

Carlisle Zero-Emission First Vehicle Policy

Town of Carlisle / Carlisle School District ZERO EMISSION FIRST VEHICLE POLICY	
Effective Date	August 13, 2024
Revisions	
Select Board Approval Date	August 13, 2024
School Superintendent Approval Date	July 18, 2024

1) DEFINITIONS

- a) **Acquisition** - In the context of this guideline, acquisition refers to the purchase or lease of on-road light-duty vehicles with a manufacturer's gross vehicle weight rating (GVWR) of less than 8,500 pounds, by and for the Town of Carlisle and Carlisle Public Schools, whether new or used, either to replace an existing fleet vehicle or to expand the fleet.
- b) **Alternative fuel vehicles (AFVs)** - Dedicated, flexible fuel, or dual-fuel vehicles designed to operate on at least one alternative fuel (such as electricity, biodiesel, propane, or natural gas) to reduce carbon emissions.
- c) **Battery electric vehicle (BEV)** – An electric vehicle that draws propulsion energy solely from an on-board electrical energy storage device during operation that is charged from an external source of electricity.
- d) **Electric vehicle supply equipment (EVSE) or electric vehicle charging station** – An electric component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles by permitting the transfer of electric energy to a battery or other storage device in an electric vehicle.
- e) **Exempt vehicles** - Vehicles that are exempt from the Green Communities [Fuel Efficient Vehicle Policy](#) include off-road vehicles, motorcycles and heavy-duty vehicles with a GVWR of more than 8,500 pounds. Examples include fire engines, ambulances, and some public works vehicles.
- f) **Fleet vehicles** - In the context of this guideline, refers to on road vehicle assets owned or leased and operated by the Town of Carlisle or Carlisle Public Schools.

- g) **Fuel-cell electric vehicle (FCEV or FCV)** - An electric vehicle that draws propulsion energy solely from an on-board energy storage device during operation, where energy stored as hydrogen is converted to electricity by a fuel cell, that is recharged from an external source of hydrogen.
- h) **Fuel Efficient Vehicle (FEV) Policy** - Issued by the Department of Energy Resources (DOER) to fulfill the requirements of the Green Communities Act. The [FEV Policy](#) requires designated Green Communities to acquire fuel-efficient vehicles; applies to all light-duty vehicle acquisitions with a GVWR of 8,500 pounds or less.
- i) **Gross vehicle weight rating (GVWR)** - The maximum safe operating weight of a vehicle, as specified by the manufacturer, including passenger and cargo loads.
- j) **Heavy-duty vehicle** – A vehicle with a GVWR of more than 8,500 pounds.
- k) **Hybrid electric vehicle (HEV)** - Powered by an internal combustion engine and a small electric motor that uses energy stored in a battery. Under light load, for instance during initial acceleration, only electricity is consumed. The vehicle is typically fueled with gasoline to operate the internal combustion engine, and the battery is charged through the engine and regenerative braking, not by plugging in.
- l) **Light-duty vehicle**– A vehicle with a GVWR of less than 8,500 pounds.
- m) **Plug-in hybrid electric vehicle (PHEV)** – An electric vehicle with an on-board electrical energy storage device that can be recharged from an external source of electricity and that also has the capability to run on another fuel.
- n) **Telematics** - A system that is installed in a vehicle that records and transmits information about the vehicle such as the current odometer, maintenance needs, and fuel/electricity consumption.
- o) **Zero emission vehicle (ZEV)** – Zero emission vehicles include battery electric vehicles, plug-in hybrid electric vehicles, and fuel-cell electric vehicles; if the most recent definition of ZEVs per the Massachusetts Zero Emission Vehicle Commission diverges from this scope, the Commission definition shall take precedence.

PURPOSE

The purpose of the Zero-Emission First Vehicle Policy is to set standards and guidelines for the purchase, operation, and maintenance of the Town of Carlisle and Carlisle Public Schools fleet vehicles that will advance the economic, energy, and climate sustainability of municipal operations by achieving long-term reductions in energy costs, energy consumption, and greenhouse gas (GHG) emissions. The primary objectives of this policy are to:

- Accelerate the adoption of emissions-reduction technologies and the transition of the fleet to all electric or other vehicles with reduced fossil-fuel consumption.
- Minimize the long-term environmental and financial impacts of fleet vehicles
- Optimize the composition of the fleet to achieve maximum fuel efficiency
- Advance the installation of electric charging infrastructure across municipal facilities
- Prioritize the utilization of grants, rebates, and incentives to support the acquisition of vehicles and technologies that will improve efficiency and reduce GHG emissions.

