City of Raleigh

EV Implementation Strategy Rollout

August 2024

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Executive Summary

The City of Raleigh has embarked on an ambitious initiative to transition its fleet to electric vehicles (EVs), in alignment with its sustainability, equity, resilience and climate action goals. The fleet, comprising 4,418 vehicles, including 2,394 on-road vehicles, is poised for a significant transformation. This executive summary outlines the key components of this implementation strategy, including vehicle replacement strategy, infrastructure development, cost analysis, staffing and equity considerations, and charging and fleet management software needs.

This strategy implementation document focuses on three key principles: achieving maximum emissions reductions by transitioning to EVs where feasible, ensuring cost-effective solutions throughout the transition process, and establishing a resilient charging infrastructure to facilitate a seamless transition of the fleet to zero emission technologies. Building on these three key principles, this report provides a detailed vehicle replacement strategy, outlines the necessary infrastructure requirements, and includes comprehensive financial planning over the next 24 years. This includes the upfront cost of vehicles and infrastructure incurred over the next 10 years, as well as the operational and maintenance costs incurred over the lifetime of the procured EVs (on average 15 years). This approach aligns with the City's climate action and other planning documents, ensuring a cohesive and forward-thinking transition to zero emission technologies.

Vehicle Replacement Strategy

Through a comprehensive analysis of the City's on-road fleet operations, the project team recommends replacing 2,014 on-road vehicles with EV equivalents, focusing on battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). Additionally, this document identifies 69 underutilized vehicles that travel less than 1,000 miles per year, presenting an opportunity to "right-size" the fleet by retiring these vehicles without replacement, further enhancing fleet efficiency, and reducing costs.

Infrastructure Requirements and Development

To facilitate the City's fleet transition to electric vehicles, preliminary results suggest that the city require as many as 31 DC Fast Charging (DCFC) stations and 2,016 Level 2 charging stations, based on a 1:1 charger-to-vehicle ratio assumption. This infrastructure approach considers the daily usage, energy requirements, and operational downtime associated with the vehicles' duty cycles to maximize charging efficiency. In addition to the charging recommendations, the project team also developed an Electric Vehicle Fleet Charging Infrastructure Planning Tool that is intended to assist the City in identifying infrastructure needs and associated costs as the City continues its electrification efforts.

Cost Analysis and Financial Planning

The transition of 2,014 vehicles to electric vehicles (EVs) is projected to be financially advantageous for the City of Raleigh, with estimated savings of approximately $33 million over the lifetime of the EVs compared to continuing with business-as-usual internal combustion engine (ICE) replacements. The lifetime savings include the cost benefits of operating the EV fleet, as EVs will replace ICE vehicles starting in 2025, with the last replacement scheduled for 2034. Therefore, the savings timeframe extends through the assumed lifetime of the last vehicle replaced in 2034 (2025-2048). Although the initial capital cost for EV replacements is higher, the significant reduction in fuel and maintenance expenses—exceeding $70 million—over the total cost of ownership (TCO) period justifies the investment. This TCO analysis includes the preliminary cost estimates for EV charger hardware and installation, which are over $12 million. Furthermore, the project team has considered potential savings from state and federal incentive programs, estimated to reduce vehicle capital costs by over $11 million.

Training and Software Management

A critical component of the transition is ensuring that City employees are equipped with the necessary skills and knowledge to operate and service the new EV fleet. This document recommends comprehensive EV training and the selection of an effective Charge Management System (CMS) to optimize charging operations, reduce energy costs, and ensure fleet readiness. This analysis also includes a review of fleet management software solutions, highlighting the importance of software integration (e.g., charging management, fuel tracking, preventive maintenance, telematics) for efficient fleet management.

Transitioning to an EV Fleet Requires Detailed Strategy, Substantial Investment, and Unwavering Collaboration among Stakeholders, and Experts

There are several challenges to consider when transitioning to an EV fleet, including: upfront costs, limited EV models (particularly for medium-duty vehicles), production capacity, charging infrastructure, range anxiety, uncertainty in charging time, dependence on the power grid, parking space availability, workforce availability, training, and various community equity and resilience considerations

Equity and Environmental Sustainability

The City of Raleigh's vehicle fleet transition to EV represents a transformative move towards climate action, sustainability, reducing greenhouse gas (GHG) emissions, addressing equity and building community resilience to the impacts of climate change. These are the main objectives of the City's Community Climate Action Plan (CCAP). In addition, this work also aligns with CCAP's goals for the city to illustrate leadership in tackling climate change which helps drive change and taking action throughout the community.

The City of Raleigh's initiative goes well beyond environmental sustainability, as it aims to address and improve equity across the community. The city asked the project team to develop a set of recommendations for the City to leverage fleet electrification as a means to enhance equity within communities that might otherwise be left out of this clean energy transition and have historically been disinvested in. This work focuses on mitigating equity issues through environmental justice, improved accessibility, and economic opportunities.

By replacing conventional vehicles with EVs, the city will improve air quality, particularly in communities disproportionately affected by vehicular emissions. This transition is expected to reduce GHG emissions by approximately 250,000 metric tons of CO2 over the next 24 years. The recommendations in this report also include targeted electrification in areas where residents might not otherwise have access to charging. Additionally, the plan calls for expanding electric public transit to underserved communities for better accessibility, as detailed in Section 10: Addressing Equity through Electrification. Finally, fostering economic growth through workforce development in the green technology sector is emphasized, offering many opportunities for job training in both existing and emerging technologies within the transportation electrification field. In summary, the City of Raleigh's EV Implementation Strategy Rollout presents a comprehensive approach to transitioning its vehicle fleet to electric, with significant benefits in terms of cost savings, operational efficiency, sustainability, equity, resilience and community benefit.

Recommendations for Implementation

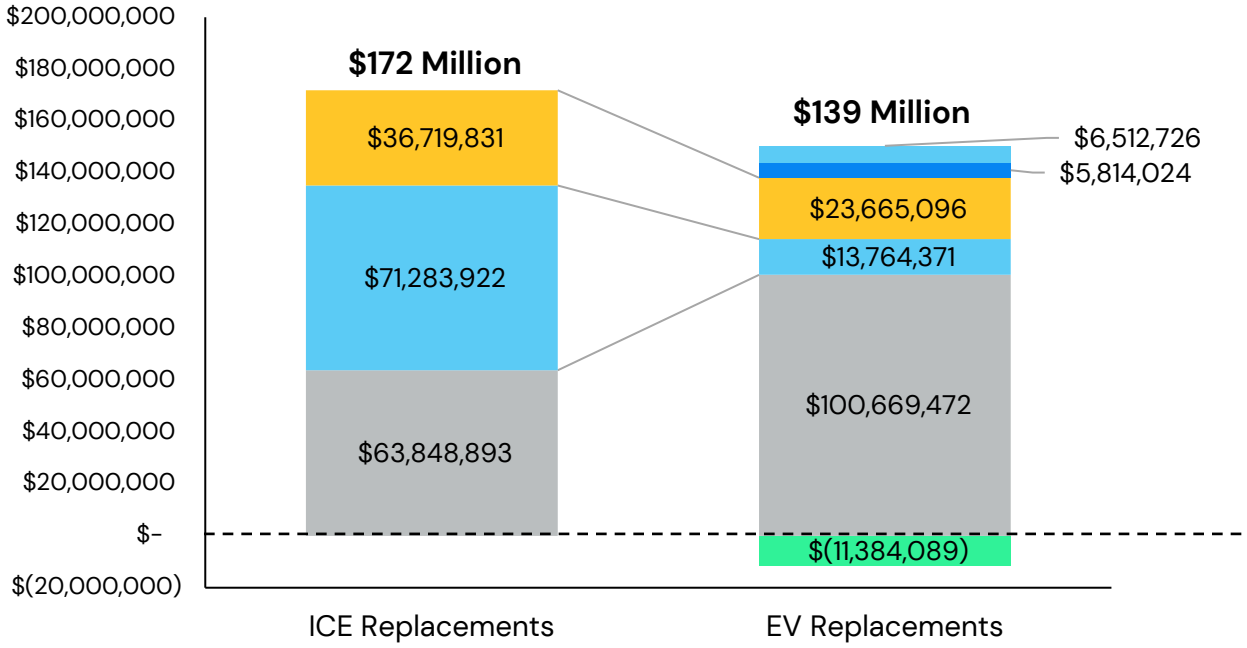
Moving an EV transition Assessment into the implementation phase demands thorough planning, coordination, and resource allocation. This report outlines best practices and solutions to help the city navigate this complex process, ensuring continued leadership in climate action, equity, resilience, and the clean energy transition. Some of the implementation actions identified by the project team are:

- **Create Supportive Processes:** Engage with stakeholders and the Clean Energy Vehicle Replacement Committee to streamline the transition.
- **Forecast Infrastructure to Align with Budget Processes:** Use the EVSE planning tool developed as part of this project to plan EV charging infrastructure in line with budget cycles.
- **Prepare a Financial Strategy for EV Charging Needs:** Develop a financial plan, starting with a Capital Improvement Project (CIP) request for FY2026, to meet identified EV charging needs.
- **Dedicate Specific Staff to Implementation:** Assign staff teams to manage the planning, financing, and execution of the EV transition.
- **Pilot, Test Ideas, and Educate:** Launch pilot projects and educational initiatives to build support and reduce barriers for the EV transition.
- **Continue to Lead in Equity, Resilience, and Accessibility:** Maintain leadership in embedding equity, resilience, and accessibility into climate strategies.

More detailed information on these strategies can be found in Section 11 of this report.


ELECTRIC
VEHICLE
PARKING &
CHARGING
STATION

Figure 1. Total Cost of Ownership for Replacing City of Raleigh Fleet with EVs Compared to Internal Combustion Engine Vehicles (over the lifetime of vehicles which expand from 2025 through 2048) [1]



Based on our analysis, converting the 2,014 recommended on-road vehicles to EVs is estimated to produce the following impacts:

$32,811,046
Net savings over 24 years[5]*

$57,519,551
fuel cost savings over 24 years*

$13,054,735
maintenance savings over 24 years*

247,806
metric tons (MT) of CO_2 eliminated over 24 years

* NPV assumes a 5% discount rate

Over 24 years, those estimated CO_2 reductions equate to:

eliminating **28,498** homes' energy use for one year, or:

switching **9,416,620** incandescent lamps to LEDs, or:

recycling **84,254** tons of waste instead of landfilling it, or:

planting **4,088,523** trees

[1] The TCO analysis presented in this report focuses exclusively on the cost of ownership for the vehicles being replaced. The first vehicle is scheduled for replacement in FY2025, and with an expected lifetime of 14 years, its cost of ownership extends from 2025 to 2039. The last vehicle is anticipated to be replaced in 2035, with its cost of ownership calculated from 2035 to 2048. Consequently, the TCO spans a period of 24 years, from 2025 to 2048.

1. Baseline Inventory and the Need to Transition to EV Fleet

Overview of the City's Existing Fleet

Currently there are 4,418 vehicles in the City of Raleigh's current fleet, including 2,394 on-road vehicles and 2,024 pieces of off-road equipment. However, 280 on-road vehicles were added to the fleet since the transition assessment was conducted (i.e., Spring 2023), which are not reflected in this transition analysis, therefore bringing the total number of on-road vehicles assessed for electrification to 2,114. Since this study focuses exclusively on on-road vehicles, the following fleet statistics pertain only to on-road vehicles and exclude off-road vehicles. The number of vehicles in the City's fleet by fuel type is shown in Table 1 below. The "Engine Fuel Type" column shows the number of vehicles of each fuel type, as listed in original data provided to ICF by the City. The "Assumed Fuel Type" column shows the fuel types assumed by ICF for modeling purposes; these adjustments were completed in consultation with the city.

Table 1. On-Road Fleet-Provided Fuel Type Distribution (as of Spring 2023)

Engine Fuel Type	Assumed Fuel Type	Count of Vehicles
Not provided	AFLEET Assumption[2]	65
Bio-diesel, compressed natural gas, diesel	Diesel	1
Bio-diesel, diesel	Diesel	432
Bio-diesel, diesel, off-road diesel	Diesel	2
Bio-diesel, diesel, propane	Diesel	4
Compressed natural gas	Gasoline	4
Diesel	Diesel	1
Diesel, off-road diesel	Diesel	1
Diesel, unleaded	Diesel	1
E85, unleaded	Gasoline	955
Off-road diesel, unleaded	Gasoline	1
Propane, unleaded	Gasoline	9
Unleaded	Gasoline	638

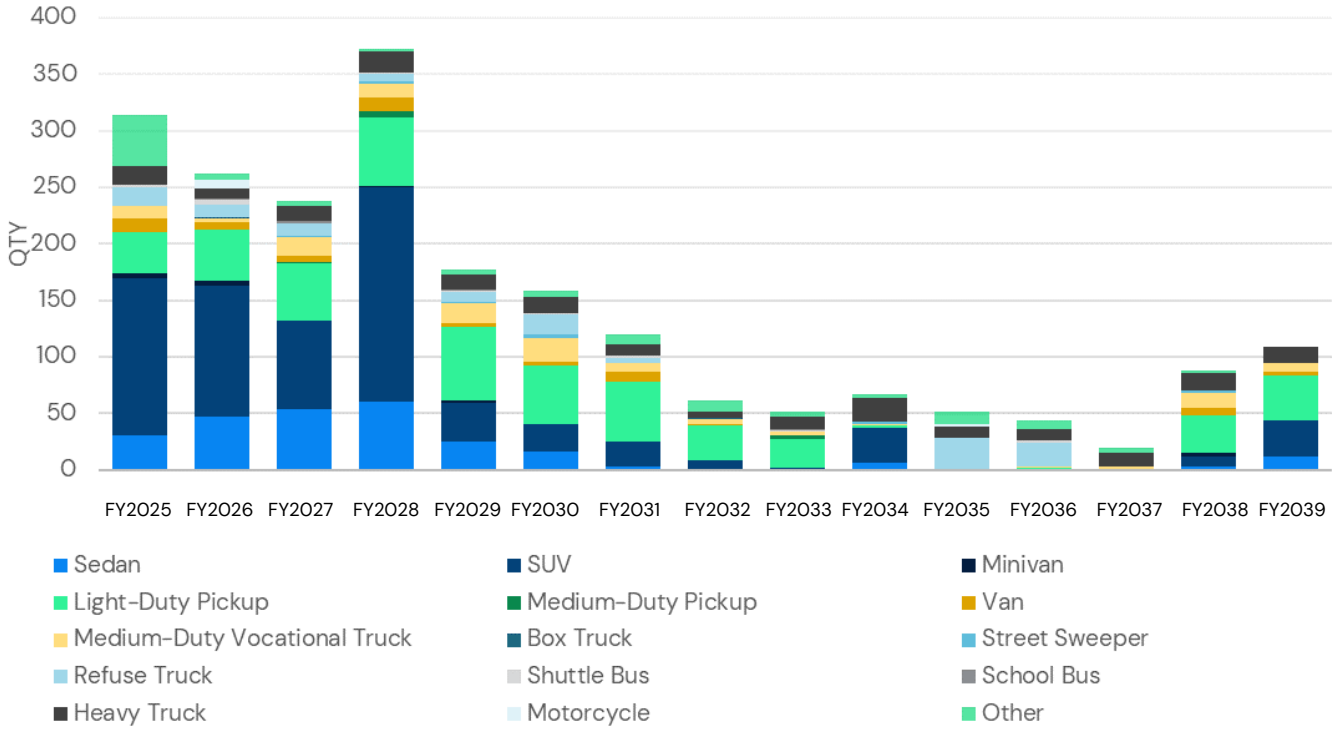
Table 2. Existing On-Road Fleet Fuel Type Distribution[3] (as of Spring 2023)

Vehicle Type	Gasoline	Diesel
Sedan	257	-
SUV	685	-
Minivan	14	-
Light-Duty Pickup	492	5
Medium-Duty Pickup	0	9
Van	62	3
Medium-Duty Vocational Truck	72	52
Box Truck	-	2
Street Sweeper	-	12
Refuse Truck	-	124
Shuttle Bus	12	2
School Bus	-	7
Heavy Truck	-	194
Motorcycle	10	0
Other7[4]	44	56
TOTAL	**1,648**	**466**

[2] AFLEET assumptions applied based on vehicle type. See assumption section of report for more details.
[3] Gasoline and Diesel fuel categorization was discussed with City of Raleigh to remove fuel ambiguity from fleet-provided data.
[4] The vehicles labeled as "Other" were excluded from the analysis and are detailed further in Table C.

The existing retirement schedule for the City's fleet is shown in Figure 2. This schedule is based on the fleet-provided in-service date and retirement years for each vehicle. The existing retirement schedule spans fifteen years with less than 50 vehicles retired per year between fiscal years (FY) 2035 through 2039. As will be shown later in this report, in ICF's analysis, this existing fifteen-year schedule was adjusted to a ten-year schedule in accordance with City of Raleigh's request. The ten-year schedule shown in Figure 4 differs from the fifteen-year schedule shown earlier by rolling back vehicle replacements between FY2035 through 2039 by five years, such that the latest vehicle retirements in this analysis occur in FY2034.

Figure 2. Existing Fleet - Retirement Schedule by Fiscal Year



The 20 vehicles identified as "Other" plus 706 pieces of non-road equipment are summarized in the Table 3 below. The scope of this electrification strategy focuses solely on on-road vehicles. As a result, non-motorized vehicles (such as trailers), non-road equipment (including tractors and forklifts), and marine craft were excluded from the electric vehicle acquisition recommendations. The total number of the City's non-road fleet is 2,024.

Table 3. Vehicle Types Excluded from Analysis

Vehicle Type	Quantity	Reason for Exclusion
Non-Road Equipment	706	Non-road equipment are outside of the scope of this study
Trailers	17	Trailers do not have any motive power and therefore excluded
Boats	2	Marine crafts are outside of the scope of this study
Undefined	1	Unable to discern vehicle use case due to limited data
4WD Medium- Duty Vocational Truck	67	Vehicles without EV equivalents
4WD Medium-Duty Pickup	8	
4WD Heavy Straight Truck	2	
Fire Response Vehicles	3	
TOTAL	**806**	

Drivers for Transition

The City of Raleigh is strongly dedicated to climate action, focusing on strategies to reduce GHG emissions, promote equity and environmental justice, and enhance community resilience to the impacts of climate change. As the capital of North Carolina and one of the fastest-growing regions in the country, Raleigh leverages its rich blend of a warm climate, strategic location near the Research Triangle Park, and a diverse workforce to cultivate a thriving, forward-looking community. The City's commitment to sustainability is not just a response to its rapid growth but a fundamental aspect of its identity and vision for the future.

