

Electric Vehicle Readiness Strategy and County Fleet Transition Study

Update

John Morrill & Julie Gurnee, Office of Environmental and Energy Coordination
Mark Moffatt & Marguerite Guarino, Department of Vehicle Services

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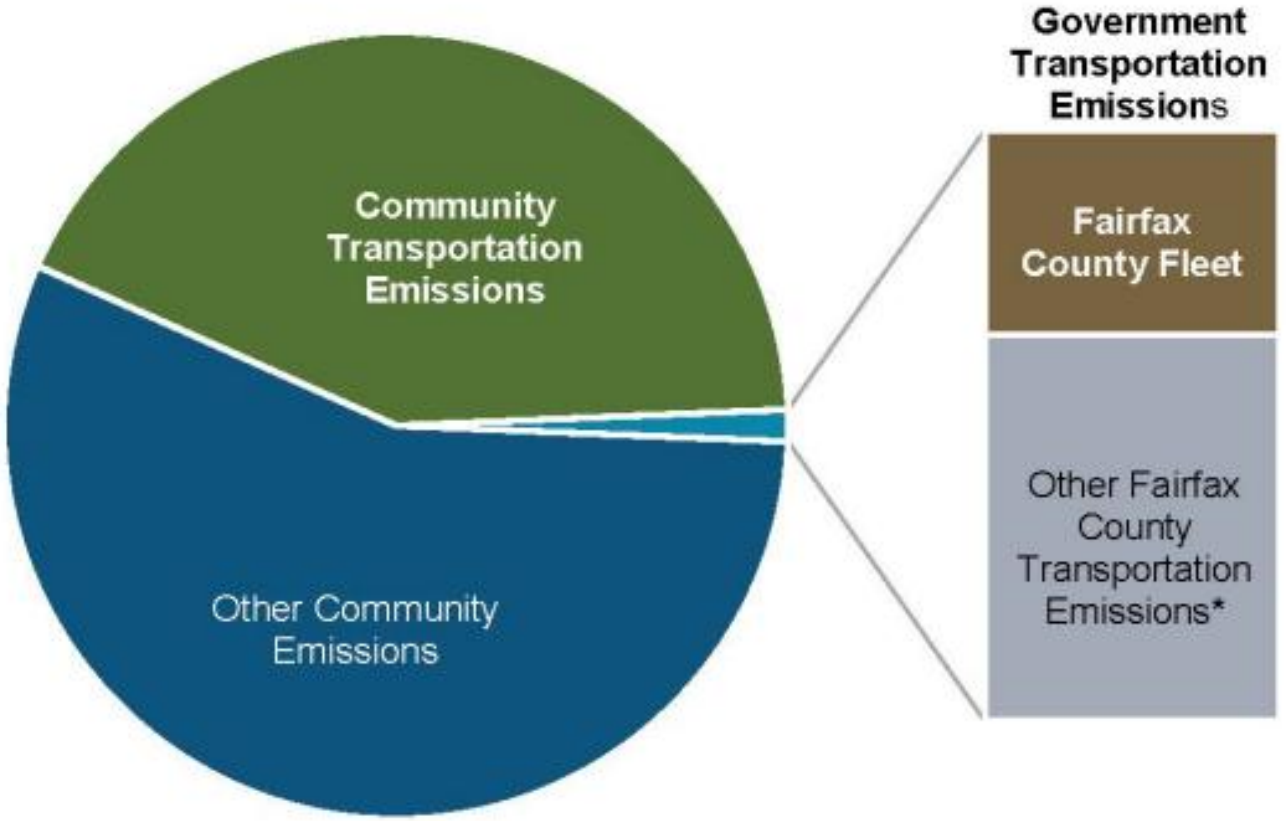
Fairfax County Community GHG Emissions, 2018

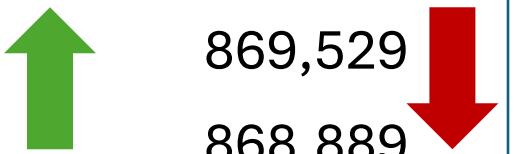


*Other Fairfax County Transportation Emissions in grey are not included in this study. These emissions are from the Fairfax County Public Schools fleet and the Fairfax County transit fleet.

