



Fleet Zero-Emissions Vehicle Policy

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TOWN OF FAIRFAX

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Key Terms

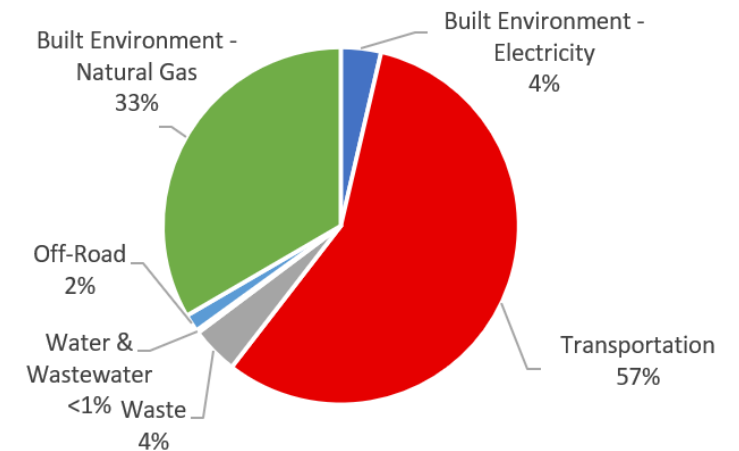
- **Zero-Emissions Vehicle (ZEV)** - a vehicle with a zero-emissions powertrain that produces zero exhaust emission of any criteria pollutant (or precursor pollutant) or greenhouse gas under any possible operational modes or conditions. ZEVs include Battery Electric Vehicles (BEVs) and Hydrogen Fuel-Cell Electric Vehicles (FCEVs).
- **Near-Zero-Emission Vehicle (NZEV)** - refers to Hybrid Electric Vehicles (HEVs) and Plug-In Hybrid Electric vehicles (PHEVs) that have an internal combustion engine but can achieve an all-electric range using the electric motor.
- **Internal Combustion Engine (ICE) Vehicle** - a vehicle with a powertrain that includes an internal combustion engine that is powered by gasoline, diesel, natural gas, propane, or other fuel where the sole source of power is from the combustion of the on-board fuel to provide motive power
- **Alternative Fuel** - any fuel other than gasoline, diesel, natural gas, or propane that are less polluting (e.g., renewable diesel).



Background

- Fairfax Climate Action Plan (CAP)
 - Recommends:
 - Transitioning fleet vehicles to ZEVs by 2030
 - Installing EV chargers for fleet vehicles
 - Using renewable diesel as a transition fuel
- Marin Countywide EV Acceleration Strategy
 - Recommends adopting an EV fleet replacement policy with the goal to convert 100% of fleets to EVs by 2030

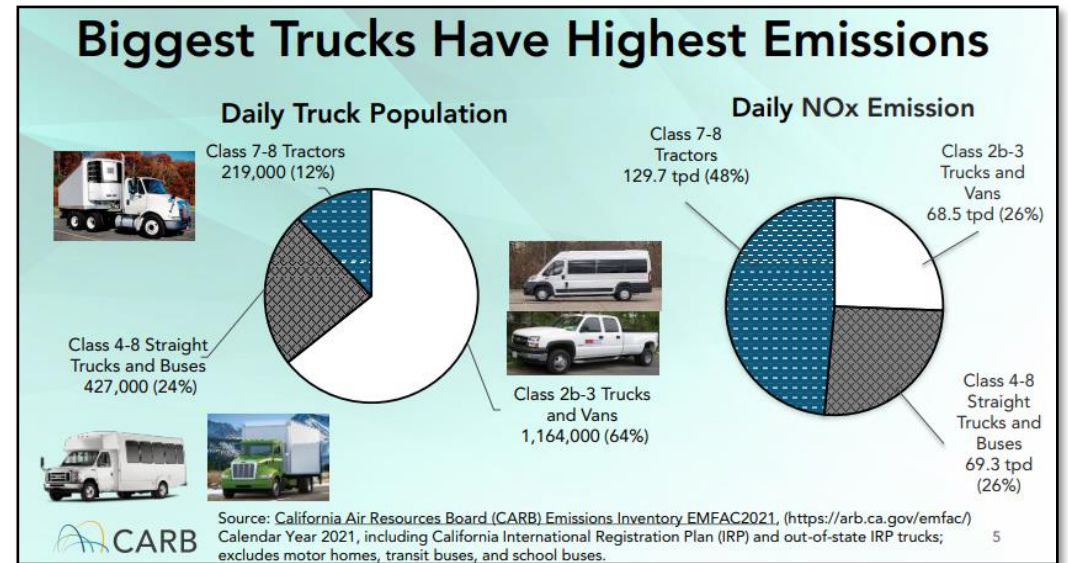
EMISSIONS BY SECTOR, 2021



Source: Fairfax 2021 GHG Inventory Report

Background

- Advanced Clean Fleets (ACF) Regulation
 - Approved by the California Air Resources Board (CARB) on April 28, 2023
 - Applies to medium- and heavy-duty on-road fleet vehicles owned by State, local, and federal agencies with a gross vehicle weight rating (GVWR) greater than 8,500 pounds
 - Requires:
 - 50% of applicable vehicle purchases are zero-emissions beginning on January 1, 2024
 - 100% of applicable vehicle purchases are zero-emissions starting January 1, 2027
 - Since Fairfax has less than 10 medium- or heavy-duty vehicles, the Town is exempt from complying with ACF until 2027



Policy Objectives



Implement the recommended transportation-related measures from the CAP that impact fleet procurement and operations



Ensure compliance with the ACF regulation and exceed compliance, when feasible



Serve as a model for the community by transitioning to ZEVs in a timely and cost-effective manner