Underpinning this commitment are Raleigh's guiding principles and strategic documents, which emphasize the imperative of transitioning to sustainable practices across various sectors. The City's Community Climate Action Plan (CCAP), the City's Strategic Plan, the 2030 Comprehensive Plan, and the Transportation Electrification Study, along with departmental business plans, collectively chart a course towards a more sustainable and resilient Raleigh. A critical component of these plans is the transition of the City fleet to EVs, the reduction of GHG emissions and a focus on equity and resilience. The CCAP sets an ambitious target for the community: an 80% reduction in GHG emissions by 2050. Raleigh's recently updated GHG emissions inventory identified that transportation represents Raleigh's top GHG emissions and make up more than half of the Raleigh community's total emissions. The CCAP and these other key documents highlight transportation electrification as a key high-impact strategy to not only reduce GHG emissions, but also to address equity and resilience. Although the City of Raleigh's contribution to total GHG emissions is a small part of the total community GHG emissions, the city is committed to leading in climate action, showcasing the City's commitment to sustainability and serving as a model for the community, and other cities and communities to take climate action.

Accomplishing the goals and strategies detailed in the City of Raleigh's strategic documents and this report will bring widespread support across the city and community. City leadership must support the implementation by continuing to make fleet electrification an organizational priority. Additionally, individual departments and divisions must actively contribute to advancing the implementation within their respective areas of responsibility. This includes various aspects such as financing, budgeting, implementation and installation of infrastructure, decision-making in individual departments, policy development, education, outreach and more.

Currently, responsibilities for managing the EV transition are highly fragmented. EV charging provision has historically been handled by individual departments that oversee specific facilities, while vehicle procurement has been handled by Vehicle Fleet Services in conjunction with departments. This approach has worked in the past but is not well suited to large-scale provision of charging. A more centralized approach to planning, budgeting, installing, and maintaining charging infrastructure is needed to achieve the goals of this implementation strategy.

In particular, Vehicle Fleet Services (VFS), a division of the Engineering Services Department, plays a pivotal role in this transition. Tasked with the maintenance, repair, and support of all City vehicles and motorized equipment, VFS oversees an extensive inventory that includes not only vehicles but also lawn equipment, trailers, construction equipment, and more. The division operates through an internal service fund, ensuring detailed accounting for the full costs associated with the City's vehicle service operations, including fuel, tires, repairs, parts, and preventative maintenance. The costs are allocated to the respective City departments based on actual usage, promoting accountability and efficiency.

The City's infrastructure to support its vehicle operations is robust, with three main fleet operation centers and ten active fueling locations, some of which are already equipped with renewable propane and clean fuels. Raleigh is proud to be the first city in North Carolina to implement renewable propane in our fleet, setting a pioneering example in the state's efforts to adopt sustainable energy solutions.

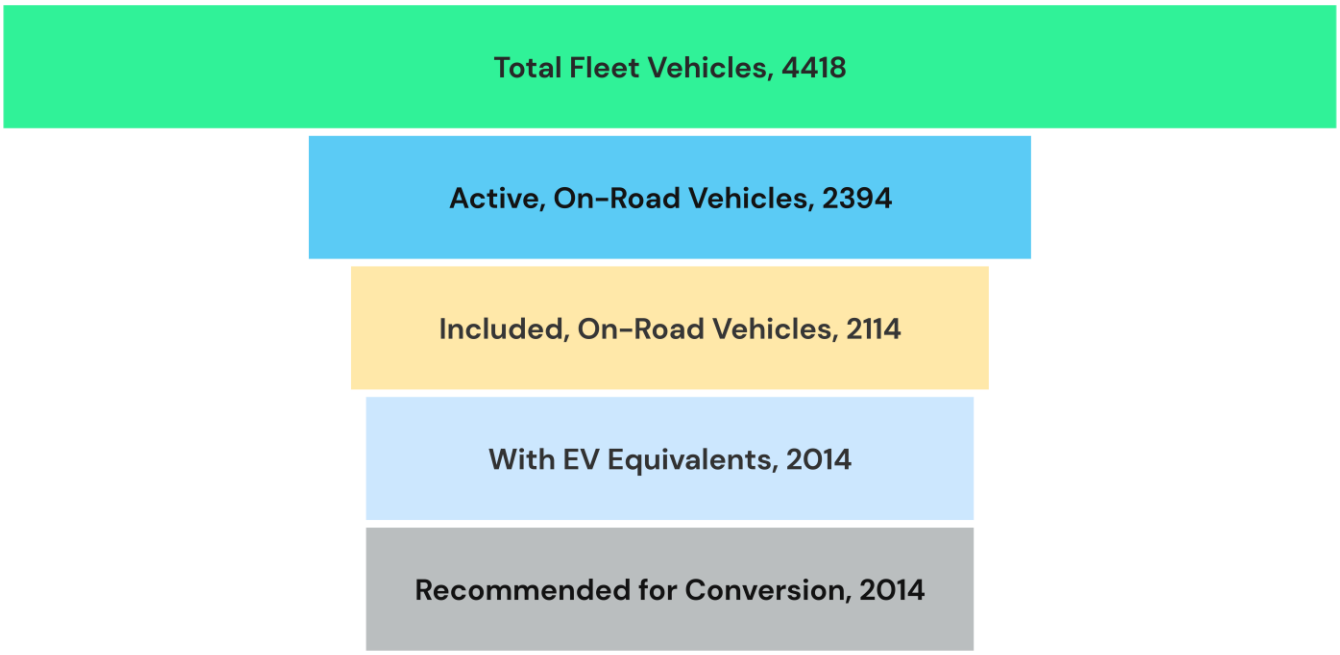
As Raleigh continues to grow and evolve, the City's leadership in adopting and implementing sustainable practices, especially in transitioning its vehicle fleet to electric and other low-emission alternatives, stands as a testament to its commitment to climate action, economic vitality, and the well-being of its residents. The City's proactive approach in this regard not only addresses the immediate challenges of urban growth and mitigating climate change, but also sets a visionary precedent for future generations, aligning with the City's overarching goal of fostering a 21st Century City of Innovation.

2. Fleet Transition Assessment

Electric Vehicle Acquisition and Timeline Recommendations

There are 4,418 vehicles in the City of Raleigh's current fleet, including 2,394 on-road vehicles and 2,024 pieces of off-road equipment. Of the 2,114 on-road vehicles included in this fleet transition study, 2,014 have EV equivalents commercially available.[5] The analysis conducted recommends EV replacement for all 2,014 vehicles in order to assess the timeline, cost and emissions impacts of replacing all vehicles that have EV equivalents. The vehicles not recommended for replacement are 100 Heavy- and Medium-Duty Trucks with 4-wheel drive requirements, which currently do not have EV equivalents in the market[6]. The fleet assessment vehicle breakdown is illustrated in Figure 3. Note that non-road equipment is included in the total vehicle count, but is excluded from this section.

Figure 3. Fleet Assessment Vehicle Breakdown



The project team used its Fleet Assessment Model to identify the lowest-cost EV replacement on a vehicle-by-vehicle basis that would meet each vehicle's daily mileage and charging dwell time constraints. For model comparison of other EVs and PHEVs that may fit user needs, users are referred to Appendix A of the report. Table 4 below summarizes the EV makes and models recommended to replace the City's existing fleet vehicles through FY2034, including both battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV). Importantly, this initial analysis was designed to identify and recommend the lowest-cost EV replacement that can meet the daily mileage requirements for each existing vehicle, and as such the model used for this analysis did not filter for either all-electric BEVs or PHEVs. BEVs are

[5] Note that the total number of on-road vehicles is 2,394, which includes 280 vehicles that were added to the fleet during this study.
[6] After the first Task 2 report draft was completed in the fall of 2022, the two major suppliers of 4WD capable medium-duty trucks have ceased to offer these vehicles. Without EV equivalents in the market, these 4WD-required vehicles have been reclassified as "other" and excluded from the assessment's electrification recommendations.

expected to generate higher emissions reductions than PHEVs due to the PHEV having a hybrid ICE-EV powertrain and BEVs producing zero tailpipe emissions.

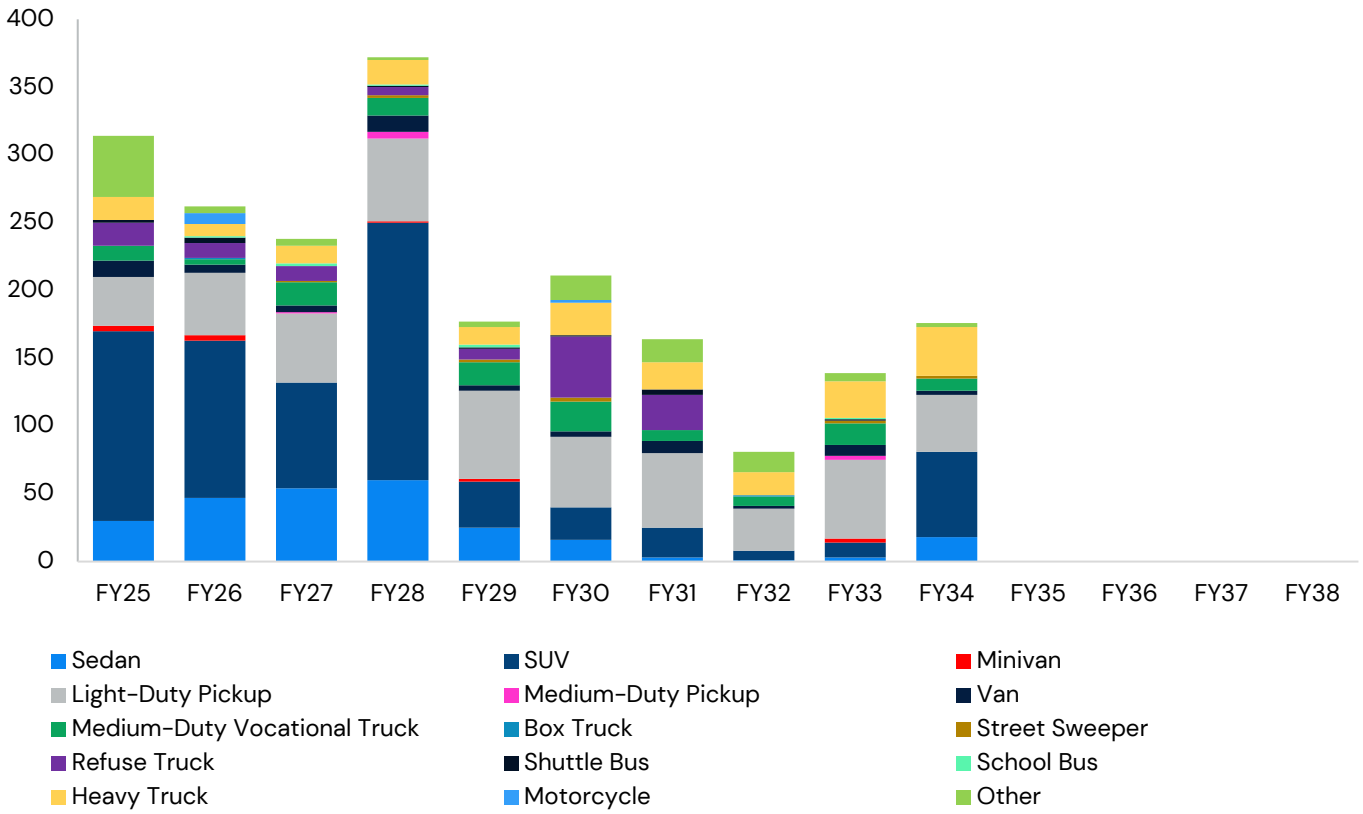
Table 4. 10-Year Electrification Summary

Vehicle Type	Quantity up for Retirement (in 10 years)	Quantity Recommended to Convert to Electric (in 10 years)	Recommended Make/ Model/ EV Type
Sedans	257	221	Nissan/Leaf S/BEV
		29	Tesla/Model 3 (Police)/ BEV
		7	Toyota/Prius Prime LE/PHEV
SUVs	685	353	Tesla/Model Y Long Range (Police)/BEV
		131	Chevrolet/Equinox EV 1LT/BEV
		183	Fisker/Ocean Sport/BEV
		5	Hyundai/Tucson SEL/PHEV
		13	Hyundai/Kona Electric SE/BEV
Minivan	14	14	Canoo/Lifestyle Delivery Vehicle/BEV
Light-Duty Pickups	497	497	Chevrolet/Silverado EV/BEV
Medium-Duty Pickup	9	9	ZEVx/Ford F-350 (Pickup)/BEV
Van	65	21	Maxwell Vehicles/ePro SR Passenger Van/BEV
		44	Maxwell Vehicles/ePro SR Cargo Van/BEV
Medium-Duty Vocational Truck	124	124	ZEVx/Ford F-450 (Chassis Cab)/BEV
Box Truck	2	1	Ford/E-Transit Chassis Cab (Box Truck)/BEV
		1	BYD/6F Cab-Forward/BEV
Street Sweeper	12	12	Global/M-3 Supercharged/BEV
Refuse Truck	124	123	Peterbilt/520EV/BEV
		1	Battle Motors/Battle LET/BEV
Shuttle Bus	14	14	Ford/E-Transit Cutaway/BEV
School Bus	7	4	ZEVz/Chevrolet Express 3500/BEV
		2	Lion Electric/LionD – 127 kWh/BEV
		1	Starcraft/E-Quest XL/BEV
Heavy Truck	194	189	Xos/MDXT SR (Class 7)/BEV
		5	Tesla/Semi/BEV
Motorcycle	10	10	Zero Motorcycles/Zero FXS ZF3.6/BEV
Other	100	0	-
TOTAL	**2,114**	**2,014**	

The project team also developed a recommended EV replacement timeline based on the existing fleet's retirement schedule and the projected availability of recommended replacement EV models. Figure 4 illustrates the recommended replacement timeline for these vehicles. The recommended replacement timeline in Figure 4 differs from the existing retirement schedule in Figure 2, as vehicles that were scheduled to retire after FY2034 (approximately 265 vehicles) were adjusted to retire on or before

FY2034. This was achieved by rolling back vehicle retirements between FY2035 through 2039 by five years such that the latest vehicle retirement occurs in FY2034.

Figure 4. Recommended EV Replacement Timeline: Vehicle Types (FR stands for Fiscal Year)



Key Assumptions

The project team relied on several key assumptions and data sources for this analysis, including those shown in the list below. These assumptions were applied within ICF's Fleet Assessment Model tool (the model), which was used to analyze the fleet and develop EV replacement recommendations. Section 5 provides additional detail on the financial assumptions used in the analysis.

- **10-Year Replacement Schedule:** The goal of this assessment is to provide EV recommendations for vehicles scheduled to retire between FY2025 through 2034. The city provided scheduled replacement dates for all on-road vehicles between FY2023 through 2038, and provided a follow up dataset to specify which vehicles were retired or acquired between FY2023 and early 2024 while the assessment was in progress. This data was used to establish a baseline fleet list and retirement schedule for the fleet.

  For the purposes of modeling a 10-year electrification assessment from FY2025 to FY2034, vehicles scheduled to retire before FY2025 that were not accounted for in follow-up data lists are assumed to be retired at the time of their fleet-provided retirement date and replaced with a vehicle of the same make, model, and usage characteristics. Their new vehicle life is projected in this assessment and replacements are recommended when deemed due for retirement, based on

the Argonne National Laboratory's Alternative Fuel Life Cycle Environmental and Economic Transportation (AFLEET) Tool vehicle lifetime standard assumptions, with the last vehicles retiring in 2038.

For vehicles scheduled to retire in FY2035 through FY2039, this assessment rolls the latest retirement dates back by five years, such that the results reflect a 10-year replacement timeline from FY2025 through FY2034. Thus, the recommended vehicle retirement/replacement schedule for this analysis ends in FY2034. At the City's request, fleet transition cost, timeline, and emissions reduction estimates for the City's original 15-year replacement schedule are also available in Appendix C.