Fairfax County Electric Vehicle Registrations

Table 1: Fairfax County Vehicle Registrations (2016-2023)

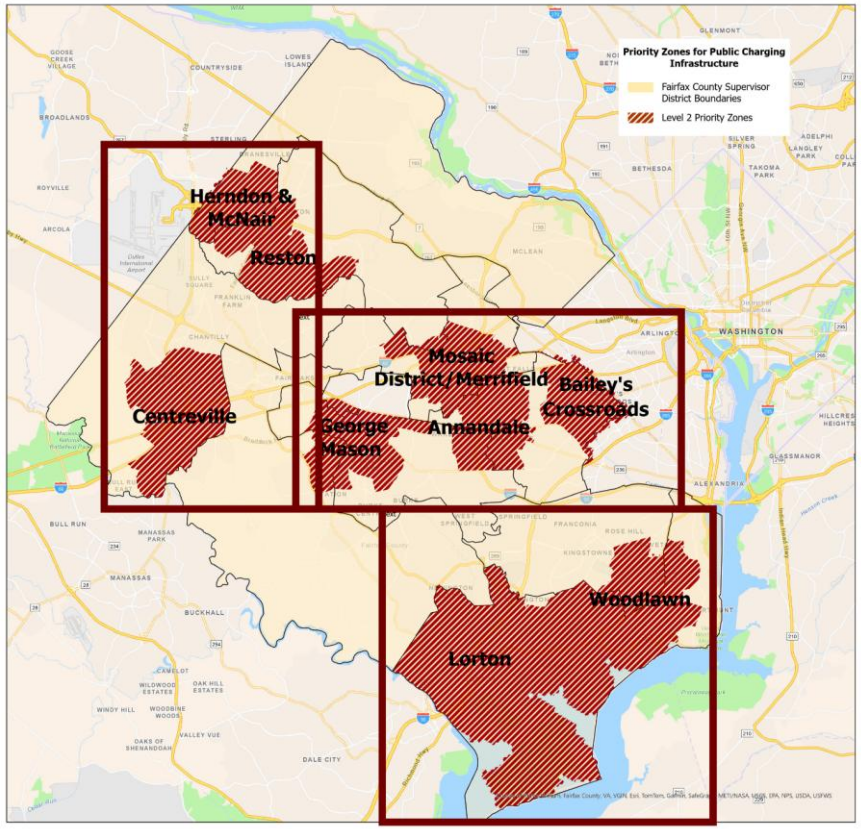
Year	BEV	PHEV	Total EV	EV Registration Percentage	Total LDV
2016	1,212	1,035	2,247	0.26%	876,572
2020	6,635	2,388	9,023	1.04%	869,529
2021	10,020	3,766	13,786	1.59%	868,889
2022	13,405	5,143	18,548	2.14%	868,248
2023	22,249	6,806	29,055	3.35%	867,608
2024			37,193*		



** Preliminary data*

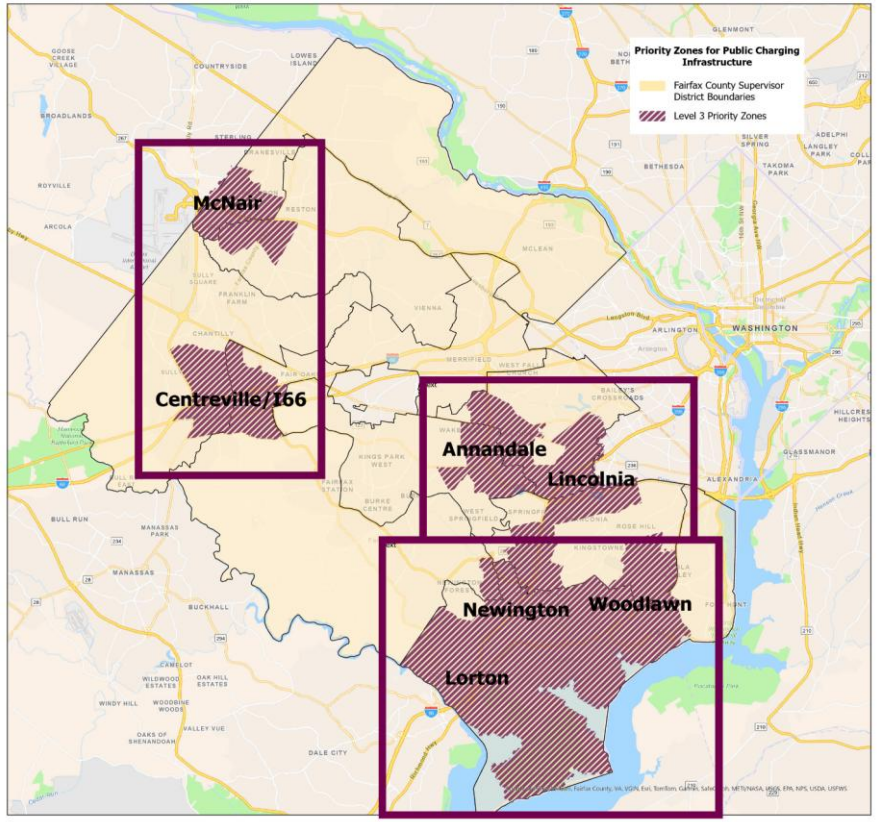
Sources: MWCOG and DMV.
Note: EV registration data was missing from 2021 and LDV registration data was missing from 2021 and 2022. Linear projections were assumed.

