

Accelerating the electrification of the United States' transportation sector is of vital importance to safeguard our economy, national security, and public health. Within the U.S. federal vehicle fleet, there are immediate, cost-effective opportunities for substantial progress.

New analysis by Atlas Public Policy in the report, **"Federal Fleet Electrification Assessment,"** shows that by 2025, about 40% percent of light-duty vehicles and buses owned by federal agencies could be replaced with electric vehicles (EVs) at a lower total cost of ownership (TCO) than comparable gasoline and diesel vehicles. By 2030, 97% of these vehicles could be cost-effectively replaced with EVs.

Higher upfront purchase prices can sometimes deter fleets from selecting EVs. But in this study, Atlas Public Policy conducts TCO analysis to compare the full cost of purchasing and operating EVs relative to conventional counterparts powered by gasoline or diesel fuel, revealing the true potential of federal fleet electrification. The study identifies the timing and vehicle types for which EVs are the best financial choice when replacing federal fleet vehicles. It also estimates the emissions benefits of those fleet transitions. The analysis is focused on light-duty vehicles and buses, which have large and growing selections of commercially available EV options and a relatively long commercialization history.

## About the Federal Fleet

The federal fleet represents a tremendous near-term opportunity for cost and emissions savings through wholesale transitions to EVs, given that the federal government is the single largest vehicle fleet operator in the United States, with more than half a million light-duty vehicles and buses. Federal agencies - not including the U.S. Postal Service (USPS) - control fleets



A U.S. National Park Service employee charges a light-duty vehicle at Yellowstone National Park. Photo: National Park Service

that operate 315,000 light-duty vehicles and buses. USPS, which operates the largest federal fleet, owns an additional 192,000 light-duty vehicles, dominated by mail trucks. The vast majority of federal fleet vehicles run on gasoline or diesel fuel. But because fleet vehicles typically have predictable drive cycles and spend downtime at central depots, they are often especially well-suited for electrification.

## Key Findings

Light-duty vehicles and buses in the U.S. federal fleet present a ripe opportunity for vehicle electrification, offering both cost and emissions savings.

## Cost Savings

**By 2025, as many as 40% of light-duty vehicles and buses** owned by federal agencies (excluding USPS<sup>1</sup>) could be replaced with EVs at a lower TCO than comparable vehicles with internal combustion engines (ICEs). An additional 56% of these vehicles could be replaced with EVs with a TCO no higher than 14% more than the comparable ICE vehicle.

## Non-USPS Federal Fleet Inventory (2019)

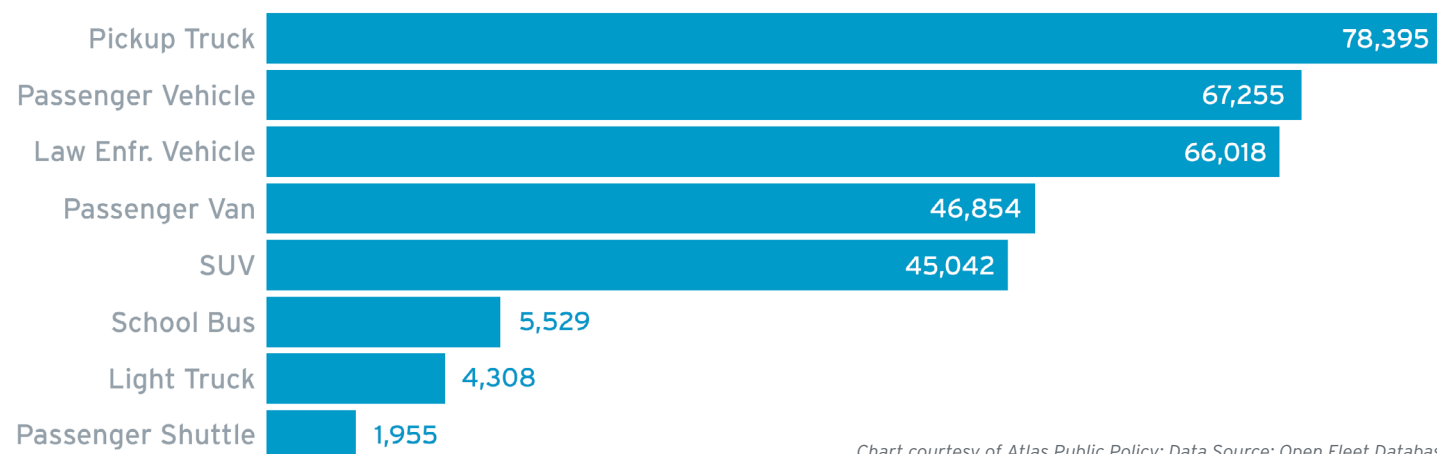


Chart courtesy of Atlas Public Policy; Data Source: Open Fleet Database

**By 2030, 97% of the conventional light-duty vehicles and buses** in the federal fleet could be replaced by EVs with no TCO penalty. Given this opportunity, federal agencies should begin planning for fleet electrification immediately, with the expectation that nearly all replacement light-duty vehicles and buses purchased within this decade should be electric.