- **EV Replacement Recommendation Threshold**: To assess the potential cost of a fleetwide EV transition, all vehicles with available EV alternatives are recommended for replacement regardless of their cost-effectiveness.
- **Vehicle Pricing**: The model uses the manufacturer suggested retail prices (MSRPs) for EVs where available. When MSRP pricing is unavailable, the model uses average pricing based on vehicle and fuel type based on AFLEET and ICF's *Comparison of Medium- and Heavy-Duty Technologies in California* report for the California Electric Transportation Coalition (CalETC report). Vehicle pricing was escalated annually using the U.S. Energy Information Administration's (EIA) 2022 Annual Energy Outlook (AEO) and ICF's CalETC report for the California Electric Transportation Coalition. The model assumed vehicles are owned, except for select police vehicles that were identified as leased.
- **Fuel and Maintenance**: The model uses the state of North Carolina's average gasoline and diesel prices in October 2022, which is $5.02 per gallon of diesel and $3.41 per gallon of gasoline. The model determines the average annual fuel use for each vehicle based on its average annual mileage and average fuel economy (miles per gallon), and then multiplies the fuel use value by the price per gallon of fuel. Where fleet-provided data are not available, we leveraged annual mileage and fuel efficiency assumptions by vehicle and fuel type from the AFLEET Tool and ICF's CalETC report. Maintenance costs were escalated 2.2% annually.
- **Electricity Pricing**: The model uses $0.13/kWh base rate, which is the City's average electricity rate as serviced by Duke Energy territory, escalated annually using projections from the U.S. EIA's 2022 AEO Reference Case for Transportation: Electricity.
- **Timeframe**: This analysis focuses on vehicle replacements for FY2025 through FY2034, with TCO calculations extending out across the vehicle lifespans to FY2048.
- **Discount Rate**: A discount rate of 5% was used to estimate the net present value (NPV) of future cash flows.
- **Vehicle Ranges**: The EV mileage ranges per charge were accounted for when recommending vehicle replacements. The analysis used an average temperature range of 31 to 90°F to assess the potential impact temperatures can have on EV ranges; this reduced EV model ranges to 80% of their maximum mileage range. For City's current vehicles, the model uses fleet provided data for the required daily range. For the City's current vehicle annual mileage, any data which were not available or provided as an invalid data type (i.e., text string, blank entries), were corrected using

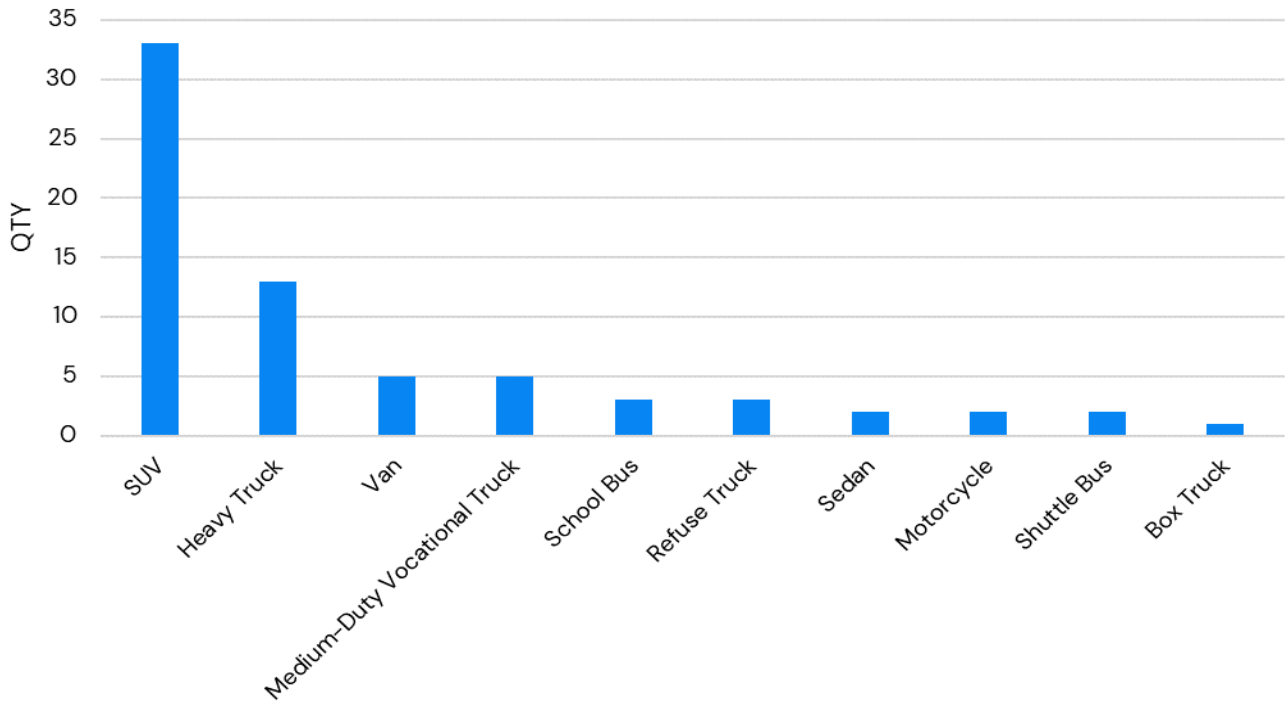
the average of like vehicles. For example, if an SUV had 'infinity' entered as the annual mileage, and the numerical average annual mileage of all other SUVs was 10,712 miles per year, then 10,712 was substituted in place for the 'infinity' entry.

- **Electric Vehicle Supply Equipment (EVSE) Pricing**: The EVSE price assumptions applied in the analysis are explained in the EV Charging Infrastructure Assumptions Applied section.
- **Electric Vehicle Supply Equipment (EVSE) Incentives:** The EVSE incentive program amounts applied in the analysis are detailed further in the Incentives and Funding Source Assumptions Applied section.

Underutilized Vehicles

The City expressed interest in identifying underutilized vehicles—vehicles which accrue less than 1,000 miles per year while in operation—to "right-size" the fleet. In essence, the city can choose to replace these vehicles with the recommended EV replacements or choose to not replace underutilized vehicles and retire them when the city sees fit. Figure 5 describes the number of underutilized vehicles by type; vehicles in Figure 5 have model years between 1995 through 2020. Overall, there are 69 on-road vehicles which are considered underutilized that the city may choose to not replace with an EV or redeploy those vehicles again in the fleet. It should be noted that the assessment outlined assumes that underutilized vehicles are replaced with the recommended EVs; overall costs and emissions benefits are subject to change based on the City's decisions to replace or not replace underutilized vehicles. For a list of underutilized vehicles, please refer to the Fleet Recommendations Data excel that accompanies this report. Underutilized vehicles are identified in column BV on the On-Road Recommendation tab. See appendix D for a detailed list of vehicles identified as underutilized.

Figure 5. Number of Underutilized Vehicles (e.g., less than 1,000 annual miles traveled)



3. High Level Fleet EV Charging Infrastructure Needs

To ensure a smooth transition to EVs, it is critical to have a thorough understanding of Electric Vehicle Supply Equipment (EVSE) that need to be deployed at the city facilities to support the City's EVs. This section examines the range of chargers available, estimates the infrastructure costs, and identifies the City of Raleigh's fleet charging needs. It also outlines strategies for optimizing the charging infrastructure. Furthermore, this section includes a user guide for the EVSE Planning Tool and presents electrical site plans and one-line diagrams to aid in planning and implementation.

In a fleet application, the majority of charging is typically done at the fleet facility – overnight, home charging or between shifts. Facility-based charging can be supplemented with periodic charging at workplaces, idle locations, and public destinations as needed. Based on previous discussions with the City of Raleigh, however, ICF understands that the city may prefer to develop fleet charging infrastructure at Park and Ride facilities and fuel depots.

There are three types of EV chargers: Level 1, Level 2, and Direct Current (DC) Fast Chargers.

- **Level 1** chargers provide charging through a 120-volt (V) AC plug. A Level 1 charger plugs directly into a household outlet on one end, and into the vehicle's SAE J1772 charge port on the other end. Of the three types of EV chargers, Level 1 charging offers the lowest power and slowest charging time.
- **Level 2** chargers provide charging through 240 V or 208 V electrical service. Level 2 charging equipment is common for home, public, and workplace charging. Most chargers in the United States are Level 2. Level 2 chargers can operate at up to 80 Amperes (Amps) and 19.2 kilowatts (kW) of power. They provide faster charging than Level 1 chargers but slower than DC Fast Chargers.
- **Direct Current Fast Chargers (DCFC)** enable rapid charging through 208/480 V three-phase power input. These high-powered chargers cost significantly more than a Level 2 charger, but they are able to provide much higher output power and faster charging speeds. Currently, DCFC are able to provide output power levels in the hundreds of kilowatts, however industry groups are designing charging standards capable of providing output power levels of 1 megawatt and above.[7]

The preliminary analysis suggests that City may need up to 45 DCFC and 1,969 Level 2 chargers to support the recommended 2,014 EVs. This estimate conservatively assumes a) a single port and b) a one-to-one charger-to-vehicle ratio, without accounting for any existing chargers at the City's facilities. While a 1:1 vehicle-to-charger ratio ensures that every vehicle has access to a charger, this arrangement presents substantial challenges related to both vehicle battery degradation and deployment. Charging a vehicle every day, as might be common in this scenario, could accelerate battery degradation. Frequent charging has the potential to reduce the overall lifespan of the battery, as it may contribute to faster wear and tear. Moreover, a 1:1 ratio necessitates that the number of chargers matches the number of vehicles, which can be problematic in facilities lacking enough dedicated parking spaces equipped for chargers. Such a scenario would also significantly drive-up construction costs due to the extensive digging and trenching required to supply power to each charger. This not only increases the financial burden but also complicates the logistics of installing and maintaining such a widespread charging infrastructure.

[7] CharIN. Megawatt Charging System (MCS). CharIN. https://www.charin.global/technology/mcs/

The EVSE planning tool, described later in this report, is designed to identify groups of vehicles that due to their daily mileage demand and the battery capacity of the vehicle, can charge once every couple of days. That said, for this analysis the project team determined recommended charger types (Level 2 versus DC Fast) based on battery size, range, mileage, number of shifts per day, and time available to charge between shifts and at night. The analysis assumes that vehicles will have a 6-hour charging opportunity window for vehicles that do not have charging time data provided by the fleet. It should also be noted that the analysis assumes procurement of networked chargers—chargers that can communicate with each other for energy management purposes—for the preliminary recommendations on EV charging infrastructure.

It may be possible to reduce the number of chargers by:

- Manipulating the duty cycles of the vehicles to allow for successive (non-overlapping) charging schedules;
- Identifying managed charging solutions to optimize charger use;
- Garaging EVs together to allow for shared chargers; and
- Leveraging publicly available EVSE, where appropriate.

The charger equipment and installation cost assumptions used for this analysis are listed by type and power level in Table 5. The cost estimate for the preliminarily estimated 45 DCFC and 1,969 L2 single port chargers is outlined in Table 6. Note that these costs cover only the EV charging stations' hardware and do not include any make-ready infrastructure, such as electric panel upgrades. Similarly, the installation costs include only the expenses associated with connecting an EVSE to the site. They do not cover trenching or other construction-related expenses, which can vary significantly from site to site and are necessary when installing an EVSE.

Note that networked EVSE hardware costs exceed non-networked hardware costs; networked EVSE hardware can also be referred to as "smart" charging capable. "Smart" chargers can be connected to personalized fleet networks to identify fleet charging patterns and manage energy consumption more easily. In contrast, non-networked chargers are unable to communicate with other chargers and do not offer data analytic capabilities.

Table 5. EVSE Hardware and Installation Cost Assumptions by Type and Power Level

Level	kW Range	Average Hardware Cost - Networked	Average Installation Cost - Networked	Average Hardware Cost - Non-networked	Average Installation Cost - Non-networked
L2	L2 (3-6 kW)	$2,500	$3,500	$500	$3,500
L2	L2 (6-8 kW)	$3,000	$3,500	$1,000	$3,500
L2	L2 (8-11 kW)	$3,500	$3,500	$1,500	$3,500
L2	L2 (12-15 kW)	$4,000	$3,500	$2,000	$3,500
L2	L2 (15-19 kW)	$4,500	$3,500	$2,500	$3,500
DCFC	DCFC (50 kW)	$35,800	$28,100	$29,000	$28,070
DCFC	DCFC (150 kW)	$100,000	$42,200	$50,000	$42,200
DCFC	DCFC (350 kW)	$150,000	$61,600	$128,000	$61,560

Table 6. Preliminary EVSE Equipment and Cost Estimates

EVSE	kW Level	Quantity by Type	Total Hardware Cost	Total Installation Cost
L2	(3-6 kW)	1271	$2,496,055	$3,494,478
	(6-8 kW)	302	$874,159	$874,159
	(8-11 kW)	138	$462,702	$404,864
	(12-15 kW)	66	$245,245	$190,746
	(15-19 kW)	192	$487,158	$568,351
DCFC	(50 kW)	45	$1,248,705	$980,129

Park & Ride Charging Infrastructure

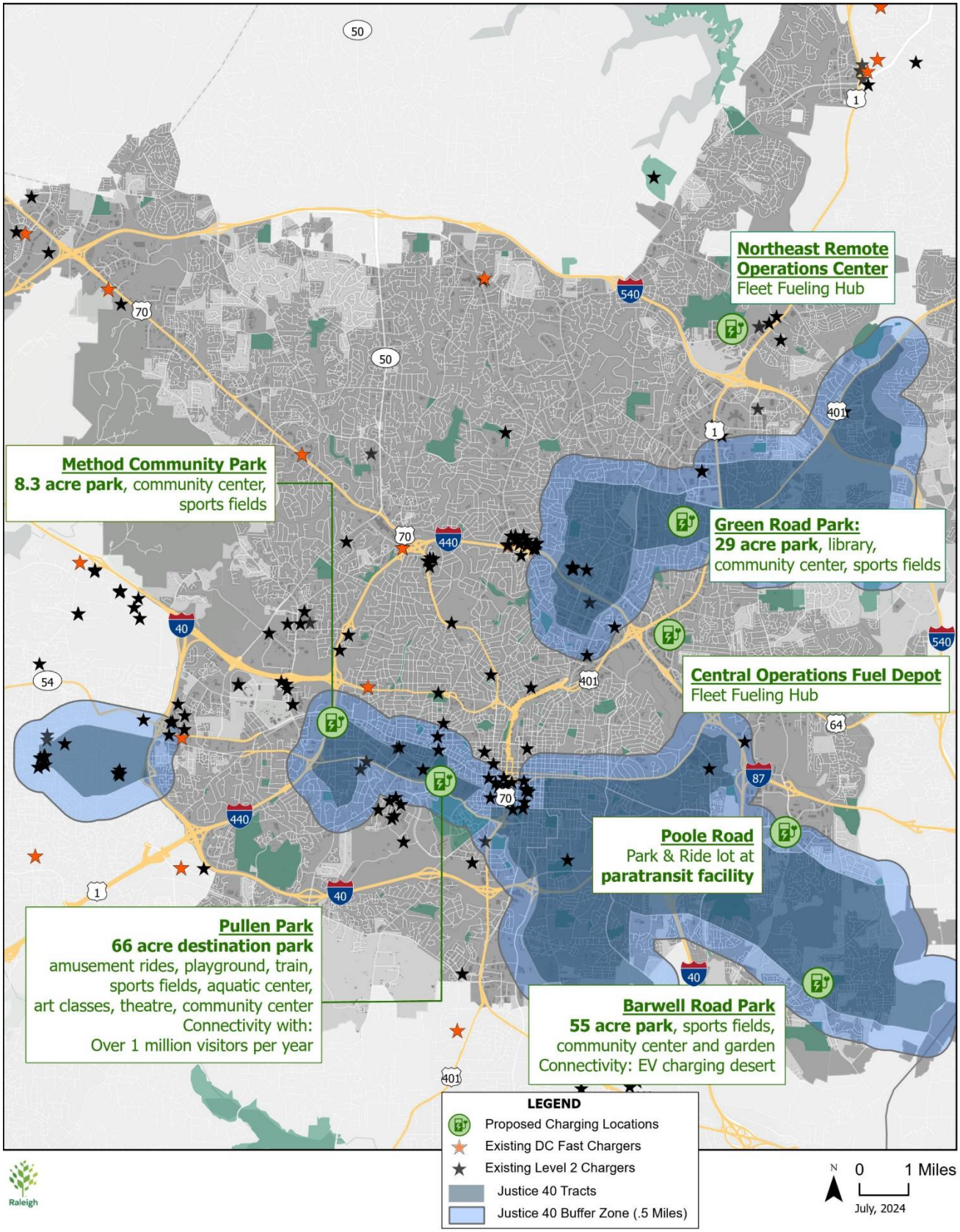
The lack of space and electrical capacity at City facilities poses significant challenges for deploying the necessary charging infrastructure to support the transition to EVs. Many City facilities do not have dedicated spaces for fleet vehicles, and a considerable number of vehicles are take-home, making it difficult to establish consistent and accessible charging points. The absence of these dedicated spaces complicates the logistics of ensuring that all fleet vehicles have access to charging stations, particularly during peak usage times. Without designated areas, the city will struggle to manage charging schedules and ensure the entire fleet remains operational.

Additionally, many City buildings lack the electrical capacity required to support the deployment of the extensive charging infrastructure needed for a full transition to EVs. Upgrading electrical systems in older buildings can be both costly and time-consuming, involving significant modifications to existing power grids and wiring. The installation of high-capacity chargers, such as DC fast chargers, demands substantial electrical power, which many current facilities are not equipped to handle. This limitation necessitates a comprehensive review and potentially significant upgrades to the City's electrical infrastructure to ensure it can support the increased load from multiple EV chargers. Without these upgrades, the City's ambitious goals for fleet electrification could be significantly hampered.

To overcome these challenges, the city is exploring the development of Park and Ride locations. By establishing several Park and Ride sites across the City, fleet vehicles can utilize these strategically placed facilities for charging. These locations will include DC fast charging stations for daytime "topping off" and Level 2 chargers for overnight recharging, ensuring that the fleet remains fully operational and ready for daily use. This centralized approach allows the City to efficiently manage the charging needs of its fleet while addressing the limitations of space and electrical capacity at individual City facilities.

Additionally, this Park and Ride strategy benefits the local community by offering charging solutions not only for the City's fleet but also for private businesses, multi-family residents with limited at-home charging options, commuters, and other residents. By providing access to charging stations during off-peak times when they are not in use by the city fleet, the City can support a broader transition to electric vehicles within the community. Figure 6 highlights potential locations for park-and-ride facilities throughout the city that were identified as part of the City of Raleigh's application to Round 2 of Charging & Fueling Infrastrcture (CFI) Discretionary Grant program. The map serves as an illustrative tool to identify areas within Raleigh that warrant further exploration for such facilities. Note that not all of the locations illustrated on the map are Park & Ride locations.

Figure 6. Potential Park & Ride Locations Selected for the City's CFI Grant Application



4. Raleigh's EVSE Planning Tool

Given the dynamic nature of the EV market, characterized by the continual introduction of new models and the discontinuation of older ones, we recognized the critical importance of equipping the City with a comprehensive toolkit. This toolkit is designed to enable the City to accurately assess its EVSE needs over the forthcoming decade, taking into account the specific EV replacements planned for purchase and deployment. In response to this need, our team has developed the EVSE Planning Tool. This innovative solution provides the City with the capacity to make informed decisions on their own regarding its EV infrastructure development, ensuring that its transition to electric mobility is both strategic and well-supported by the necessary charging infrastructure.

The EVSE Planning Tool developed for the City of Raleigh is specifically designed to evaluate the charging energy and power requirements at each site where EV replacements are recommended and where EV operation is concentrated. The algorithms embedded in the tool analyze expected vehicle operations at each site and compare them with critical information on the EVs to accurately estimate daily charging needs. Key factors considered include the vehicles' energy efficiency, daily mileage or operation hours, battery capacity, maximum power acceptance rates, and charging time.