Mapping Results



Equity Lens Priority Zones

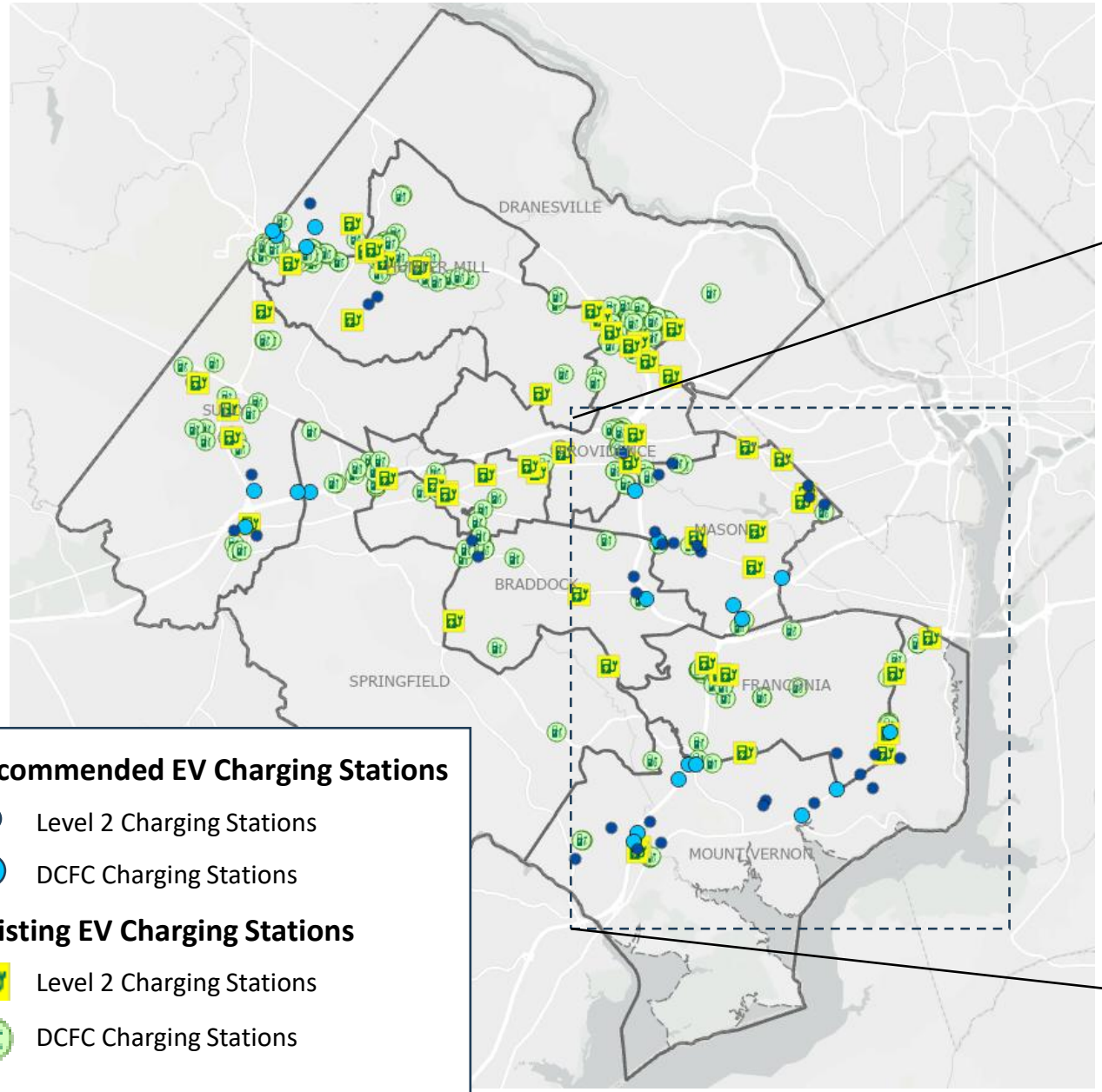
Level 2 Charging Recommendations

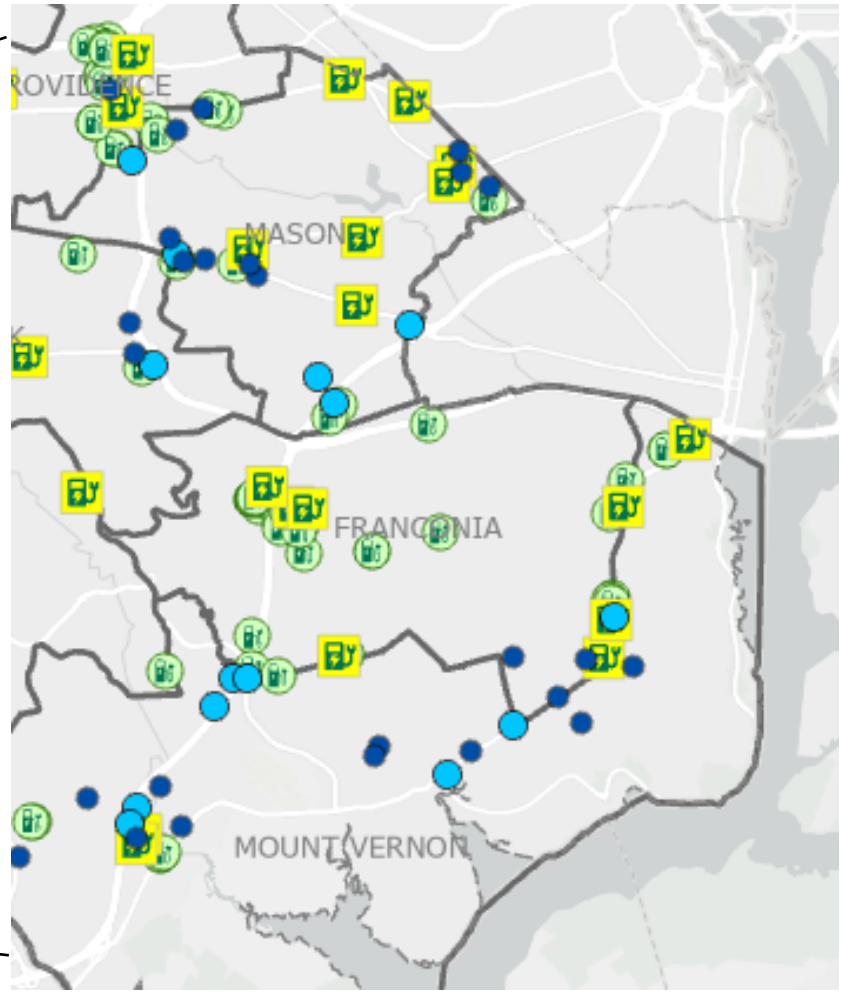


Fast Charging Gaps Priority Zones

DCFC Charging Recommendations

Existing and Recommended Public Charging Stations





Recommended EV Charging Stations

- Level 2 Charging Stations
- DCFC Charging Stations

Existing EV Charging Stations

- Level 2 Charging Stations
- DCFC Charging Stations

