVs, or HEVs.

(b.) Medium- and Heavy-Duty Vehicles:

- Department Directors and Managers will proactively search for medium- and heavy-duty BEVs on the market and become familiar with their specifications.
- The Office of Sustainability will collaborate with other municipalities who have piloted medium- and heavy-duty BEVs and forward case studies to relevant departments.
- Departments may conduct pilot projects for heavy-duty vehicle electrification prior to large-scale adoption. Such pilot projects may exceed the 10% cost effectiveness of the total cost of ownership.
- In the short term, medium- and heavy-duty vehicles will be replaced with low-emitting fossil fuels until electric, hydrogen, or other zero-emission alternatives become available and cost-effective.
- CNG and RD medium- and heavy-duty vehicles will be prioritized over vehicles that run on biodiesel.
- The City of Columbia will continue to utilize biodiesel blends within the municipal fleet, with the intent to evaluate the effectiveness of higher amounts of biodiesel use in the future.

(c.) Exemptions

- Exemptions to this policy must be recommended by Fleet Operations and the Fleet Optimization Committee to the City Manager for their review.
- The Fleet Optimization Committee (FOC) will not recommend exemptions based on limited capital funding alone, unless a vehicle is decommissioned suddenly and unexpectedly.
- While zero-emission vehicles should be purchased whenever available, the unique needs of emergency response vehicles are recognized and will be considered on a case-by-case basis.

2. EV Charging Infrastructure

- Infrastructure capacity and development will be aligned to meet the operational needs of the City Fleet. City Staff will evaluate charging capacity on an annual/biannual basis to determine if improvements/upgrades in charging infrastructure need to be made to meet operational requirements.
- All new facility construction projects and renovations to City facilities when in close proximity to City controlled overnight parking facilities will include EV charging infrastructure for City- or staff-owned vehicles

- Charging infrastructure deployments will be prioritized based on:
 - Site accessibility - such as planned renovations or new constructions;
 - Site readiness - such as existing electrical load capacity, existing conduit, and electrical line capacity;
 - Prospect of accommodating EVs on site in the near future;
 - Departmental requests.
 - Number of BEV and HEVs that will be stored on site.
- All city-owned charging stations will be networked to collect the charging data and to allow managed charging.
- Departments will be encouraged to seek alternative funding sources or financial planning consultation for charging infrastructure. The Finance Department and the Grant Administrator will work with departments to find the most effective source of funding if outside resources are needed to deploy EV charging stations or to pilot EV charging and energy storage technologies.
- City of Columbia Utilities is encouraged to pilot on-site renewable energy and battery storage technologies to improve resiliency and reduce electrical load on the grid.

3. Right-Sizing the Fleet

- Newly acquired vehicles will be fitted with AVL, all other motorized equipment will be considered for AVL.
- Fleet Operations will provide utilization reports to the FOC annually and make recommendations for vehicle removal or reassignment. The vehicles considered for removal or reassignment will include:
 - Light-duty vehicles driven less than 1,500 miles annually;
 - Metered equipment used less than 240 hours annually.
- The FOC will not recommend the purchase of vehicles that exceed what is necessary to meet the operation requirements of City vehicles. Department Directors or Managers may appeal a decision if they can demonstrate a special need that is consistent with the goals of this policy. Justification for exemptions must be presented in writing to the FOC.
- All departments are encouraged to utilize existing Fleet Pool Vehicles and employees will be directed to prioritize these vehicles for any travel that does not involve specialized operations.
- Carpooling will be encouraged for all travel.
- For vehicles that operate on fixed routes, such as maintenance routes and meter reading routes, route optimization will be practiced. All routes will be planned in advance to reduce travel time and distance.

4. Education & Training

- The procurement of BEVs, FCEVs, PHEVs, and HEVs will include provisions for staff training either by the vehicle manufacturer, supplier, or a third-party contractor. Training topics may include and not be limited to vehicle maintenance, operation, charging and safety.

Metrics & Reporting

- Fleet Operations will assist the Office of Sustainability in collecting fuel and electricity consumption reports and AVL data.
- The Office of Sustainability will provide an annual report to the City Manager, which will include:
 - Progress toward the goals identified in the Fleet Electrification Policy as a whole and department specific data;
 - Exceptions made to the vehicle replacement strategy;
 - Fuel consumption reports documenting fossil fuel and electricity usage by fleet vehicles and associated greenhouse gas emissions;
 - Policy recommendations to continue progress toward the goals outlined in this policy.
- The Office of Sustainability and Clean Transportation CAAP Team will study the potential for partnerships with regional governments for shared uses of our fleets and will work together to share best practices in fleet electrification with our regional partners.
- Department Directors and Managers will create case study reports for all pilot studies related to clean transportation and energy storage technologies. Case studies will be shared with the City Manager, City Council, FOC, and Office of Sustainability.

Approved By: _____



De'Carlton Seewood

City Manager

Effective Date: _____

7-21-23