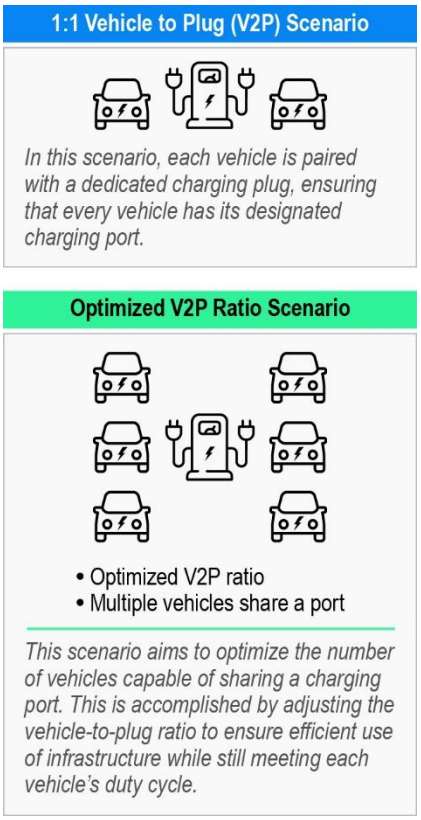
Based on the anticipated operating conditions and constraints at each site, the *EVSE Planning tool* will provide tailored recommendations for specific charger types and power levels, ensuring that these are optimized on a vehicle-by-vehicle basis. Several outputs from our fleet assessment model will be key inputs for developing charging infrastructure, including the following:

- Which existing vehicles are recommended for replacement with EVs
- How much energy and power each EV will need to charge, as a function of:
  - Average daily energy consumption (in kWh)
  - Vehicle battery energy capacity (in kWh)
  - The duration of time each vehicle has to charge between shifts and operations.
  - The maximum power acceptance rate for each vehicle (in kW)
- Where EV replacements will dwell
- What times of day each EV will be available to charge
- Whether or not smart/networked charging is desired
- Whether or not the fleet will use a charging management system

To determine the location of chargers, the tool will use information on vehicle dwell time, driving routes, parking locations, and the operational characteristics. Fleet vehicles do not necessarily need to be charged at the locations where they are being parked. Similarly, depending on co-locations, charging infrastructure may be considered at sites that multiple agency fleets could share. Using this information, the tool will develop a baseline charging infrastructure implementation scenario with rollout schedule that projects the following information:

- The projected number of chargers needed at each site to support the EV replacements over the next 10-15 years.
- The recommended locations of EV charging infrastructure.
- The recommended type (e.g., Level 1, Level 2, DCFC) and power level (in kW) of chargers for each vehicle type
- The overall power need associated with charging infrastructure at each site.

One of the key features that sets the *Raleigh's EVSE Planning tool* apart from other charging infrastructure models in the market is its embedded optimization algorithms. These algorithms enable agencies to optimize the number of chargers by increasing the vehicle-to-plug (V2P) ratio while maintaining the resilience of both charging and fleet operations. Following the development of the baseline charging infrastructure needs scenario (assuming 1:1 V2P), the tool uses its optimization algorithm to develop an optimized charging infrastructure needs scenario. This involves determining the most appropriate V2P ratio for each facility and groups of vehicles and assessing the feasibility of smart/scheduled charging. This approach implies using fewer charging stations to service a greater number of EVs, leading to significant cost savings. It reduces the upfront investment in charging infrastructure and minimizes ongoing operational and maintenance expenses. Moreover, this efficient use of resources is particularly beneficial in conserving space, a crucial aspect in urban or densely populated areas.



To showcase the capabilities of *Raleigh's EVSE Planning Tool*, we conducted an examination of its ability to estimate the charging infrastructure needs for vehicles scheduled for replacement with electric vehicles (EVs) in 2024 as illustrated in the next subsection.

2024 Vehicle Equipment Fund Charging Infrastructure Results

To advance the City's transition to EVs, our analysis leveraged the *Raleigh's EVSE Planning Tool* to evaluate the infrastructure requirements for the 2024 Vehicle Equipment Fund vehicles. This analysis encompassed 24 vehicles, including 9 Ford F-150 Lightning Pro SSV SR, 6 Chevrolet Bolt, 5 Hyundai Kona SE, 3 Nissan Leaf, and 1 Hyundai Ioniq 5. By incorporating key operational metrics such as daily usage and downtime, we developed two strategic charging infrastructure models: one ensuring individual charging stations for each vehicle, and another optimizing the use of charging ports through an enhanced V2P.

1 to 1 V2P Scenario Results

For the scenario providing a dedicated charging station for each vehicle, our findings indicate a requirement for 13 level 2 charging stations of mid-power capacity. The bulk of these installations will serve the VFS Motor Pool with seven 9.6kW charging units, catering to a diverse range of vehicles from sedans to light-duty pickups. Given the acquisition timeline of these vehicles in 2024, prompt installation is paramount. The projected cost for this configuration is approximately $128,000, which breaks down into $76,000 for installation services and $52,000 for the charging units. The VFS Motor Pool emerges as the most significant expenditure at about $75,000, with RDOT following at roughly $32,000.

Figure 7. 1 to 1 V2P Ratio Scenario Estimated Costs

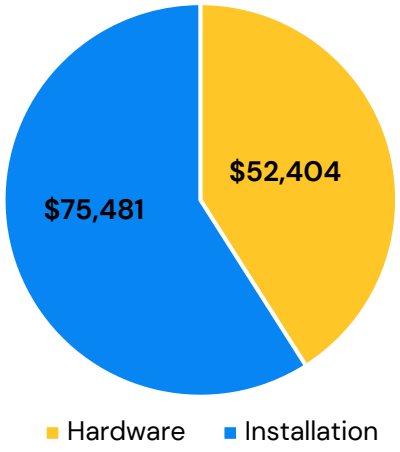


Table 7. 1 to 1 V2P Ratio Scenario Infrastructure Results

Dwelling Location	Number of Vehicles	Number of EVSE	Type of EVSE
Fire	1	1	Level 2 (6.6 kW)
Parks and Rec	2	1	Level 2 (6.6 kW)
Police	2	1	Level 2 (9.6 kW)
RDOT	5	3	Level 2 (9.6 kW)
VFS Motor Pool	14	7	Level 2 (9.6 kW)
Total	**24**	**13**	

Maximum V2P Scenario Results

This strategy aims to maximize efficiency by adjusting the vehicle-to-charging port ratio, resulting in a recommendation for nine stations – a mix of five level 2 (19.2 kW) and four DC fast-charging (DCFC) units (25 kW). This is particularly recommended for the VFS Motor Pool (Smart Fleet), accommodating a 2:1 V2P ratio for 14 vehicles. Despite a smaller number of recommended stations compared to the first scenario, the cost is higher, nearly $182,000, reflecting the premium associated with higher-capacity DCFC technology. This includes around $110,000 for installation and $72,000 for hardware.

Figure 8. Max V2P Ratio Scenario Estimated Costs

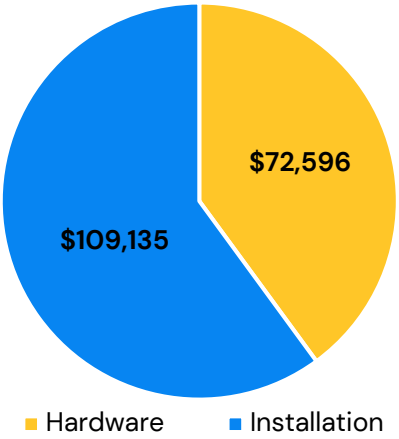


Table 8. Max V2P Ratio Scenario Infrastructure Results

Dwelling Location	Max V2P Ratio	Number of EVSE	Type of EVSE
Fire	1	1	Level 2 (19.2 kW)
Parks and Rec	2	1	Level 2 (19.2 kW)
Police	2	1	Level 2 (19.2 kW)
RDOT	2	2	Level 2 (19.2 kW)
VFS Motor Pooled	2	4	DCFC (25.0 kW)
Total		**9**	

First and Second Scenario Comparison

A comparative analysis of both scenarios reveals distinct advantages and considerations. While both scenarios present common recommendations for the Fire, Parks and Recreation, and Police departments, differences emerge with larger vehicle fleets, especially at the VFS Motor Pool. Additionally, peak load estimates suggest minimal impact from either scenario, with the optimized V2P scenario projecting a modest increase of 161 kW.

Table 9. Scenario Comparison

	1 to 1 V2P Ratio Scenario		Max V2P Ratio Scenario	
	# EVSE	Total Installation and Hardware Cost	# EVSE	Total Installation and Hardware Cost
Fire	1 (6.6 kW)	$5,769	1 (6.6 kW)	$5,769
Parks and Rec	1 (6.6 kW)	$5,769	1 (6.6 kW)	$5,769
Police	1 (9.6 kW)	$10,577	1 (9.6 kW)	$10,577
RDOT	3 (9.6 kW)	$31,731	2 (19.2 kW)	$38,462
VFS Motor Poole	7 (9.6 kW)	$74,038	4 (25 kW)	$121,154
Total	**13 (119 kW Peak Load)**	**$127,885**	**9 (161 kW peak load)**	**$181,731**

EVSE Planning Tool User Guide

As described earlier, the *Raleigh's EVSE Planning tool* was developed with the objective of streamlining the process for identifying the scope of infrastructure requirements and the financial implications of establishing EV charging capabilities. This section of the report serves as a user guide, intended to be referenced when navigating and utilizing the tool.

In general, the tool is organized into eight worksheets: "ReadMe," "User Inputs," "Fleet Summary," "Executive Summary," "1 to 1 V2P EVSE Results," "Max V2P EVSE Results," "Rollout Schedule & Costs," and "Battery Capacity." Importantly, the design ensures that a user only needs to interact with a single tab – the "User Inputs" tab – to input data, streamlining the data entry step. Users can navigate the tool by clicking on the tabs located at the bottom of the screen. Additionally, navigation buttons have been integrated into each sheet, guiding users through the analysis process and results overview in a logical sequence.

The tool offers a strategic framework through two carefully designed charging infrastructure scenarios, addressing the evolving needs of fleet EV charging infrastructure planning. The first scenario assumes a one-to-one V2P ratio, a common approach that guarantees a dedicated charging station for each EV. This method is widely recognized for its simplicity and reliability in ensuring that every vehicle is adequately charged and ready for use. However, advancements in fleet management, alongside improvements in charging software and hardware, have made the concept of sharing charging ports across multiple vehicles increasingly viable. This shift towards shared charging resources can potentially optimize fleet operations by enhancing the efficiency of charging infrastructure use.

The first scenario maintains the traditional one-to-one allocation, aligning with the needs of fleets that prioritize individual vehicle charging. In contrast, the second scenario introduces an optimized V2P ratio where feasible.

1. **Dedicated Charging Port Scenario (1:1 V2P)**: This approach allocates one charging port per EV, ensuring a direct match between vehicles and charging points. For example, a fleet of 100 vehicles would require an equivalent number of charging ports, achievable with either 100 single-port chargers or 50 dual-port chargers, depending on the available infrastructure and space considerations.
2. **Optimized V2P Charging Scenario (Max V2P)**: This scenario optimizes the utilization of charging ports by allowing multiple vehicles to share a single port. It calculates the most efficient vehicle-to-port ratio by analyzing the specific charging needs and frequency of each vehicle, based on their usage patterns and parking locations.

For the estimation of charging infrastructure deployment costs, our team utilized comprehensive insights gained from a detailed literature review conducted by ICF. This review included sourcing information from respected bodies such as the International Council on Clean Transportation (ICCT), National Renewable Energy Laboratory (NREL), Rocky Mountain Institute (RMI), Environmental Defense Fund (EDF), Department of Energy (DOE), and Electric Power Research Institute (EPRI). These sources have been instrumental in providing a well-rounded perspective on both the equipment expenses and the installation costs involved.

It is important for users to recognize that the cost estimates provided by our tool primarily focus on the charging equipment and its immediate installation requirements. These estimates do not encompass broader infrastructural modifications or upgrades, like those to the distribution network, which may be initiated by utility providers to support the deployment.

Tool Walkthrough

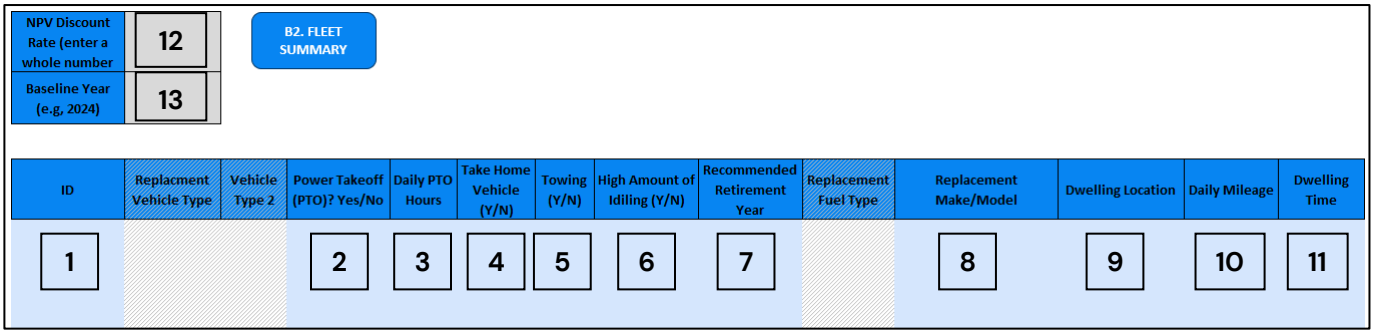
User Inputs Tab

The "User Inputs" tab serves as the central hub for entering vehicle data, which is essential for generating infrastructure analysis results. Figure 9 displays the "User Inputs" tab, highlighting all sections where user data or input is necessary. The list below details user input categories, corresponding to the numbered fields in Figure 9, along with their descriptions:

1. **Vehicle ID**: Assign a unique ID to each vehicle.
2. **Power Take-Off (PTO) Usage**: Indicate if the vehicle will utilize PTO. PTO allows the vehicle's engine to power auxiliary equipment such as refuse compactors, hydraulic lifts, or water pumps, adding versatility to public service vehicles.

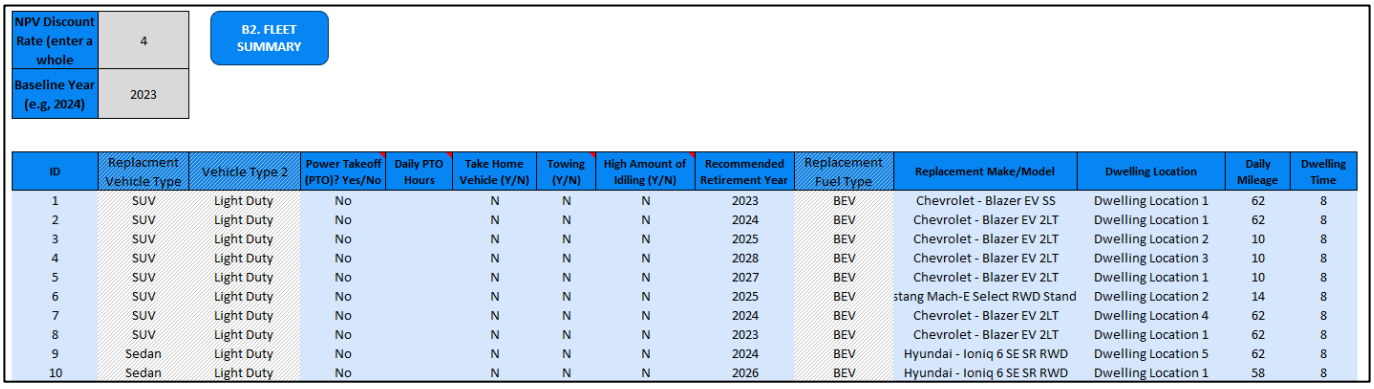
3. **PTO Usage Hours**: If PTO is used, specify the number of hours per day.
4. **Home Dwelling**: Will the vehicle be parked at the operator's residence overnight?
5. **Towing Operations**: Is the vehicle expected to perform towing tasks?
6. **High Idling**: Will the vehicle have significant daily idling times, such as a refuse truck?
7. **Replacement Year**: Specify the year the EV will replace the current vehicle.
8. **Replacement Make and Model**: Identify the make and model of the replacement EV. (Refer to the additional details provided below)
9. **Dwelling Location**: Where will the vehicle be parked between shifts?
10. **Daily Mileage**: Record the vehicle's average daily mileage.
11. **Dwell Time**: Note the duration the vehicle is parked between shifts.
12. **Discount Rate**: Input the discount rate for calculating the net present value of estimated costs.
13. **Baseline Year**: Enter the current year in which the analysis is being conducted.

Figure 9. User Inputs Tab



Below is a sample of 10 vehicles added to the User Inputs Tab, illustrating the process. This example is based on a mock data analysis conducted in 2023, establishing 2023 as the baseline year for this analysis.

Figure 10. Populated User Inputs Tab



ID	Replacment Vehicle Type	Vehicle Type 2	Power Takeoff (PTO)? Yes/No	Daily PTO Hours	Take Home Vehicle (Y/N)	Towing (Y/N)	High Amount of Idiling (Y/N)	Recommended Retirement Year	Replacement Fuel Type	Replacement Make/Model	Dwelling Location	Daily Mileage	Dwelling Time
1	SUV	Light Duty	No		N	N	N	2023	BEV	Chevrolet - Blazer EV SS	Dwelling Location 1	62	8
2	SUV	Light Duty	No		N	N	N	2024	BEV	Chevrolet - Blazer EV 2LT	Dwelling Location 1	62	8
3	SUV	Light Duty	No		N	N	N	2025	BEV	Chevrolet - Blazer EV 2LT	Dwelling Location 2	10	8
4	SUV	Light Duty	No		N	N	N	2028	BEV	Chevrolet - Blazer EV 2LT	Dwelling Location 3	10	8
5	SUV	Light Duty	No		N	N	N	2027	BEV	Chevrolet - Blazer EV 2LT	Dwelling Location 1	10	8
6	SUV	Light Duty	No		N	N	N	2025	BEV	stang Mach-E Select RWD Stand	Dwelling Location 2	14	8
7	SUV	Light Duty	No		N	N	N	2024	BEV	Chevrolet - Blazer EV 2LT	Dwelling Location 4	62	8
8	SUV	Light Duty	No		N	N	N	2023	BEV	Chevrolet - Blazer EV 2LT	Dwelling Location 1	62	8
9	Sedan	Light Duty	No		N	N	N	2024	BEV	Hyundai - Ioniq 6 SE SR RWD	Dwelling Location 5	62	8
10	Sedan	Light Duty	No		N	N	N	2026	BEV	Hyundai - Ioniq 6 SE SR RWD	Dwelling Location 1	58	8

Users should note that the functionality of the tool is significantly enhanced by its reliance on the battery capacity library, encompassing a wide array of EV models as of August 2023. This comprehensive database is critical for accurately determining the battery capacity of potential EV replacements, a cornerstone of the infrastructure calculation process. In instances where a desired vehicle does not appear in the "Replacement Make/Model" section within User Inputs, it is essential to manually input the vehicle's

specifications. This includes the make, model, battery size (in kWh), fuel type (BEV or PHEV), and vehicle type. **To add a vehicle to the library, users are instructed to navigate to row 2, insert a new row, and populate it with the relevant vehicle information.** This procedure ensures the tool can effectively support a broad spectrum of EV planning needs.