AECOM County Fleet Transition and Charging Infrastructure Study

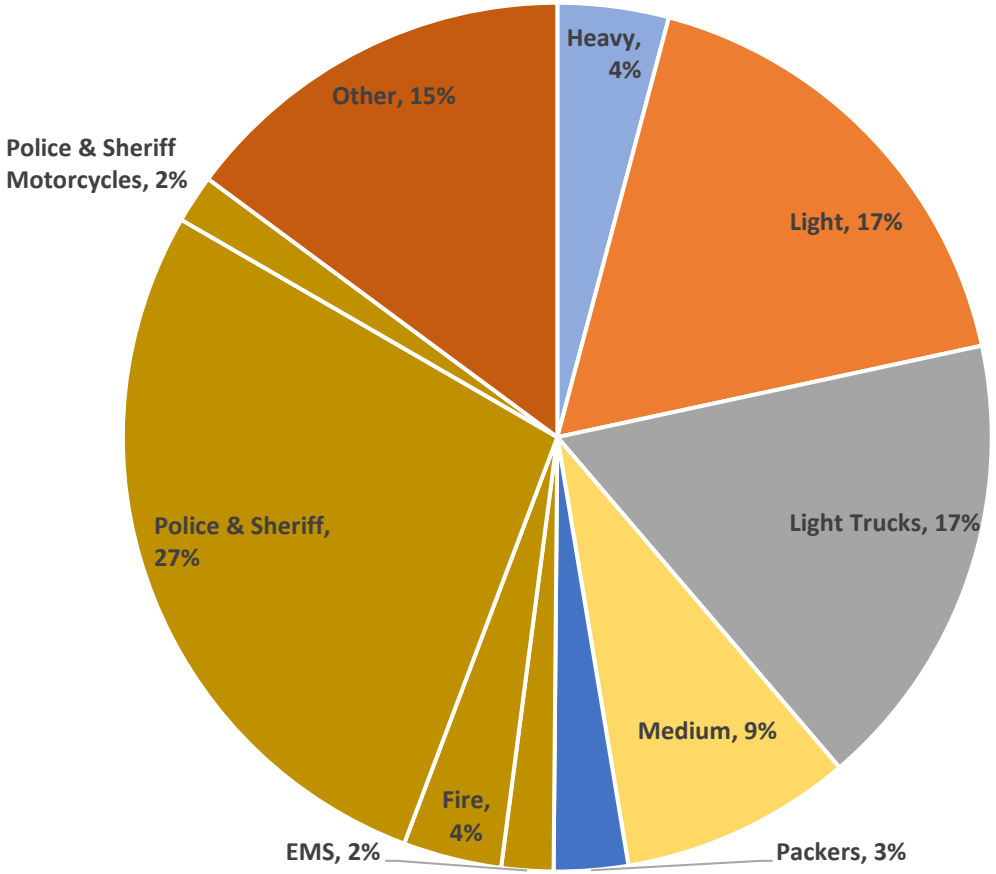
- Full fleet electrification by the goal year (2035) is unattainable because the vehicles required by the county do not exist in the market. For example, electric equivalents of public safety vehicles, small pick-up trucks, large passenger vans, and heavy-duty vehicles with hydraulics are not available.

- Vehicle manufacturers have been retreating from promises of electric vehicle