This policy shall not require a department to take any action which conflicts with local, state, or federal requirements nor mandate the procurement of products that do not perform adequately for their intended use, exclude adequate purchasing competition, or require the purchase of vehicles that are not commercially available or practicable.

APPLICABILITY

This policy applies to all divisions and departments of the Town of Carlisle and Carlisle Public Schools. It applies to road-worthy passenger vehicles, pick up and utility trucks, and SUVs. It does not apply to specialized equipment or off-road vehicles. The policy applies to leased vehicles, but not contracted vehicles.

GUIDELINES VEHICLE PROCUREMENT

Electric-first procurement

Vehicle procurement should be prioritized as follows:

1. Battery-electric vehicle (BEV)
2. Plug-in hybrid vehicle (PHEV)
3. Hybrid electric vehicle (HEV) or other alternative fuel vehicle (AFV)
4. Standard vehicle operated by an internal combustion engine fueled by fossil fuels

The fleet policy is electric-first, meaning that electric vehicles shall be prioritized when the Town of Carlisle and Carlisle Public Schools purchases or leases light-duty vehicles for its operations, followed by plug-in hybrid vehicles, then hybrid electric or other alternative fuel vehicle.

Fuel-efficient requirements for standard vehicles

If it is determined that a ZEV does not meet operational needs, the purchased or leased vehicle must be the most fuel-efficient class, drive train, and model available that will fulfill the intended municipal function. When determining the most fuel-efficient vehicle for a given class, the municipality will utilize the fuel efficiency limits contained in the most [recent guidance for the Fuel-Efficient Vehicle Policy](#) established by DOER's Green Communities Division.

These limits are based on the most recently published U.S. Environmental Protection Agency combined city and highway MPG ratings (see www.fueleconomy.gov). The EPA maintains a [database](#) on vehicle fuel efficiency that is updated throughout the year as new models are released

Inventory

If the Town of Carlisle and Carlisle Public Schools are utilizing MEI and maintain the full municipal fleet within the database, they have met this criterion for the ZEV policy. Otherwise, the Town of Carlisle and Carlisle Public Schools will maintain an annual vehicle inventory for ALL vehicles and a plan for replacing any vehicles with vehicles that adhere to the ZEV hierarchy established by this policy. The Town of Carlisle and Carlisle Public Schools will review on an annual basis the Vehicle Inventory, along with this policy to plan for new acquisitions as part of planning for the new fiscal year budget.

The following information shall be included in a vehicle inventory list and said list shall be updated on an annual basis and provided to the Green Communities Division:

Example Vehicle Inventory

Make	Model	Model Year	Year/month Purchased	Vehicle Energy Source	Drive System: 2 WD, 4WD or AWD	> 8500 pounds? (Y or N)	Exempt or non-exempt	MPG Rating	Vehicle Function
Ford	Explorer	2021	01/2021	HEV	4WD	N	NE	Hybrid	Police Cruiser
Ford	F250	2016	08/2017	Diesel	4WD	Y	Exempt	N/A	DPW - Maintenance
Ford	Focus	2014	07/2014	Gasoline	2WD	N	NE	32	Assessor
Chevy	Bolt	2022	09/2022	BEV	2WD	N	NE	BEV	Inspector

Zero-Emission First Replacement Plan

All vehicles shall be replaced following the electric-first hierarchy as indicated by this policy. Vehicles shall be replaced when they are no longer operable and will not be recycled from one municipal department to another unless the recycled replacement is more efficient than the vehicle it is replacing. In addition, when considering vehicle replacement, the function of the vehicle will be reviewed for potential replacement with a more fuel-efficient vehicle, including a zero-emission non-exempt vehicle.

Questions / Enforcement

All inquiries should be directed to the department/division responsible for fleet management and/or fleet procurement. This policy is enforced by the Town Administrator and/or his/her designee(s).