The study found that federal fleets can realize substantial cost savings by adopting EVs starting in the early 2020s. The initial cost savings a fleet realizes through adoption of low-TCO EVs can be used to offset the costs of higher-TCO EVs, thereby accelerating the fleet's electrification cost-neutrally. Atlas' study found that in the 2025 timeframe, the savings from cost-competitive EVs could offset nearly all the costs of electrifying all vehicle classes within 14% of cost parity with conventional vehicles. This approach would still save about \$8 million dollars across all agencies to more than double the number of vehicles electrified.

In 2030, lower EV purchase prices improve the economics considerably. The same choices deliver just over \$1 billion in savings, with nearly all light-duty vehicles and buses electrified. Because many of these fleet vehicles

are replaced as frequently as every five years, federal agencies have the opportunity to electrify large portions of their fleets before the end of the decade.

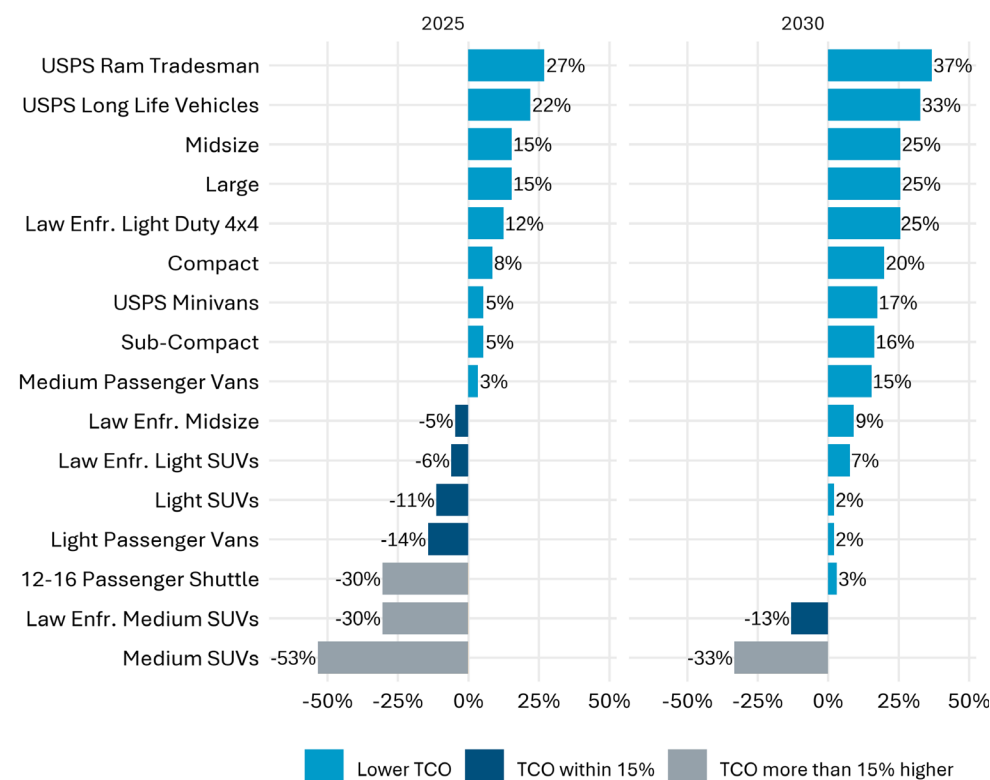
Efficient use of charging is critical to EVs' TCO savings in the short term. Fleet managers planning to electrify their fleets should think strategically about opportunities for multiple vehicles to share charging: The better they can right size their charging infrastructure deployment, the more savings they will realize from switching to EVs. When planning to electrify fleets, fleet managers must budget for larger initial capital outlays for charging equipment and more expensive vehicles, with lower operating costs for fuel and maintenance.

### Emissions Reductions

For the non-USPS federal fleet vehicles, electrifying all TCO-competitive vehicles in 2025 would result in 3.2 MMT of CO<sub>2</sub>e-100 emissions reductions over the life of the EVs. In 2030, TCO-competitive vehicles would achieve 7.6 MMT of CO<sub>2</sub>e-100 emissions reductions.

The USPS fleet offers an even stronger GHG-reduction case, with 12.8 MMT CO<sub>2</sub>e-100 of emissions reductions in 2025 and 11.6 MMT in 2030.

## EV Total Cost of Ownership % Savings Compared to Conventional Gas Vehicles in 2025 and 2030



### The USPS Case

USPS offers a uniquely strong case for vehicle electrification. By 2025, it will be cheaper to use an EV in place of a conventional vehicle for more than 99% of the USPS fleet of light-duty vehicles. If USPS were to electrify all those vehicles in 2025, it would save \$2.9 billion dollars over the life of those vehicles. By 2030, that figure increases to nearly 100% of vehicles and would garner \$4.6 billion in savings. Electrification of USPS mail trucks (Long Life Vehicles) alone would yield \$2.8 billion and \$4.3 billion in savings in 2025 and 2030, respectively.