Fleet Summary Tab

After entering data in the User Inputs tab, the Fleet Summary Tab should be reviewed next. This tab serves as a key resource for verifying the accuracy of the 'User Inputs' vehicle information, including the count by vehicle type and dwelling location, as well as the total number of vehicles. Should discrepancies arise in the vehicle types or numbers listed in this tab, errors can typically be resolved by revisiting and correcting a data point in the 'User Inputs' tab. The figure below shows the table found in the Fleet Summary tab, exhibiting mock data, but illustrating how vehicle information is summarized.

Figure 11. Example of the Fleet Summary Tab

Number of EVs by Dwelling Location — C1. 1 to 1 V2P EVSE Results

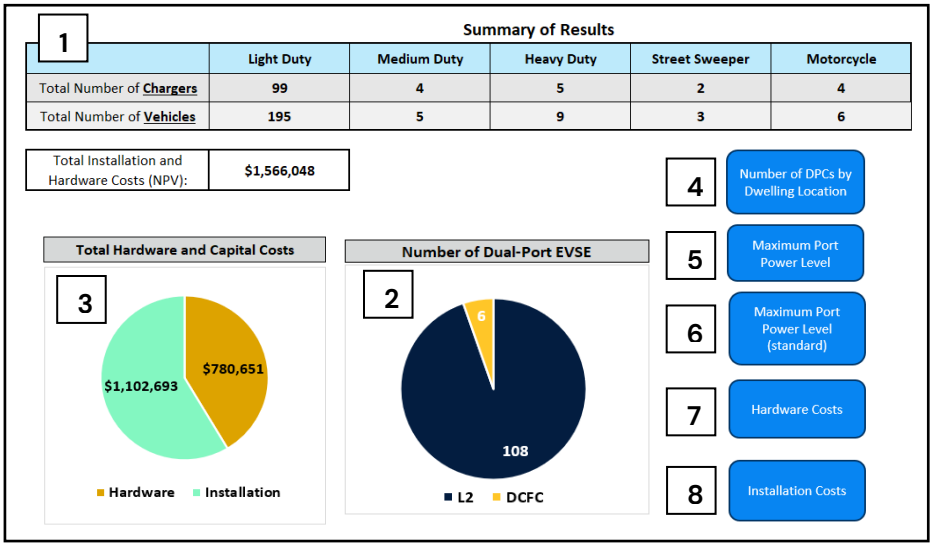
Dwell Location	Sedan	SUV	Light-Duty Pickup	Medium-Duty Pickup	Van - Cargo	Van - Passenger	Medium-Duty Vocational Truck	Bucket Truck	Street Sweeper	Heavy Truck - Straight Truck	Heavy Truck - Truck Tractor	Motorcycle	Total
Total (vehicle type)	6	72	110	0	7	0	3	2	3	9	0	6	218
Dwelling Location 1	2	37	45		2			1	3	6		4	100
Dwelling Location 2		13	23		1					2			39
Dwelling Location 3	1	5	12				1	1					20
Dwelling Location 4		7	10		2					1			20
Dwelling Location 5	1	5	11		1		1					1	20
Dwelling Location 6	2	5	9		1		1					1	19

Once a user is satisfied with the accuracy of the data for each vehicle in the fleet, they are encouraged to proceed to the '1 to 1 Vehicle to Charging Port Ratio Results' Tab to review the outcomes of the first scenario.

1 to 1 Vehicle to Charging Port Ratio Results Tab

This section presents the findings for the 1 to 1 V2P ratio scenario, organized as follows:

1. The "Summary of Results" table catalogs the total count pf charging stations by vehicle type, with an adjacent row specifying the number of vehicles for each type.
2. Below, the "Number of Dual-Port EVSE" chart enumerates the quantity and category of EVSE, differentiating between Level 2 chargers and DC Fast Chargers.[8]



[8] Note that the analysis does not consider the use of Level 1 (120V) charging stations, as they typically offer slower charging speeds that may not align with the operational demands and efficiency requirements of fleet vehicles.

3. The "Total Hardware and Capital Costs" chart provides a breakdown of the EVSE costs for this scenario, itemizing both the hardware and installation expenses.
4. Users can access a detailed breakdown via the "Number of DPCs by Dwelling Location" button, presenting the recommended number of EVSE by vehicle type and location.
5. The subsequent analysis on recommended power levels features two tables: the first lists the exact kilowattage required by vehicle type and dwelling location.
6. The second table aligns these requirements with standard power level models of EVSE available in the market, with assumed capacities at 6.6, 7.7, 9.6, 11, 15.4, 19.2, 25, 50, 100, 150, and 350 kW.
7. EVSE hardware costs are detailed in the penultimate table, focusing on the expenses associated with the recommended hardware.
8. The final table, "Cost of Installation of EVSE," outlines the installation costs, ensuring users have a holistic view of the financial aspects of deploying the suggested charging infrastructure.

Max V2P Ratio Results Tab

The "Max V2P Scenario" results tab mirrors the structure found in the first scenario's tab but introduces a unique element—the "Max V2P Port Ratio" table, accessible via a designated button. This distinctive table delineates the primary difference between the two scenarios. In the first scenario, this ratio would uniformly be 1 across all vehicles and locations, indicating a one-to-one vehicle-to-charging port allocation.

However, in the Max V2P scenario, the tool employs a sophisticated algorithm to analyze the daily operations of vehicles within the same type and location. It contrasts this operational data with each vehicle's dwell time and battery capacity. The goal is to strategically optimize the number of vehicles that can share a single charging port without compromising the individual duty cycles of the vehicles. In the example below, light-duty vehicles at Dwelling Location 3 increased the V2P ratio to 3. This adjustment means that each charging port can now accommodate 3 vehicles, and consequently, a dual-port EVSE can support up to 6 vehicles.

Figure 12. Example of the Max V2P Ratio Table

Dwell Location	Light Duty
Dwelling Location 1	1
Dwelling Location 2	1
Dwelling Location 3	3
Dwelling Location 4	1
Dwelling Location 5	1
Dwelling Location 6	1

Rollout Schedule & Costs Tab

This tab presents users with visual charts detailing the deployment schedule of EVSE across different dwelling locations and vehicle types, alongside annual cost breakdowns for hardware and installation. The trio of charts located on the left side of the tab corresponds to the first scenario (1 to 1 V2P), while the charts on the right side outline the rollout schedule for the second scenario (Max V2P).

Executive Summary

The Executive Summary tab, arguably the most informative, offers a comprehensive overview of the results. The initial table, "Number and Type of EVSE by Dwelling Location & Cost," juxtaposes the two scenarios, detailing the quantity and variety of EVSE per dwelling location alongside their associated costs. This comparison is instrumental in highlighting the distinctions and parallels between the scenarios.

The subsequent table, "Scenario Comparison: Number of Chargers by Dwelling Location and Vehicle Type," provides a further comparative analysis, focusing on the number of EVSE by vehicle type and location, as well as their power levels. A key insight to grasp from these comparisons is the relationship between vehicle daily demands and scenario outcomes. For vehicles with higher daily usage, the scenarios tend to converge more closely, reflecting similar infrastructure needs. Conversely, for vehicles with lesser daily mileage, the scenarios are likely to present more significant differences, underscoring the tailored approach of each scenario to specific fleet characteristics.

Figure 13. Image of Table. 1 Number and Type of EVSE by Dwelling Location & Cost

Dwelling Location	1:1 V2P Scenario			Max V2P Scenario		
	L2	DCFC	Cost (NPV)	L2	DCFC	Cost (NPV)
Dwelling Location 1	46	5	$1,020,542	46	5	$1,020,542
Dwelling Location 2	19	1	$327,087	19	1	$327,087
Dwelling Location 3	10		$96,971	1	3	$219,290
Dwelling Location 4	11		$147,447	11		$147,447
Dwelling Location 5	11		$146,013	11		$146,013
Dwelling Location 6	11		$145,284	11		$145,284

Figure 14. Image of Table 2. Scenario Comparison Number of Chargers by Dwelling Location and Vehicle Type

Dwelling Location	Light Duty 1:1 | Max # Chargers/EVSE Power Level	Medium Duty 1:1 | Max # Chargers/EVSE Power Level	Heavy Duty 1:1 | Max # Chargers/EVSE Power Level	Street Sweeper 1:1 | Max # Chargers/EVSE Power Level	Motorcycle 1:1 | Max # Chargers/EVSE Power Level
Dwelling Location 1	3/15.4 kW | 43/15.4 kW	1/6.6 kW | 1/6.6 kW	3/50 kW | 3/50 kW	2/100 kW | 2/100 kW	2/2 kW | 2/2 kW
Dwelling Location 2	9/15.4 kW | 19/15.4 kW		1/50 kW | 1/50 kW		
Dwelling Location 3	9/9.6 kW | 3/50 kW	1/15.4 kW | 1/15.4 kW			
Dwelling Location 4	0/15.4 kW | 10/15.4 kW		1/9.6 kW | 1/9.6 kW		
Dwelling Location 5	9/15.4 kW | 9/15.4 kW	1/11 kW | 1/11 kW			1/2 kW | 1/2 kW
Dwelling Location 6	9/15.4 kW | 9/15.4 kW	1/15.4 kW | 1/15.4 kW			1/2 kW | 1/2 kW

5. Conceptual Site Maps and Single Line Diagrams

To assist the city with the strategic deployment of its charging infrastructure at key sites, the ICF team crafted detailed conceptual engineering designs along with single-line diagrams for four City facilities. These are namely the VFS-COF facility at 2501 North Raleigh Blvd., the Transportation Field Services facility at 2550 Operations Way, the Marsh Creek Maintenance Facility at 4225 Daly Road, and the VFS-NERO at 7702 Burwell St. The conceptual designs and single-line diagrams for these facilities are presented in Figure 15 through Figure 18.

These designs were based on the assumption that each facility would accommodate a specified number of 11.5 kW chargers—53 at 2501 North Raleigh Blvd., 35 at 2550 Operations Way, 21 at 4225 Daly Road, and 18 at 7702 Burwell St. Leveraging the City utility bills as well as the electrical capacity analysis conducted as part of the Raleigh EV Infrastructure Report in 2021, the project team determined the necessary specifications for the electrical infrastructure. This includes estimated kVA loads for utility transformer evaluation, the number and sizes of the electrical panels, and the requirements for any step-down transformers.

The following utility transformers capacities are needed:

- 2501 N Raleigh Blvd has an existing 1000kVA transformer and is estimated to require 1077kVA
- 2550 Operation Way has an existing 150kVA transformer and is estimated to require 496kVA.
- 4225 Daly Rd has an existing 300kVA transformer and is estimated to require 355kVA
- 7702 Burwell St has an existing 300kVA transformer and is estimated to require 303kVA

While all estimated demand exceeds the transformer rated nameplate capacities it is important to note existing load is estimated at 125% of the highest values calculated and does not include any coincidence factors. Utilities often size existing transformers between 120-130% of the name plate capacity. Utilities also have access to exact meter data and can accurately determine peak transformer demand. Addresses 2501 N Raleigh Blvd, 4225 Daly Rd, and 7702 Burwell St all fall within 120% of the transformers name plate rating, meaning it is unlikely to need utility transformer upgrades. However, 2550 Operation Way will need an upgrade from a 150 KVA to a 500 KVA transformer to meet the projected needs. Keep in mind utilities create their own estimates for existing and new load, thus utility will have the final say in determining the utility transformer size.

The following step transformer capacities are also needed:

- 2501 N Raleigh Blvd will require one 300kVA 120/208 3P and one 400kVA 120/208V 3P step-down transformer.
- 2550 Operation Way will not require any step-down transformers.
- 4225 Daly Rd will not require any step-down transformers.
- 7702 Burwell St will require one 300kVA 120/208V 3P step-down transformer.

Additionally, the assessment revealed the necessity for secondary panels to feed the chargers at each of these facilities. The determined panel sizes needed to satisfy the charging demand are 208 V panels with the following amperages:

- 2501 N Raleigh Blvd will need one 800A and one 1000A panel.

- 2550 Operation Way will need one 600A and one 1000A panel.
- 4225 Daly Rd will need one 400A and one 600A panel.
- 7700 Burwell St will need one 800A panel.

Detailed information regarding the panel and transformer sizes for each facility can be found within the conceptual designs provided in the subsequent figures.

Figure 15. Single-Line Drawing: 2501 North Raleigh Blvd.

