



APRIL 2023

Preliminary Zero Emission Vehicle Implementation Strategy

DECEMBER 2022 — APRIL 2023

Business Resources Division

Report to the Legislature

Agency Overview

The Department of Enterprise Services (DES) provides centralized services to state government agencies; to other public entities such as cities, counties, and tribes; and to Washington residents.

DES' mission is to strengthen the business of government.

We do this by creating overall operating efficiencies so our state's government entities can focus on their core missions. Our buying power, economies of scale and years of experience help government get the best value for the products and services they need to support their missions.

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Executive Summary

This is a preliminary report, subject to change

Pursuant to [Supplemental Budget 5693.SL Sec. 148 \(11b\)](#) and Governor Inslee's [Executive Order 21-04](#), the Department of Enterprise Services (DES) hired consultant Accenture LLP to develop a zero-emissions vehicle implementation strategy for all state cabinet agencies who manage vehicle fleets larger than 50 vehicles. This implementation strategy:

- Identifies current barriers to electric vehicle (EV) deployment and EV replacement strategies
- Outlines strategies to overcome these barriers
- Outlines a comprehensive fleet transition schedule
- Estimates fiscal impacts of EV costs by vehicle type compared to their ICE counterpart
- Identifies the associated charging infrastructure needed to enable the transition to electric vehicles

The project began in November 2022 as a joint effort between Accenture LLP and the DES Electric Vehicle Supply Equipment (EVSE) Implementation team. The DES EVSE Implementation team reached out to cabinet agencies that manage more than 50 vehicles to gather data regarding the current status of their fleets and Accenture LLP created a database. This database was the foundation for the model represented in the following report. The data included in this report represents fleet status as of December 2022. The preliminary report in its entirety is presented in Appendix A.

Report Highlights

- This report forecasts the possible battery electric vehicle (BEV) inventory by year by size classification. The forecast is based on existing fleet management practices and the application of the State Efficiency and Environmental Performance (SEEP) Office exemption criteria for fleets under the management of the following agencies:
 - The Washington State Department of Enterprise Services (DES)
 - The Washington State Department of Transportation (WSDOT)
 - The Washington State Patrol (WSP)
 - The Washington State Department of Corrections (DOC)
 - The Washington State Department of Social and Health Services (DSHS)
- The data was reported by fleet managers on their owned vehicles through Dec. 31, 2022
- The data was gathered and compiled while many agencies were developing their full return-to-work plans and updating their vehicle replacement plans due to current market constraints for vehicle procurement, creating challenges for agencies to project what true vehicle replacements will be in the coming years.
- This model makes a series of assumptions based on existing research models, current fleet practices and market trends. Assumptions are listed within the preliminary report. These results represent a nominal turnover rate based on vehicle miles or vehicle age depending on utilization. This will vary on an agency-by-agency basis based on SEEP exemptions, adequate BEV replacement availability, and vehicle utilization. This report is not a commitment from any of the modeled agencies listed in this report, but rather is a projection based on current usage and practices.
- The report also identifies various barriers to electrification. The barriers include both policy opportunities as well as infrastructure needs. It found significant progress toward electrification goals laid out in EO 21-04, as well as challenges in reaching 100% electrification. (Table 77: State Barriers to BEV Adoption, page 101)
 - For passenger vehicles and class 1-2a (light duty) trucks, the state is estimated to reach 87% by 2035 according to the model.
 - For larger vehicles, the estimated electrification percentages will be lower, based on currently projected limited market availability.

- A major finding of this report is that, in terms of total cost of ownership, BEVs in the state of Washington will quickly reach a cost advantage compared to Internal Combustion Engine (ICE) vehicles, due to high gas prices and low electricity prices currently available in the state. For example, a BEV sedan purchased in 2023 is expected to reach cost parity with an ICE sedan at only 38,000 miles traveled given the parameters of the model.

By the time that same sedan has traveled 130,000 miles, the cost savings from the BEV would pay for a Level 2 charging station installation including construction costs.

- The modeled charging investments are based on how charging needs can be met by *either* level 2 or 3 chargers broken down at the county level and by agency. The model conservatively assumes a 1 to 1 vehicle to Level 2 charger ratio. It also assumes a Level 3 charger installation for every vehicle depot with greater than 10 vehicles. Another major assumption of the model is that it does not rely on the existence of public charging infrastructure. This model is limited to a case where the state provides all of its own charging via Level 2 or Level 3 chargers.
 - An efficient deployment will employ a mixture of the two charging levels and take advantage of existing and future public charging resources.
- *This is not a comprehensive reporting of all state-owned vehicle data since there is not a single repository of data. It is solely based on the data provided by the five self-reporting agencies listed above.*

The preliminary report in its entirety is presented in Appendix A.

Appendices

Appendix A – Preliminary Zero-Emissions Vehicle Implementation Strategy Report