options. The shift in Federal policies under the current administration has further dampened the outlook for electric vehicles. The outlook for electric vehicles is much different today compared to four years ago when the goal was set.

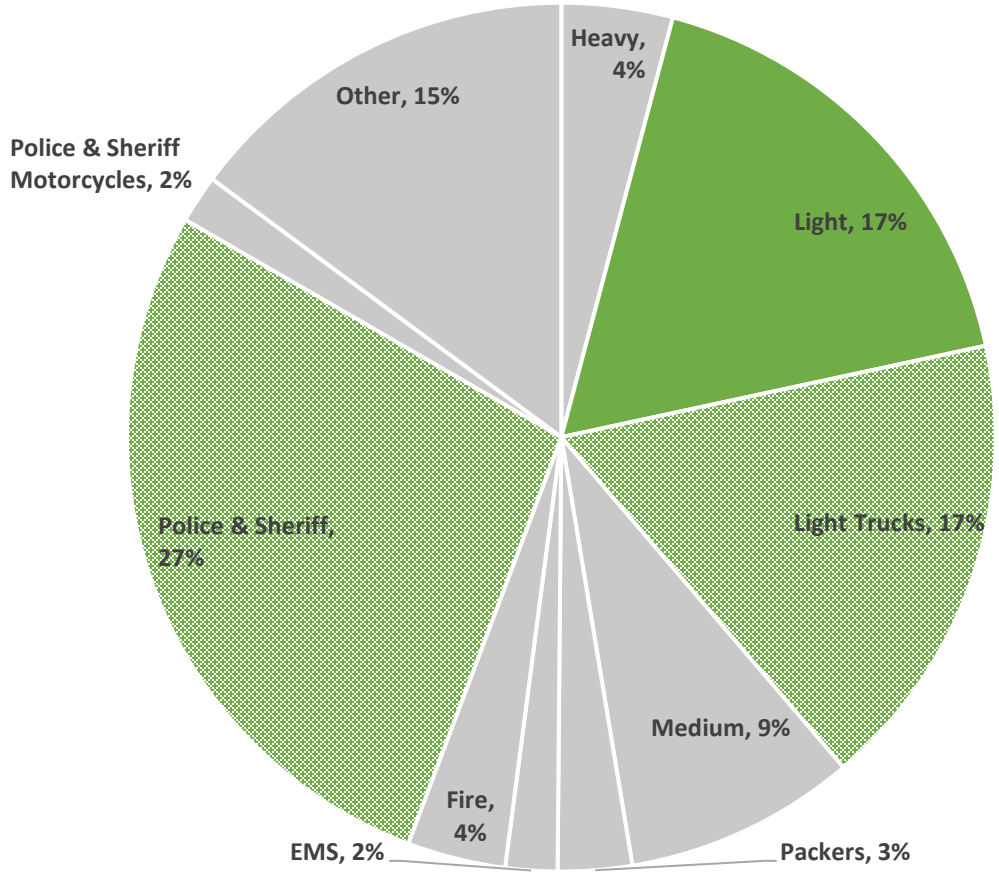
- The cost of the transition will include greater investments in charging infrastructure build-out than current pace. A cost-effective transition to an electric fleet is only envisioned by 2050.