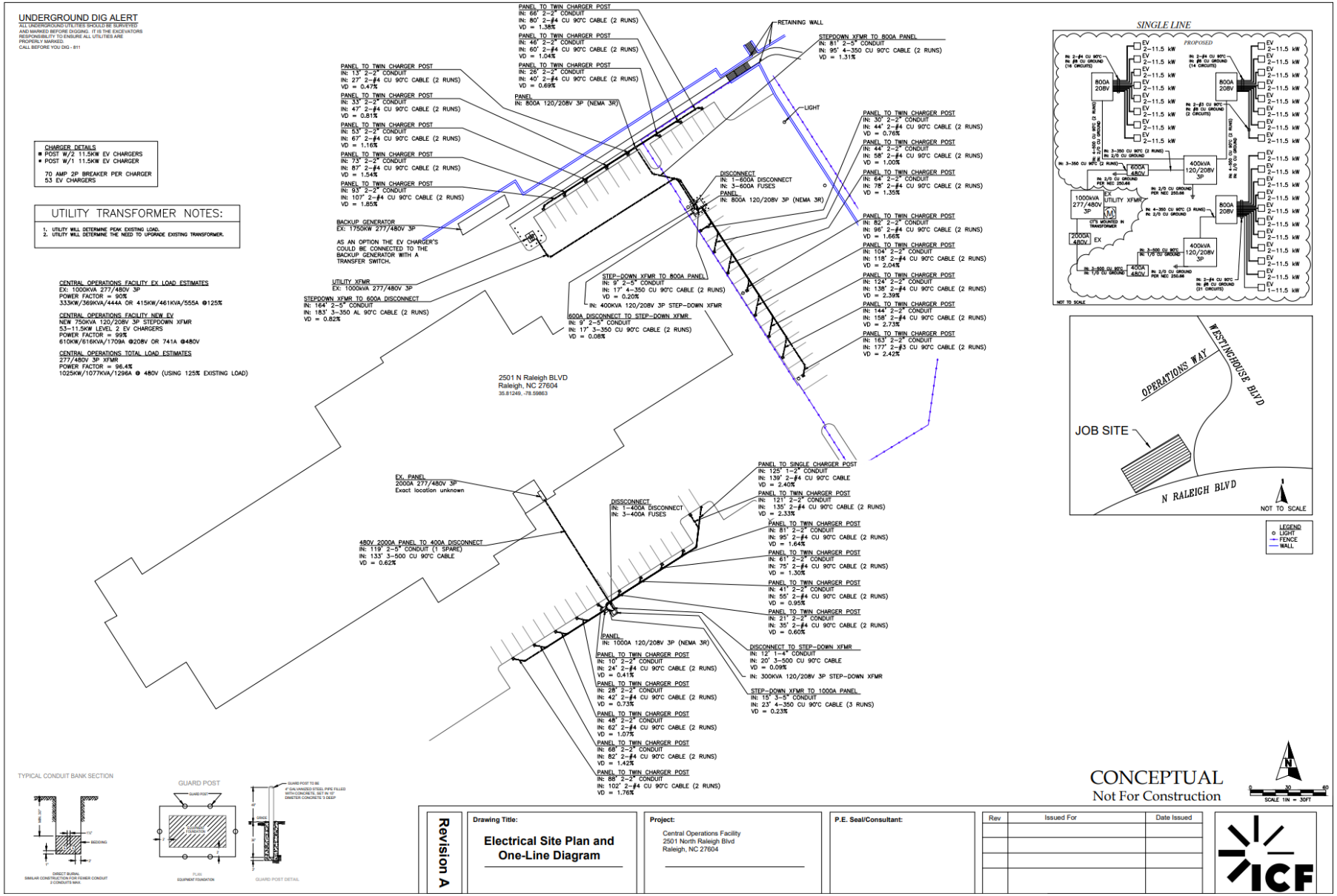


Figure 16.Single-Line Drawing: 550 Operations Way

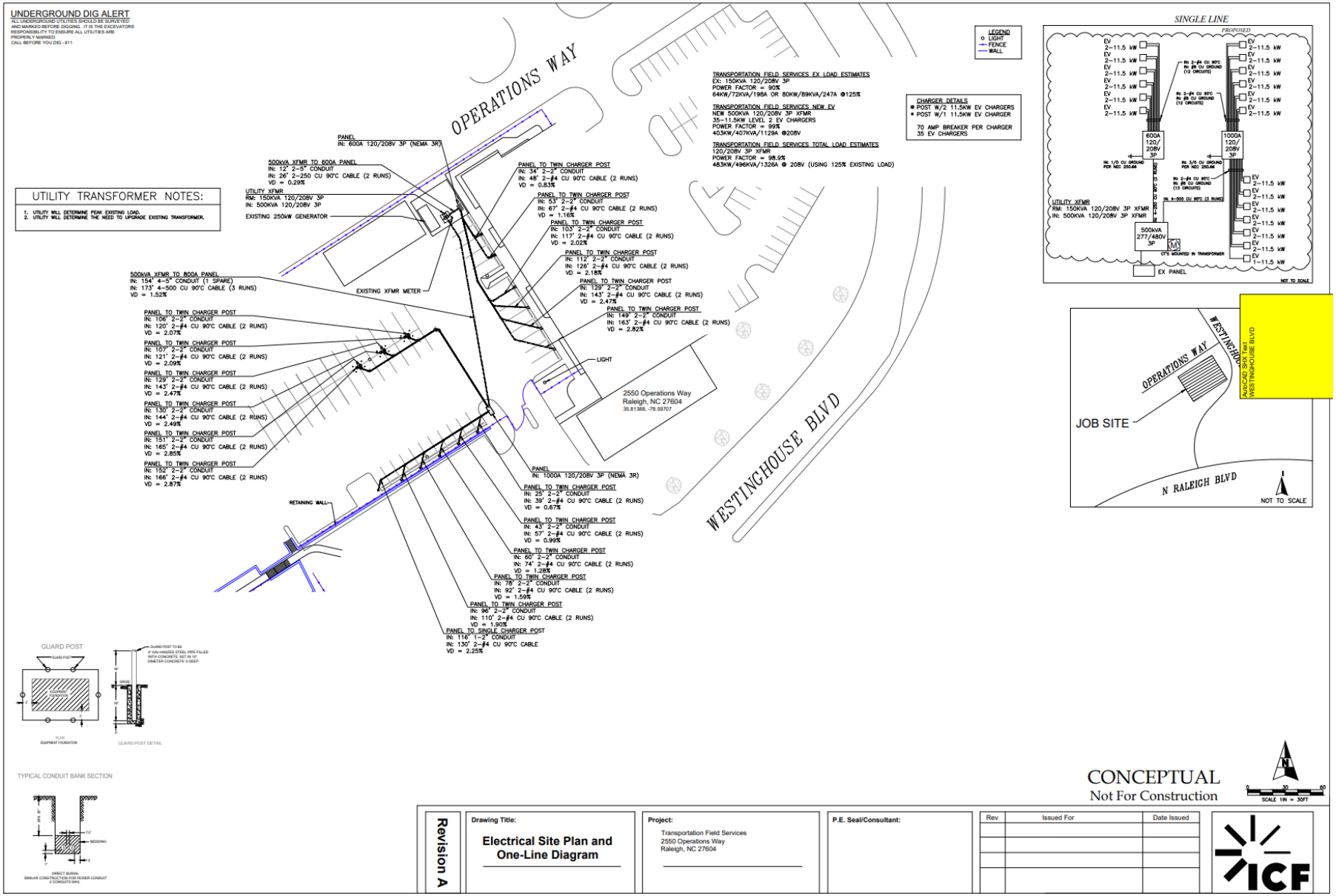


Figure 17. Single-Line Drawing: 4225 Daly Road Marsh Creek PRCR

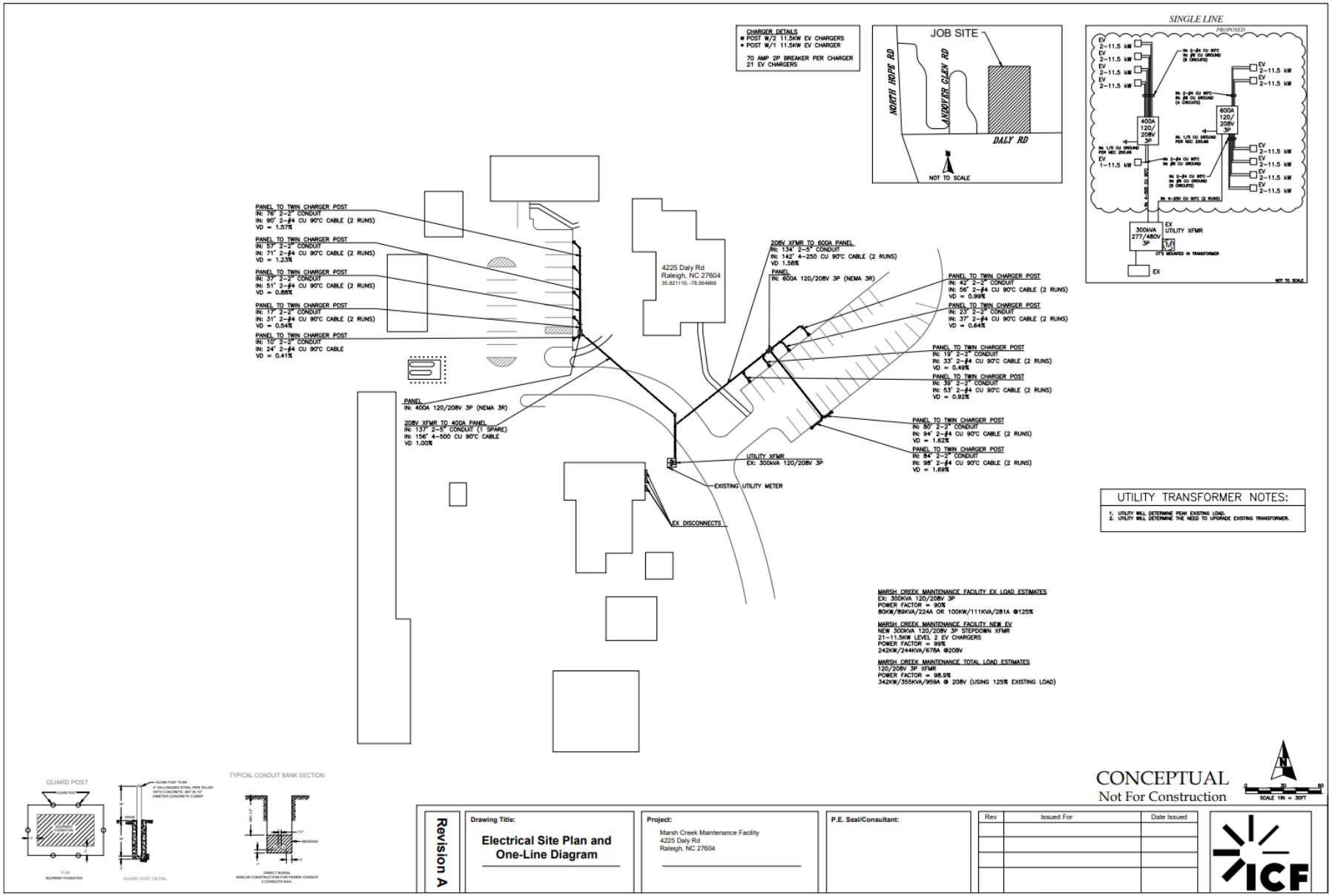
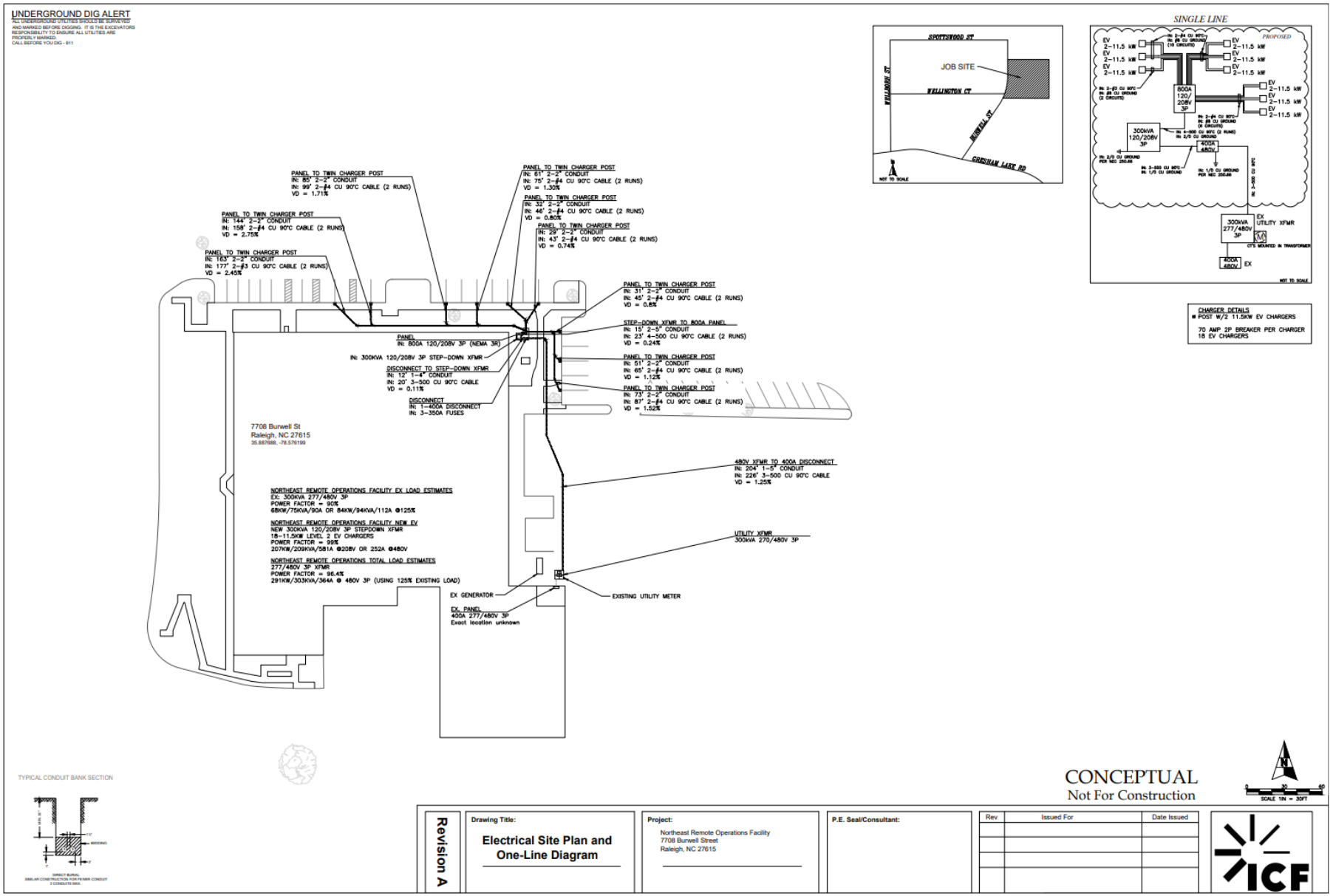


Figure 18. Single-Line Drawing: 7702 Burwell St.



6. Funding Programs

Transitioning to EVs is a substantial financial undertaking, primarily due to the higher upfront costs of EVs compared to ICE vehicles, as well as the additional expenses associated with deploying charging infrastructure. To facilitate this transition, various levels of government—federal, state, and local—as well as utility companies have established numerous rebate and incentive programs. These initiatives are designed to mitigate the costs associated with acquiring EVs and installing necessary infrastructure, thereby making the adoption of EVs more economically feasible. This section aims to detail the array of funding and financing programs available, providing the City with the knowledge to strategize effectively on how to leverage these funds to accelerate the transition to a cleaner, electric-powered fleet. Raleigh can take advantage of various funding opportunities to help offset the upfront costs and investments, while also benefitting from the longer-term cost savings and other benefits from transitioning to clean fuels and EVs.

To conduct this research, the team used the Alternative Fuels Data Center's (AFDC) Laws and Incentives Database[9], containing information on nearly 1,000 laws, incentives, and programs related to electric vehicles (EVs) and electric vehicle supply equipment (EVSE). This funding strategy outlines the various programs available for EV procurement and charging infrastructure deployment, including federal programs like the tax rebates and grants for EVs and charging infrastructure provided through the Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA). The overview also provides information on eligibility requirements, application procedures, and the possibility of stacking multiple funding sources. A summary of funding and financing options is available in Table 10, and stacking opportunities are summarized in Table 11.

The financing component outlines methods to minimize the expenses associated with transitioning to an EV fleet. This can be achieved through public-private partnerships (PPP), charging infrastructure-as-a-service, and low-interest loans. In a PPP, the public sector partners with a private company to jointly finance, build, and operate a project or service. This type of partnership can bring together the resources, expertise, and incentives of both the public and private sectors to achieve a common goal. In the context of charging infrastructure deployment, a PPP can be used to finance the installation and maintenance of charging stations. The private partner could be an infrastructure provider, such as an energy company, a charging network operator, or a private equity firm. Under a PPP arrangement, the private partner could provide the financing for the charging infrastructure in exchange for a long-term contract with the public sector to operate and maintain the charging stations. This would provide the private partner with a steady revenue stream, while also enabling the public sector to benefit from increased access to charging infrastructure.

With respect to Charging Infrastructure-as-a-Service (ClaaS), a provider offers charging infrastructure for EVs on a subscription or pay-per-use basis. This model enables customers, such as fleet operators and commercial property owners, to access charging stations without having to invest in and maintain their own physical charging infrastructure. In a ClaaS model, the provider is responsible for the installation, operation, and maintenance of the charging stations, which can range from simple Level 2 charging to fast-charging stations. Customers pay for the charging services they use, typically based on the amount of energy consumed or the length of time spent charging. By providing access to charging stations, the ClaaS

[9] https://afdc.energy.gov/laws

model enables fleet operators to transition to electric fleets without having to make significant upfront investments. The choice between these business models, as well as the loan financing options, will depend on the specific characteristics of the fleet. This section considers the pros and cons of each option and evaluates which one would be most suitable for the circumstances.

Table 10. Summary of funding and financing programs

Program	Type	Eligibility	Funding Availability
IRA Commercial Clean Vehicle Credits	Federal tax credit	Individuals, businesses, and tax-exempt organizations	Up to $7,500 for light-duty ZEVs Up to $40,000 for medium- and heavy-duty ZEVs
IRA Alternative Fuel Infrastructure Tax Credit	Federal tax credit	Individuals and businesses	30% of the cost or 6% in the case of property subject to depreciation, not to exceed $100,000
BIL Charging & Fueling Infrastructure (CFI) Discretionary Grants	Federal grant program	states, local governments, MPOs, special purpose districts, Indian Tribes, U.S. territories, and authorities or entities associated with transportation functions	Minimum award amount of $500,000, and maximum award amount of $15 million.
DERA	Federal grant program	Regional, state, local or tribal agencies/consortia or port authorities with jurisdiction over transportation or air quality	Up to 45% of EV and EVSE costs, must replace a diesel vehicle with 7,000+ annual miles
Low-No	Federal grant program	City/municipality, transit authority, recipients of FTA grants	Up to 85% of BEV transit buses and related equipment
Clean School Bus Program	Federal grant program	City/municipality, nonprofit school transportation associations	Up to $190,000 vehicle funding per replaced school bus. Up to $13,000 infrastructure funding per replaced bus
CMAQ Program	State grant program	Public and private organizations	Up to 50 percent of identified funds
CFAT Project	State grant program	City/municipality, transit authority	In 2022: Min per project: $5,000 Max per project: $300,000
PPP	Joint financing	Public and private organizations	Varies
Sourcewell	Purchasing contracts	Individuals, businesses, and tax-exempt organizations	EV lease- to -purchase pathways
ClaaS	EV charger revenue	Individuals and businesses	Varies by electric utility rates

To take advantage of opportunities such as the federal IRA commercial clean vehicle credits, the City will need to establish processes for tracking and applying for opportunities. Incentives can have stringent requirements that require upfront planning, attention to deadlines and alignment with City processes. Several departments such as Engineering Services (especially the Vehicle Fleet Services division), partnering departments who will benefit from grants to install infrastructure and transition vehicles, the Office of Sustainability, and Finance will need to collaborate to identify funding opportunities and apply for credits when relevant. The city also will need to plan for grant matching and other EV funding needs, beginning in FY26.

Stacking Opportunities

Aside from each incentive program providing funding to facilitate the transition to clean vehicle technologies, to the extent possible, fleets may want to stack up and combine multiple funding sources to reduce the cost of transition. Examples include using one grant to fund vehicles and another to fund charging infrastructure, using a state grant to meet the match requirements of a federal grant, or stacking non-utility funding with participation in a utility program. It should be noted that despite the incentive programs having their own unique eligibility criteria, these programs often provide stacking opportunities. To clarify this, Table 11 shows the stacking opportunities across various funding sources described in this report. Each cell in the table shows whether the two funding programs (the one representing the row and the one representing the column) can be stacked or not. In cases where one funding program only pays for infrastructure and the other program only pays for vehicles, they are marked as "No".

Table 11. Stacking Opportunities across various programs

Program	IRA	CFI	Alt. Fuel Infrastructure Tax Credit	CMAQ Program	DERA	Low-No	Clean Bus School Program	CFAT Project
IRA	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CFI	Yes	N/A	Yes	No	No	No	No	Yes
Alternative Fuel Infrastructure Tax Credit	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes
CMAQ	Yes	No	Yes	N/A	No	No	Yes	Yes
DERA	Yes	No	Yes	No	N/A	No	No	Yes
Low-No	Yes	No	Yes	No	No	N/A	No	Yes
Clean Bus School Program	Yes	No	Yes	Yes	No	No	N/A	Yes
CFAT Project	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A

Recommendations

To guide the City in leveraging funding and programs that offer the most significant financial advantage for their fleet electrification efforts, this section provides a curated selection of funding and financing options. It highlights the most accessible federal and state programs that align with the City's qualifications and electrification goals. These programs offer substantial support, ranging from substantial tens to hundreds of thousands of dollars, though it is essential to consider that some might necessitate matching funds and have specific compliance criteria. Variability in funding is also influenced by vehicle specifications and the power requirements of charging infrastructure. For the City to effectively capitalize on these opportunities as it progresses with fleet electrification, it is recommended to follow the strategic insights and in-depth details provided in Appendix B.