Carlisle Municipal Vehicle Inventory for Climate Leaders

8.6.24

Make	Model	Model Year	Years of Use	Year Purchased	Engine Type	Drive System	>8500 Pounds?	Exempt or Non-Exempt	Combined MPGe Rating	Vehicle Miles Traveled	Vehicle Function
Chevrolet	Tahoe + Upfit Equipment	2023	1	2023	Gasoline	AWD	N	Non-Exempt	16	9852	Police Department
Ford	Explorer Hybrid	2022	1	2023	HEV	AWD	N	Non-Exempt	25	17440	Police Department
Ford	Explorer Hybrid	2021	0.5	2023	HEV	AWD	N	Non-Exempt	25	8386	Police Department
Ford	F-150	2020	3	2021	Gasoline	AWD	N	Non-Exempt	17	76112	Police Department
Chevrolet	Tahoe	2019	5	2019	Gasoline	AWD	N	Non-Exempt	17	112271	Police Department
Chevrolet	Tahoe	2018	6.5	2017	Gasoline	AWD	N	Non-Exempt	18	111713	Police Department
Chevrolet	Tahoe	2018	5.5	2018	Gasoline	AWD	N	Non-Exempt	18	122073	Police Department
Chevrolet	Tahoe	2017	7	2017	Gasoline	AWD	N	Non-Exempt	18	90059	Police Department
Chevrolet	Tahoe	2016	9	2015	Gasoline	AWD	N	Non-Exempt	18	129646	Police Department
Chevrolet	Tahoe	2016	9	2015	Gasoline	AWD	N	Non-Exempt	18	112909	Police Department
Harley Davidson	Motorcycle	2007	17	2007	Gasoline		N	Non-Exempt	19	21000	Police Department
Ford Dump Truck	F-550 Super Duty	2022	2	2022	Gasoline	RWD	Y	Exempt	12	3559	Department of Public Works
Ford Dump Truck	F-550 Super Duty	2022	2	2022	Gasoline	RWD	Y	Exempt	12	5367	Department of Public Works
Ford	F-350 Super Duty	2020	4	2020	Gasoline	RWD	Y	Exempt	12	21014	Department of Public Works
International - Roll Off Truck	HV613	2020	4	2020	Diesel	RWD	Y	Exempt	9	72300	Department of Public Works

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Ford	F-350 Super Duty	2019	5	2019	Gasoline	RWD	Y	Exempt	12	29292	Department of Public Works
Ford - Dump Truck	F-750 Super Duty	2018	6	2018	Diesel	RWD	Y	Exempt	8	9348	Department of Public Works
Chevrolet	Tahoe	2016	2	2022	Gasoline	RWD	N	Non-Exempt	18	89874	Department of Public Works
International - Dump Truck	WorkStar 7400	2016	8	2016	Diesel	RWD	Y	Exempt	9	21374	Department of Public Works
International - Dump Truck	WorkStar 7300	2013	9	2015	Diesel	RWD	Y	Exempt	9	23147	Department of Public Works
International - Dump Truck	WorkStar 7300	2012	12	2012	Diesel	RWD	Y	Exempt	9	26358	Department of Public Works
International - Roll Off Truck	WorkStar 7600	2010	14	2010	Diesel	RWD	Y	Exempt	9	347393	Department of Public Works
International - Sander Truck	WorkStar 7300	2008	16	2008	Diesel	RWD	Y	Exempt	9	47068	Department of Public Works
Ford - Dump Truck	F-450 Super Duty	2006	18	2006	Diesel	RWD	Y	Exempt	10	155605	Department of Public Works
International	4700	2002	22	2002	Diesel	RWD	Y	Exempt	6	56186	Department of Public Works
Ford - Ambulance	F-550 Super Duty	2019	5	2019	Diesel	RWD	Y	Exempt	6	22715	Fire Department
Ford	Explorer	2018	6	2018	Gasoline	AWD	N	Non-Exempt	19	11206	Fire Department
Ford	Expedition	2017	7	2017	Gasoline	AWD	N	Non-Exempt	17	40463	Fire Department
E-ONE - Cyclone	Truck	2016	8	2016	Diesel	RWD	Y	Exempt	4	6468	Fire Department

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Ford	Explorer	2016	8	2016	Gasoline	AWD	N	Non-Exempt	18	51452	Fire Department
International - Fire Truck	WorkStar 7400	2012	12	2012	Diesel	RWD	Y	Exempt	9	7990	Fire Department
Ford	F-350 Super Duty	2012	12	2012	Diesel	RWD	Y	Exempt	12	15274	Fire Department
Ford - Ambulance	F-450 Super Duty	2009	15	2009	Diesel	RWD	Y	Exempt	10	38671	Fire Department
E-ONE - Fire Truck	Truck	2007	17	2007	Diesel	RWD	Y	Exempt	4	20529	Fire Department
E-ONE - Aerial HP100	Truck	2002	22	2002	Diesel	RWD	Y	Exempt	4	10710	Fire Department
E-ONE - Hurricane Pumper	Truck	2000	24	2000	Diesel	RWD	Y	Exempt	4	33791	Fire Department
										38559	Carlisle Public School
Ford Pickup	F-250	1996	12	2012	Gasoline	AWD	N	Non-Exempt	13		
Nissan	Rogue	2015	9	2015	Gasoline	FWD	N	Non-Exempt	28	67113	Council on Aging
Ford - Elkhart Van	E-Series	2014	10	2014	Gasoline	RWD	Y	Exempt	6	40591	Council on Aging
Ford Van #E31	E-Series	2007	17	2007	Gasoline	AWD	Y	Exempt	10	20647	Carlisle Public School