Reduce greenhouse gas (GHG) emissions and air pollutants emitted from the combustion of gasoline and diesel used in Town vehicles



Save the Town money through reduced fuel and maintenance costs by transitioning to ZEVs and reducing vehicle size, weight, and other factors affecting fuel use, when appropriate



Optimize the fleet size to eliminate unused or underutilized vehicles and promote interdepartmental and cross-agency vehicle sharing, when possible

Responsibilities

- Fleet Manager
 - Public Works Director (or their designee)
 - Maintain the fleet vehicle inventory
 - Submit annual compliance reports to CARB
- Fleet Advisory Group
 - Comprised of Public Works, Police, Finance, and Climate & Environment department staff
 - Ensure the policy is adhered to
 - Develop and regularly update the Fleet Replacement Plan
 - Recommend infrastructure upgrades to support new ZEVs in the fleet

Requirements



Prioritization of ZEVs for procurement



Utilize alternative fuels for non-ZEVs when possible



Preference for bidirectional charging capability for ZEVs and EV charging stations



Preference for procuring an e-bike or downsizing a vehicle, when feasible



Preference for leasing or buying used over buying new vehicles



Identify any unused, underutilized, or redundant vehicles in the fleet to be considered for disposal or sharing with other departments/agencies



Life-cycle costs should be analyzed when comparing costs of ZEVs to non-ZEVs

Exemptions

- Types of exemptions:
 - Lack of available ZEV or near-ZEV (NZEV) on the market
 - Vehicle delivery delay
 - Installation of ZEV fueling/charging infrastructure delay
- Exemptions must be granted by the Fleet Advisory Group
 - If granted, the next lowest-emission vehicle type should be prioritized for procurement

Cost Analysis

- **Life-cycle vehicle costs** include acquisition cost, registration fees, insurance, maintenance, fuel use, and other costs over the anticipated lifetime of the vehicle

Total Cost of Ownership (TCO) = Life-cycle Costs – Resale Value – Incentives

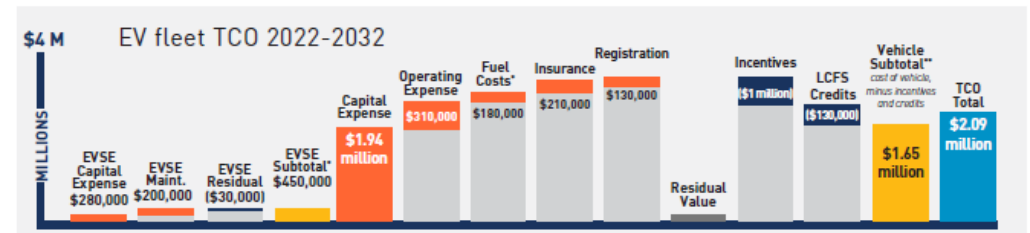
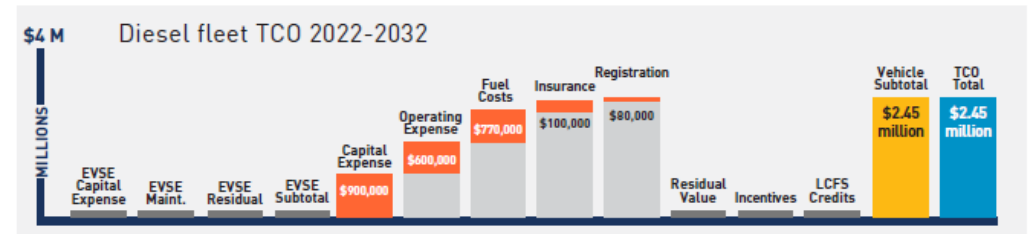
Electric Vehicle (EV) vs. Internal Combustion Engine (ICE) Vehicle Acquisition Costs

EV Model	EV Cost	ICE Model	ICE Cost	Cost Difference	% Difference	Average % Difference
Ford F-150 Lightning	\$49,995	Ford F-150	\$45,410	\$4,585	9.6	21.6
Ford Mustang Mach-e	\$42,995	Ford Mustang Mach	\$55,570	-\$12,575	-25.5	
Hyundai Kona Electric	\$33,550	Hyundai Kona	\$22,140	\$11,410	41.0	
Jaguar I-Pace	\$71,300	Jaguar F-Pace	\$52,400	\$18,900	30.6	
Chevy Bolt	\$29,700	Mazda 3 Hatchback	\$23,550	\$6,150	23.1	
Volvo XC40 Recharge	\$53,550	Volvo XC40	\$38,350	\$15,200	33.1	
Nissan Leaf	\$28,040	Nissan Sentra	\$20,200	\$7,840	32.5	
Volkswagon ID.4	\$38,995	Volkswagon Tiguan	\$26,950	\$12,045	36.5	
Tesla Model 3	\$38,990	Mercedes-Benz A-Class	\$33,950	\$5,040	13.8	

*All models are 2023 with similar configurations

TCO to transition a 20 vehicle fleet

Comparing a diesel vs. electric medium-duty cab chassis



*TCO calculation reflects the infrastructure incentives and energy savings available through PG&E's EV Fleet program
 **Vehicle subtotal before incentives totals \$2.77 million



ZEV ***Funding***

PG&E EV Fleet Program

- \$4,000 for medium- or heavy-duty vehicles

TAM EV Fleet Program

- \$2,500 for EVs (purchase or lease)
- \$5,000 for fuel-cell EVs (FCEVs)
- \$1,500 for plug-in hybrids
- \$1,000 for used EVs and FCEVs
- 75% of the cost of an e-bike (up to \$1,000)

California Clean Vehicle Rebate Project (CVRP)

- \$2,000 for EVs
- \$4,500 for FCEVs
- \$1,000 for plug-in hybrids

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Questions?