The following funding strategy for EVs combines different incentives for maximum financial support:

1. Federal programs (*indicates non-stackable)
    a. Charging and Fueling Infrastructure (CFI) Discretionary Grant

The Charging and Fueling Infrastructure (CFI) Program, established under the Bipartisan Infrastructure Law, with a total funding of $2.5 billion from FY 2022 to 2026, is a competitive grant initiative aimed at deploying publicly accessible electric vehicle charging and alternative fueling infrastructure along designated

alternative fuel corridors. A key aspect of the program is that at least 50% of the funding is allocated to a community grant program that prioritizes expanding access to this infrastructure in rural areas, low- and moderate-income neighborhoods, and communities with a low ratio of private parking spaces. Eligible projects include the acquisition and installation of publicly accessible EV charging or alternative fueling infrastructure, operating assistance for the first five years post-installation, and the installation of traffic control devices. Eligible entities include state or local governments, metropolitan planning organizations (MPOs), special purpose districts with a transportation function, Indian Tribes, and U.S. territories. As of August 30, 2024, the program has awarded a total of $1.144 billion in grants to 98 applicants across two rounds.

   b. Diesel Emissions Reduction Act (DERA)
   c. Inflation Reduction Act
   d. Low-No Emission Vehicle

2. State programs

   a. Clean Fuel Advanced Technology (CFAT) Project
   b. Congestion Mitigation and Air Quality (CMAQ) Improvement Program

3. Financing for leased or owned fleet vehicles, through options such as:

   a. Public-Private Partnerships
   b. Purchasing Contracts from Sourcewell
   c. Charging Infrastructure-as-a-service

First, consider the funding potential from federal programs. The funding potential of federal programs is significant, ranging between thousands and hundreds of thousands of dollars for eligible zero emission vehicles. However, funding provided by one federal program typically cannot be stacked with funding from another federal program. Pursuing any of the three primary federal programs suggested here—DERA, IRA, Low-No—would require that the City obtain non-federal dollar matching funds, which range between 15 through 45 percent. The funds would need to be available from other sources, which can either be the applicant's own matching funds or funds from other local and state grants.

Since IRA funds can be stacked with the other two federal programs, the decision for which programs to apply for are based between a) a DERA-backed approach and b) a Low-No-backed approach. Deciding which funding strategy to pursue, with either DERA or Low-No as primary federal programs, can be narrowed down based on the City's preferred vehicle adoption scenario. For example, DERA offers funding for most medium- and heavy-duty vehicle classes and supporting infrastructure. DERA's maximum base amount of funding for vehicles between Class 5 through 8 is 45 percent of EV and EVSE costs. One caveat with DERA is the scrappage requirement based on mileage, which can potentially disrupt operations for the fleet. According to the Fleet Transition Assessment, DERA offers the most federal funds for fleet electrification based on the makeup and retirement schedule of the fleet. It is anticipated that the fleet could be eligible for up to $180,259 in DERA funds for at least 5 vehicles identified as potentially eligible. This value may be higher if proposed legislation reauthorizes funding through 2029.

Direct payments are available specifically for the Commercial Clean Vehicle Credit and Alternative Fuel Infrastructure programs within IRA. Based on the Fleet Transition Assessment, it is anticipated that the fleet could be eligible for up to $11.3 million in Commercial Clean Vehicle tax credits for the 836 vehicles

identified as potentially eligible. This value is subject to total funding capping, which the IRS has not yet released details regarding. As with vehicle procurement, the IRA (through the Alternative Fuel Refueling Property Credit) is another funding option available to reduce overall charging infrastructure project costs, provided that the site meets the environmental justice requirements established by the program.

Assuming the City opts for one of the three primary federal funding programs, the subsequent potential source of funds could be from state-oriented programs, such as CFAT and CMAQ. It should be noted that neither CFAT nor CMAQ funds have been allocated to the Fleet Transition Assessment. Regarding CMAQ, the city has the option to apply for funding of zero emission vehicles and infrastructure, provided it can demonstrate emission reductions benefiting a nonattainment area. It is anticipated that such state-apportioned funding would be utilized after the discount provided by the federal program of choice. Any outstanding balance on the vehicle purchase would then need to be covered either directly by the city or through a financing arrangement, such as a loan or bond program.

This funding and financing analysis has estimated that $13.3 million ($11.4 million in NPV) in grants and incentives may be available over the next ten years to defray the capital costs of the fleet transition. These funds include the following:

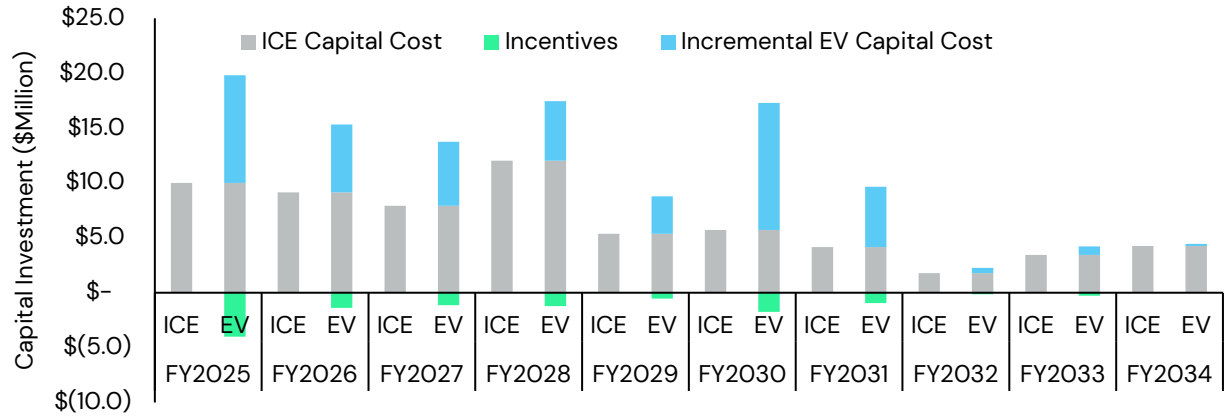
a. $2 million from DERA. These funds are available for application now.
b. $11.3 million from IRA funds. These funds will be available for application by the end of 2023.

Once incentives and grants are applied, the city will require $101 million in NPV funding for the capital costs (for both vehicles as well as charging infrastructure). This analysis estimates that $63.8 million will be funded through the same budgeting process that would be used if the City were replacing its vehicles with internal combustion engine vehicles. That leaves $37.8 million in additional funding needed for the higher cost of EVs, the cost of charging equipment, and the costs to install the charging equipment. There are a variety of options to address this $37.8 million funding need, including, but not limited to the following: increased taxes, low-interest debt, shifting funding from other programs, or lease arrangements.

The following graphs illustrate the capital costs, operational costs and net financial benefits of Raleigh's Fleet Transition Assessment year over year between FY2025 and FY2034.

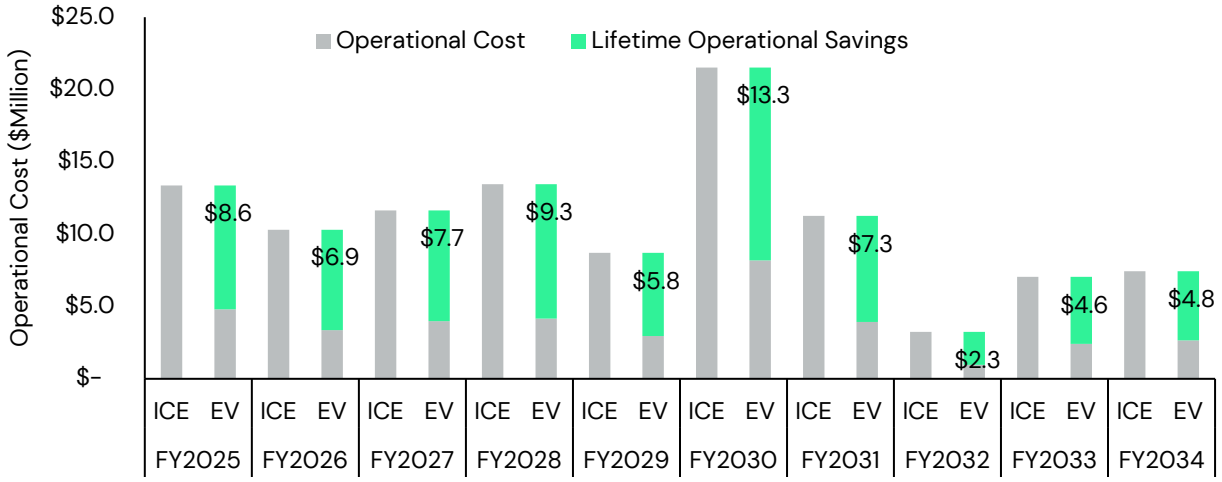
For example, Figure 19 illustrates that despite the availability of incentives in earlier years between FY2025 through FY2031 there is a significant incremental EV capital costs that the city should pay for purchasing EVs.

Figure 19. Comparative NPV Capital Costs



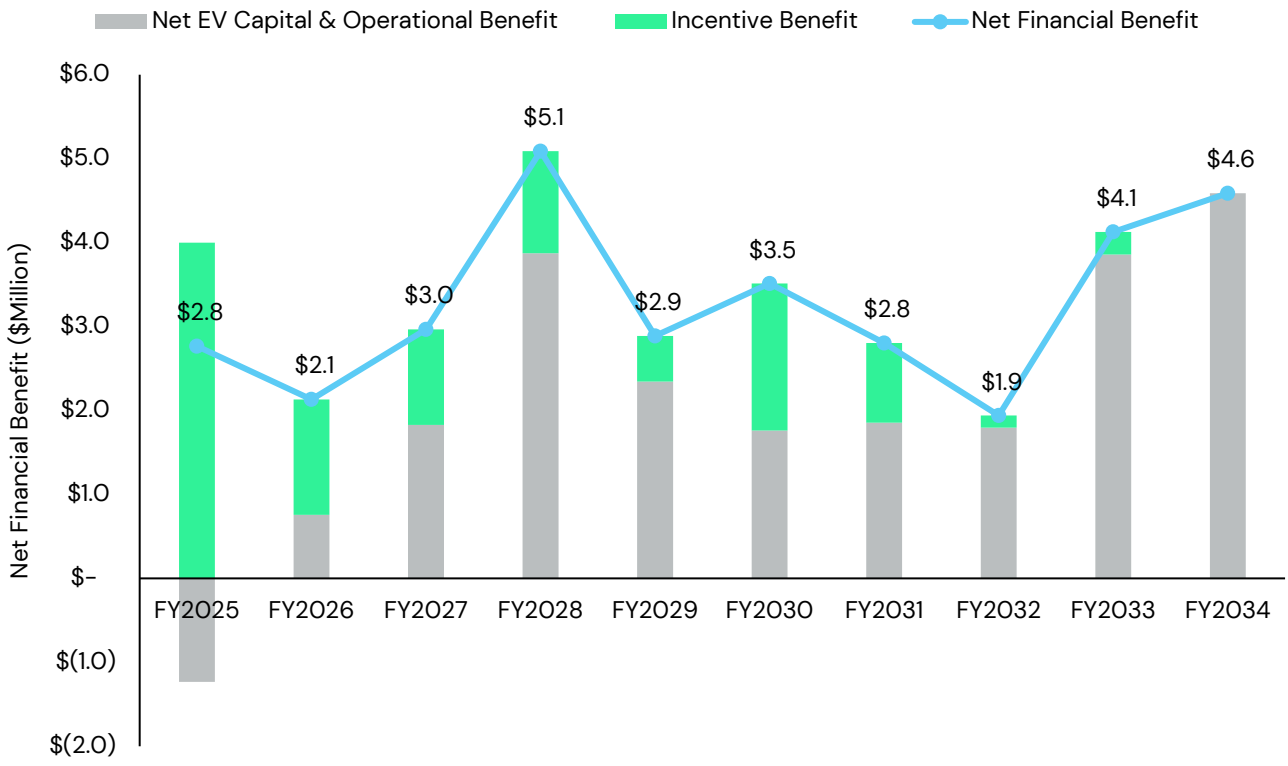
Despite such higher capital costs, Figure 20 illustrates that by transitioning to EVs, the City will incur significant savings through reduced fuel and maintenance costs.

Figure 20. Comparative NPV Lifetime Operational Costs by Vehicle Purchase Year[10]



As illustrated in Figure 21 when combining the incremental capital cost of EVs, available incentives from federal and state programs, and operational savings, the City can expect to realize annual savings of anywhere from $1.9 million to $5.1 million for each year between FY2025 and FY2034.

Figure 21. Net Present Value Lifetime Financial Benefit by Year of Vehicle Purchase



[10] Operational cost values represent the fuel and maintenance costs over the lifetime of the vehicles replaced each year from FY2025 through FY2034.

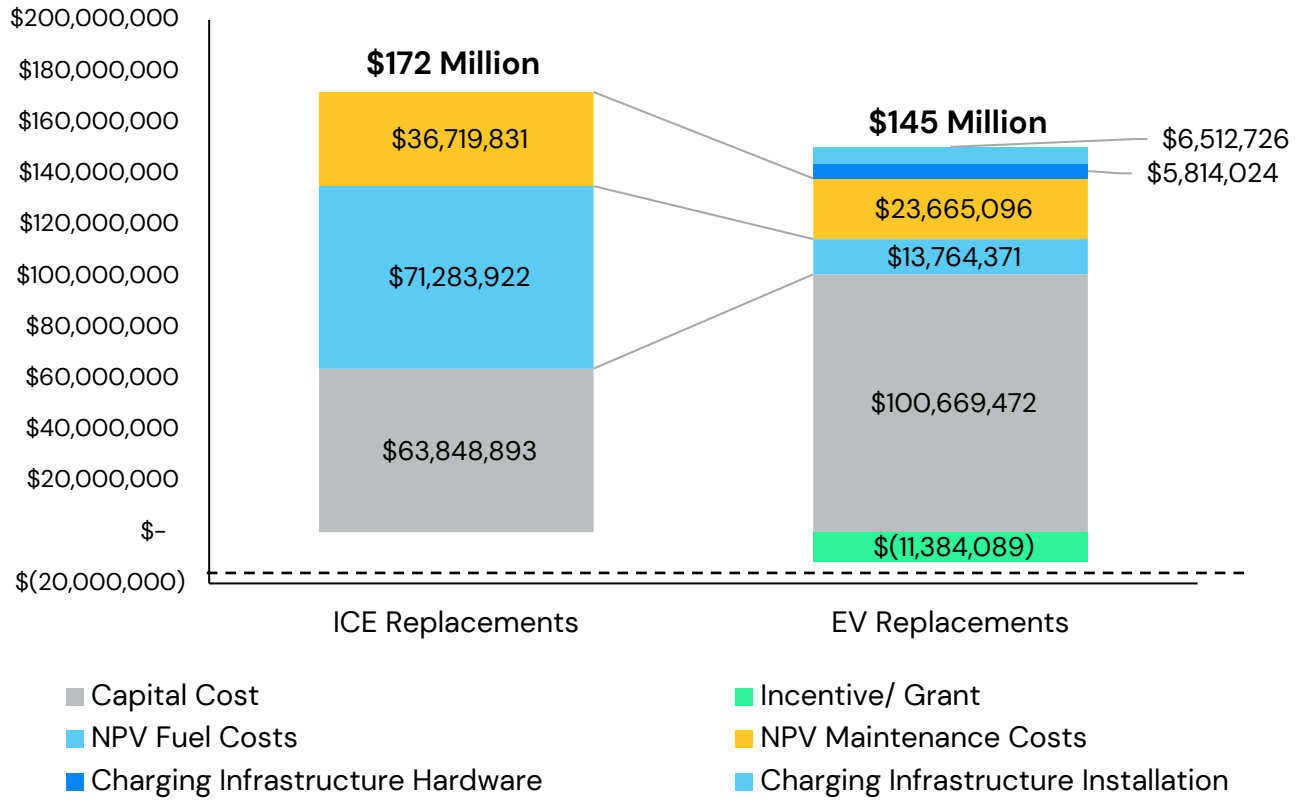
7. Projected Costs & Benefit & Other Barriers to Fleet Conversion

Cost of Fleet Electrification

As part of the analysis, the project team estimated the costs of replacing the City's existing vehicles under two scenarios: a business-as-usual (BAU) scenario in which existing vehicles are replaced with the same ICE vehicles as before, and the recommended EV replacements scenario in which existing vehicles are replaced with the EVs recommended per Section 2: Fleet Transition Assessment. Figure 22 below shows a comparison of the total estimated costs for each scenario, shown in terms of net present value. The TCO used in this assessment includes, as applicable, the following cost components:

- Capital costs
- Charging infrastructure hardware costs
- Charging infrastructure installation costs
- Annual fuel costs
- Annual maintenance costs
- Potential EV or EVSE incentives or grants

Figure 22. Comparison of Net Present Value TCO Across All Vehicle Replacement Lifetimes (over the lifetime of vehicles which expand from 2025 through 2048) [11]



[11] The TCO analysis presented in this report focuses exclusively on the cost of ownership for the vehicles being replaced. The first vehicle is scheduled for replacement in FY2025, and with an expected lifetime of 14 years, its cost of ownership extends from 2025 to 2039. The last vehicle is anticipated to be replaced in 2035, with its cost of ownership calculated from 2035 to 2048. Consequently, the TCO spans a period of 24 years, from 2025 to 2048.

Collectively, the recommended EV replacements are estimated to cost $33 million less than BAU ICE replacements across all vehicle lifetimes for one round of replacement, including charging infrastructure and incentives. While the capital cost of EV replacements is estimated to be $37 million greater than the cost of procuring ICE replacements, the City's fuel and maintenance costs (combined) is estimated to generate more than $70 million in savings over the TCO timeframe. This initial draft analysis estimates preliminarily that EV charger hardware and installation costs may be approximately $12 million. Also, according to our assessment of quantifiable EV incentive programs, the city could receive a total of $11.4 million in incentives.

The table below shows the incremental cost of the EV replacement scenario compared to the BAU ICE replacement scenario on a vehicle type-by-vehicle type basis. Values shown in red text indicate that the recommended EV replacement scenario costs more than the BAU ICE replacement scenario while black text indicates a savings from the recommended EV replacement scenario. For example, it is estimated that Refuse Truck replacements will cost $708,982 more in lifetime costs under the recommended EV replacement scenario than in the BAU ICE replacement scenario.