Fairfax County Fleet by Type

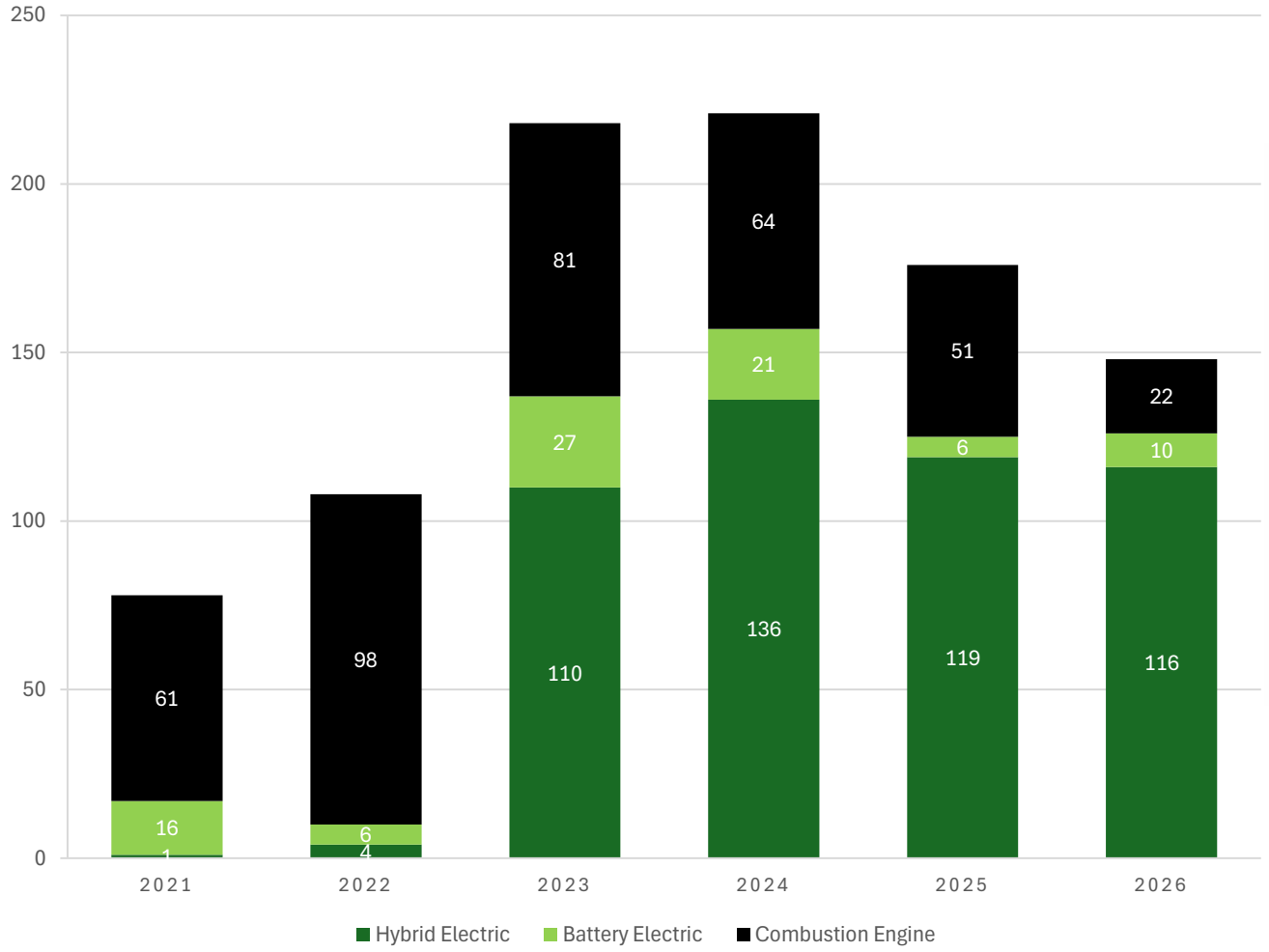
County Fleet

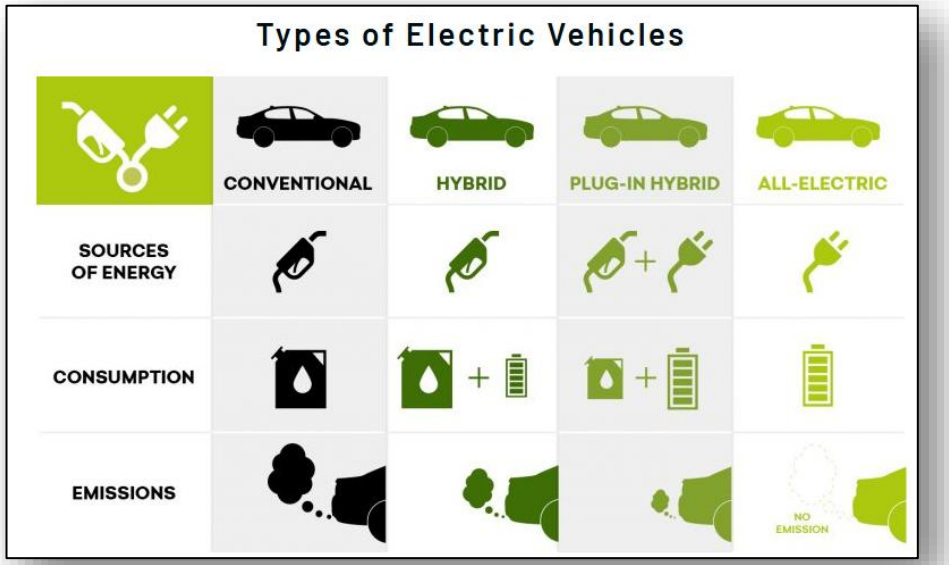


Market Availability for Fleet

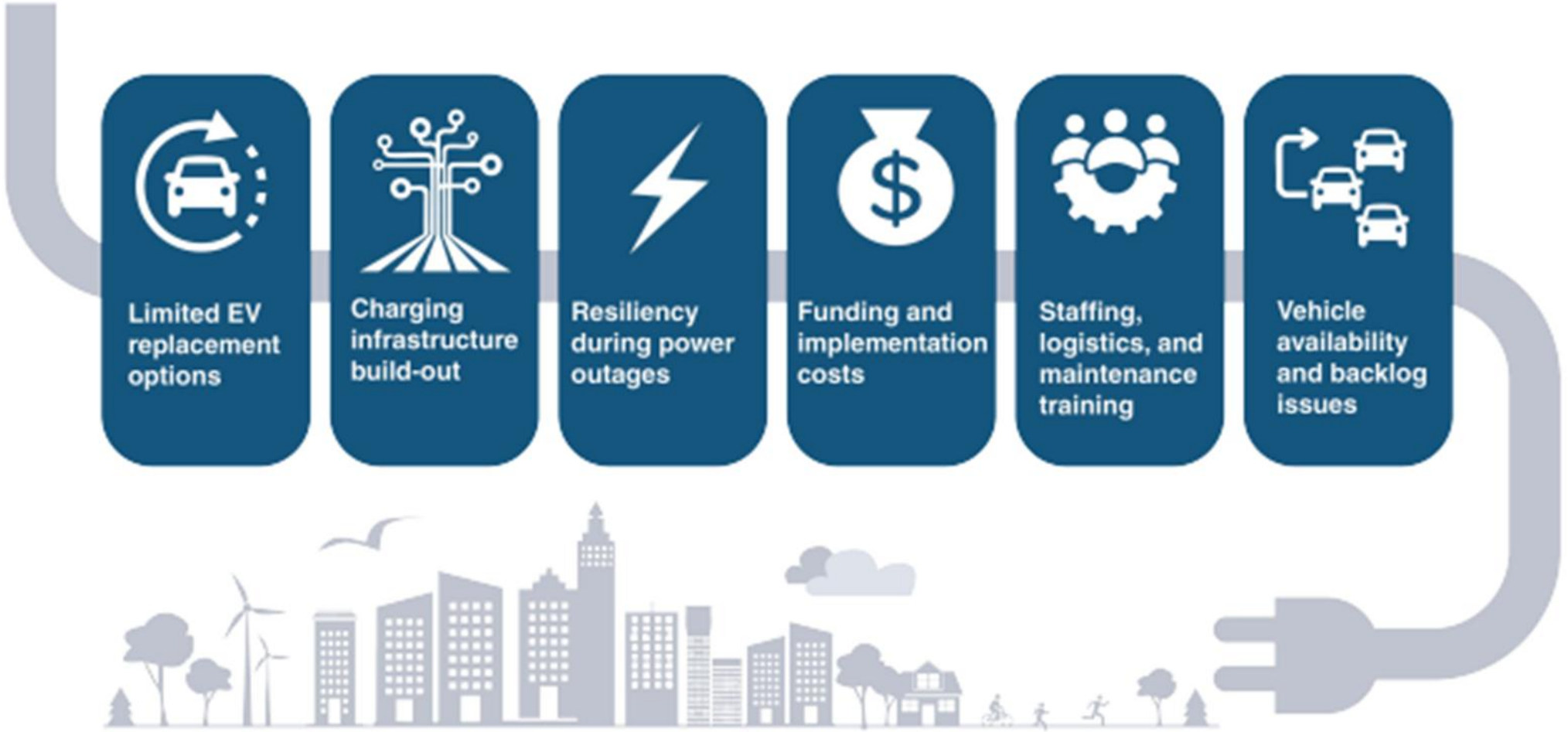


County Fleet Vehicles Purchased by Type Reflect Reductions in Non-Carbon Emitting Vehicles





Fleet Transition Challenges

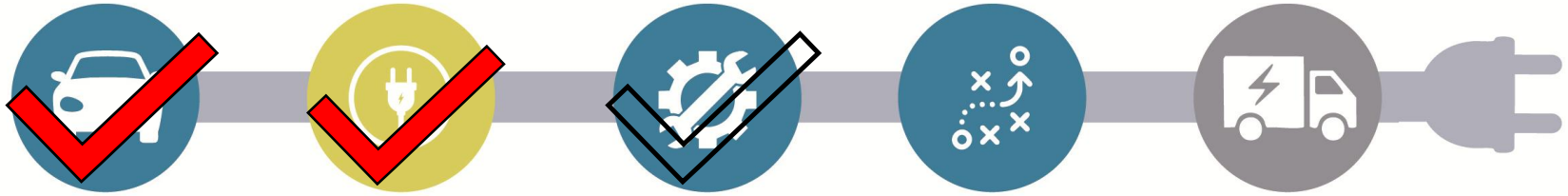


AECOM Study

- If pursuit-rated patrol vehicles, emergency vehicles, large passenger vans, and heavy-duty vehicles with hydraulics do not become available, the fleet does not have a pathway to fully transition by 2035.
- Transition would require higher capital costs for fleet purchasing and high investment for charging infrastructure build-out. This all assumes that electric vehicles emerge to suit the County's operational needs.
- Charging infrastructure should align closely with real-world usage and consider the emergency operations of the fleet and resiliency and reliability during power outages.

Next Steps

Municipal Fleet Transition



Begin planning for the transition of near-term easy-to-electrify vehicles.

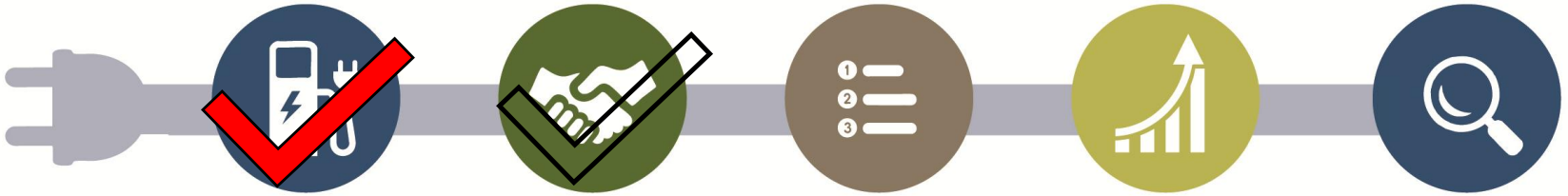
Prioritize installation of chargers at facilities set to receive EVs in the near-term.

Develop workforce and training needs with in the County and the community.

Strategize a plan for electrification of vehicles at leased facilities.

Pilot select emergency and heavy-duty vehicles.

Community EV Readiness Strategy



Coordinate installation of planned CFI grant chargers.

Develop relationships with charger network providers and retailers to discuss opportunities for PPPs.

Prioritize low-effort, low-cost immediate action items for the ten EV readiness strategies presented in Chapter 4.

Track EV adoption and EV infrastructure deployment in Fairfax County.

Identify funding for the public charging network and new initiatives.