Table 12. Estimated Cost to Transition to Recommended EVs Compared to BAU ICE Replacements[12,13]

Vehicle Types	QTY	NPV Capital Cost	NPV Fuel Cost	NPV Maintenance Costs	NPV Charging Infrastructure Hardware	NPV Charging Infrastructure Installation	NPV Incentive/ Grant	Incremental Cost to Convert
Sedan	257	$2,298,956	$1,460,980	$449,608	$(644,252)	$(750,862)	$86,513	$2,900,944
SUV	685	$(2,617,675)	$9,170,400	$1,368,866	$(1,861,803)	$(2,069,163)	$2,341,989	$6,332,614
Minivan	14	$82,379	$220,032	$22,018	$(66,488)	$(64,593)	$2,966	$196,314
Light-Duty Pickup	497	$518,117	$12,069,961	$1,804,110	$(1,220,817)	$(1,528,170)	$35,255	$11,678,457
Medium-Duty Pickup	9	$(217,000)	$448,676	$86,833	$(17,278)	$(24,189)	$38,223	$315,265
Van	65	$83,378	$581,163	$144,591	$(133,219)	$(181,754)	$120,294	$614,452
Medium-Duty Vocational Truck	124	$391,978	$3,626,046	$1,195,422	$(240,906)	$(334,193)	$117,308	$4,755,655
Box Truck	2	$(100,479)	$41,156	$3,970	$(3,960)	$(5,544)	$36,281	($28,575)
Street Sweeper	12	$(2,837,594)	$576,406	$266,253	$(31,664)	$(30,912)	$304,166	($1,753,345)
Refuse Truck	124	$(28,681,148)	$18,851,177	$5,479,433	$(1,141,987)	$(930,087)	$5,713,630	($708,982)
Shuttle Bus	14	$(36,461)	$142,421	$118,519	$(28,432)	$(39,804)	$46,987	$203,230
School Bus	7	$(903,466)	$82,953	$33,767	$(14,173)	$(19,842)	$158,048	($662,713)
Heavy Truck	194	$(5,097,878)	$10,193,982	$2,080,525	$(375,382)	$(502,994)	$2,382,429	$8,680,683
Motorcycle	10	$296,313	$54,197	$819	$(33,663)	$(30,620)	$0	$287,046
Total	**2,014**	**$(36,820,579)**	**$57,519,551**	**$13,054,735**	**$(5,814,024)**	**$(6,512,726)**	**$11,384,089**	**$32,811,046**

Figure 23 shows the estimated total cost of ownership (TCO) for all 2,014 recommended vehicle replacements on an annual basis, and like the previous charts it also compares the ICE replacement and

[12] Green text boxes reflect fleet savings (e.g., recommended EV replacements cost less than ICE replacements) and red text boxes indicate costs (e.g., recommended EV replacements cost more than ICE replacements).
[13] A discount rate of 5% was used to estimate the net present value (NPV) of future cash flows.

recommended EV replacement scenarios. The estimated maximum annual cost for recommended EV replacements is estimated to be approximately $25 million, but the annual cost is estimated to decrease to $4 million by FY2035 and decrease through FY2048. Further, Figure 24 shows the estimated annual fuel and maintenance cost for vehicle replacements under each scenario, and it indicates that the recommended EVs are estimated to incur significantly less fuel and maintenance costs each year.

Figure 23. Fleet Recommended Replacements TCO Comparison – Annual

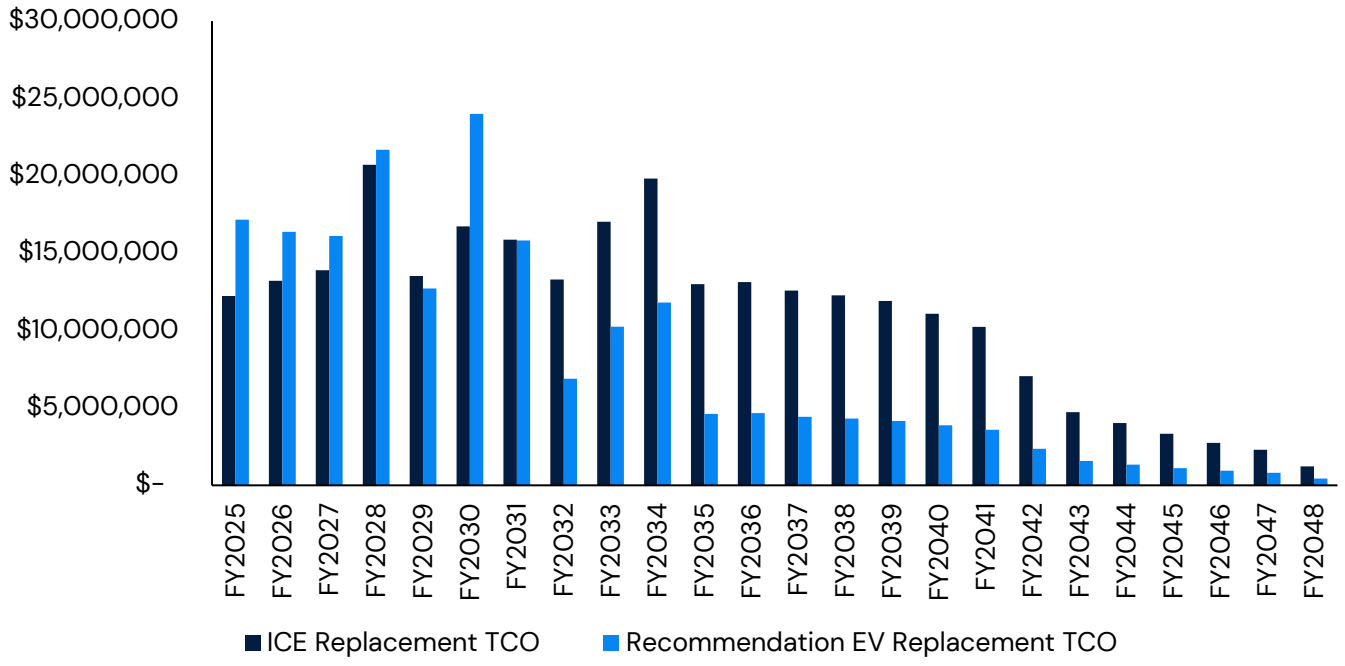
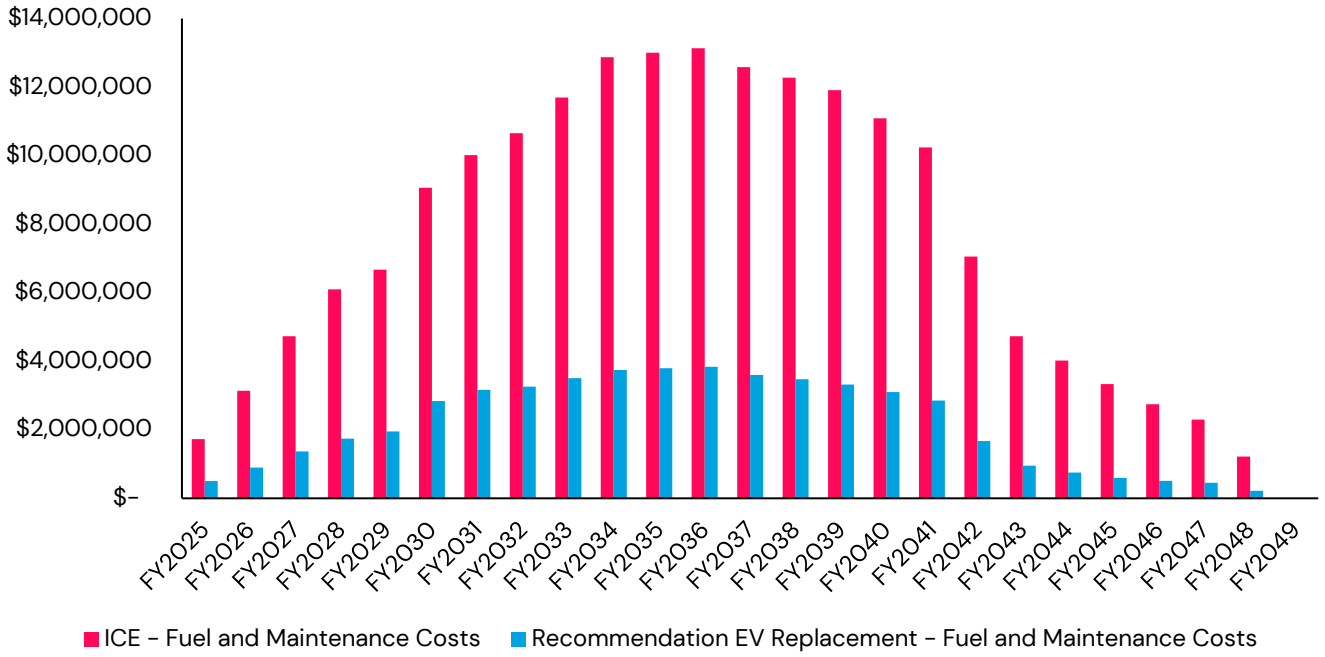


Figure 24. Fleet Recommended Replacement TCO Comparison – Annual Fuel and Maintenance Costs



Barriers to Transition and Proposed Solutions

Transitioning the City's large fleet to electric and clean alternative fuels involves a multifaceted approach that requires careful planning, partnership, and leadership. Despite the numerous opportunities that transitioning to EVs brings to the city, several challenges exist. These include the higher upfront cost of EVs compared to ICE vehicles, the limited availability of EV models, potential production capacity constraints, a constantly evolving distribution network, and the need for extensive charging infrastructure development. Moreover, factors such as range anxiety, reliance on the power grid, space constraints for charging, and workforce training for EV and EVSE maintenance could pose challenges in the transition process. This section explores these challenges in greater detail and provides a path towards both addressing these barriers and taking advantage of opportunities.

Technology Availability & Procurement Challenges

One of the most significant procurement challenges associated with fleet electrification is the limited availability of vehicles and charging infrastructure at hand or ready to deploy. On the vehicle side, although the number of EV models on the market is increasing, the selection remains limited compared to ICE vehicles. This can pose challenges for cities trying to find the right type of EV to meet specific needs and requirements for various municipal services. Furthermore, EV manufacturers may encounter limited production capacity, potentially leading to longer delivery times for cities purchasing EVs for their fleets. The COVID-19 pandemic has underscored the vulnerability of global supply chains, with disruptions in parts and components supply impacting EV production. Despite the availability of EV technologies, the distribution network is still evolving. In some regions, dealership networks might be limited, making it more difficult for cities to access and purchase EVs for their fleets. Ultimately, these issues could affect the pace of fleet electrification.

Regarding infrastructure, the manufacturing of specialty equipment, like transformers to provide power for EV charging, can involve long lead-times, potentially delaying planned vehicle or charger purchases. This is because, without the added load capacity, the grid might be unable to accommodate the increased power demand. Coordination with suppliers and contractors to identify areas where site readiness can be expedited will be critical for seamless EV charger installations.

Best Practice

Technology Availability & Procurement Challenges

Best practices include transitioning vehicles to clean fuel technologies, such as renewable natural gas or renewable diesel, and using other low-carbon fuels when EV technology is not yet feasible. This also involves piloting new technologies as they become available to assess their feasibility for City operations, leveraging grants and incentives to trial new technology solutions, and proactively ordering available EV models amid supply chain challenges. Additionally, strategically partnering with manufacturers and industry partners to plan for necessary parts and components is crucial. Refer to Section 6 for more information regarding available funding programs that could help establishing pilot programs.

It is noteworthy to mention that the City of Raleigh is actively utilizing a range of alternative fuels in its fleet vehicles, including Compressed Natural Gas (CNG), Renewable Propane, and R99 renewable diesel. In addition to these, the city also employs E85 ethanol and B20 biodiesel.

Infrastructure Buildout Challenges

As the City moves towards expanding its fleet of EVs, it must proactively anticipate and address the challenges associated with installing sufficient charging stations to support its goals. Deploying charging infrastructure in a strategic and planned manner can help address these challenges more effectively. One of the challenges the city may encounter is the limitation of the electric grid and constraints in site electrical infrastructure. This necessitates a thorough review of the distribution network by utility representatives to determine whether upgrades are required or recommended. Interconnection challenges may vary based on the location, number, and schedule of charging stations, as well as charging speed. There is another potential challenge that may arise during the transition to an all-electric fleet, which is related to site constraints. EV charging infrastructure typically requires dedicated parking spaces for charging, potentially affecting the availability of parking for other vehicles. This can be particularly challenging in areas where parking is already limited.

Moreover, EVs rely on electricity, and disruptions to the power grid can impact the City's ability to charge its vehicles. This is particularly challenging during extreme weather events that cause widespread power outages. Most EV charging stations lack backup power sources, which can impact the ability of the city to keep its EV fleets charged and operational during emergencies. Additional costs could potentially be incurred as it relates to back-up generation sources and fuel to operate said equipment.

Best Practice

Infrastructure Buildout Challenges

Best practices include considering a "Park and Ride" model, for which the City is already developing a strategy. This model allows the City to select strategic locations where fleet vehicles can "fill up" similar to diesel or traditional gas vehicles, with capacity for parking and charging in the evenings. This strategy enables strategic planning and partnerships with utilities on electrical capacity for various charging needs, including DC fast charging for daytime "topping off" and Level 2 charging for overnight recharging. Additionally, this approach benefits the local community by creating opportunities for public-private partnerships and providing charging solutions for private businesses, multi-family residents with limited at-home charging options, commuters, and other residents who can use the charging stations when not in use by the City fleet. Refer to Section 3 for more details. See the Best Practice section below on solutions to charge EV's with back up power options when needed.

Emergency Response Vehicles

Transitioning emergency response vehicles to EVs– such as police patrol vehicles and specific vehicles that are utilized for response in a prolonged emergency with power outages – presents a unique set of challenges. One concern is ensuring that EVs can meet the rigorous performance and reliability standards required for emergency response, including high-speed acceleration, extended driving range, and the ability to handle diverse driving conditions. Additionally, these vehicles must be able to support the power demands of specialized equipment, such as communication systems, emergency lights, and other life-saving tools, without significantly reducing their driving range. Another challenge lies in the availability and deployment of charging infrastructure that can provide fast and reliable charging for emergency response vehicles. These vehicles may require more frequent charging due to the high energy demands associated with emergency response operations, which could lead to increased downtime if charging infrastructure is insufficient or unreliable.

Best Practice

Emergency Response Vehicles

To address the challenges of transitioning emergency vehicles to zero emission technology, best practices include ensuring the availability of high-speed charging technologies that can charge these vehicles in less than an hour or in certain cases in the order of 20 - 30 min. These chargers should be dedicated to emergency vehicles and strategically located near emergency response facilities, with compatibility tailored to the unique needs of these vehicles to maintain an effective response capability. Another strategy involves utilizing Distributed Energy Resource (DER) systems, such as photovoltaic panels with battery energy storage systems (BESS), which can support emergency response vehicles and equipment. The City is piloting these technologies and using grants to invest in more solar-powered EV charging. Additional charging technologies can be deployed during power outages or when vehicles need supplemental power. Solutions also involve creating processes to prioritize vehicles and charging equipment for emergency response and establishing protocols to ensure this equipment is ready for use in unexpected situations. The EVSE Planning tool described in Section 4 enables the fleet to determine the charging infrastructure specifications required for emergency response vehicles.

8. Training Recommendations

As the City of Raleigh moves to transition much of its vehicle fleet to electric, the city must be proactive and ensure that as its fleet changes the training for employees who operate and service those new vehicles remains comprehensive. EV Training is essential for employees who are new to EVs, to familiarize them with the differences between electric vehicles and internal combustion vehicles. This education and training also helps to shift the culture in the City and community, and gain buy-in from all levels of the organization related to the many benefits of EVs, which include benefits for direct City operations; meeting the City's defined goals; being recognized for the City's leadership in climate action; saving money, GHGs, and creating many efficiencies; as well as the many community benefits.

To ensure that City employees, including the technicians that will work on the EVs and charging infrastructure, will have the necessary skills and knowledge to work safely and effectively with these electrical systems, the project team recommends the below topics be considered and included as part of the standard City training portfolio. These trainings are also necessary for EV drivers, and not just technicians working on the vehicles and charging equipment. Training drivers on how to properly use and care for an EV (and associated charging best practices) is an important step for the city to meet its climate action goal of reducing GHG emissions by 80% by 2050. Moving toward EVs can generate significant savings over time that can be reinvested into other City projects, but training will be essential for a successful transition.

Addressing Climate Action, Equity and Resilience through Education and Training for the City and Community: This training can educate the city employees on the equity and resilience impacts and opportunities. Climate change has unjust impacts on the Raleigh community and beyond, so it is important to put forth efforts to reduce the problem and its effects. Historically people of color, low-income people and others in the community have been disinvested in and unjustly impacted by climate change, health, and economic issues. EVs are another market transition that can easily leave out low-income and people of color community members. The City is dedicated to including everyone in this transition, and these types of trainings will have a focus on educating staff on these equity issues, and opportunities to incorporate equity solutions and benefits as a part of this transition.

There is also the potential to expand trainings on EVs into the community in the future (which is a common request from community members and is already identified as a high-impact CCAP climate action to support the adoption of EVs across Raleigh and other large private fleets). The city is already discussing collaboration with Wake Technical Community College to provide electric vehicle charging trainings and certification for the community. The city can also work with small and minority-owned businesses to support equity in the transition to clean energy. Working toward community trainings on EV maintenance will be important for increasing job opportunities and reducing the racial wealth gap in Raleigh in addition to mitigating climate change, which are goals of the CCAP and the Bloomberg American Sustainable Cities challenge for which Raleigh was recently selected.

Introduction to Zero Emission Vehicles: A broad introduction to zero emission vehicles will help employees understand the unique features and benefits of zero emission vehicles, including their environmental impact, energy efficiency, and performance capabilities. This is particularly important for employees who are new to electric vehicles, as they may not be familiar with the technology and its

applications. The below topics are essential to cover with employees who are just starting to interact with Zero Emission Vehicles in order familiarize them and ensure successful operation:

- Electric vehicle architecture in comparison with conventional vehicle electrical architecture
- Electrical vehicle motors, controllers, power converters, electronic devices
- Battery Pack Configuration
- BMS architectures, characteristics, and capabilities
- Battery Thermal Management Systems
- Vehicle Thermal Management Systems
- EV Subcomponents

High Voltage Safety and Awareness: High voltage safety and awareness is a mandatory training top, as it teaches employees to identify and mitigate electrical hazards in the workplace. This is particularly important for employees who are new to electric vehicles, as they may not be familiar with the risks associated with high voltage systems. Training topics of training for high voltage safety and awareness should include:

- Describe high voltage systems and components.
- Explain the dangers of electricity to a technician.
- Explain the proper PPE.
- Demonstrate how to safe down an electric vehicle.
- Explain the high voltage interlock loop (HVIL).
- Explain the appropriate DMM and attachments and their use.

Electrical System Diagnosis: With the addition of electric vehicles certain employees will need to diagnose and troubleshoot electrical faults in various systems. This training will be catered to the unique electrical components and systems used in electric vehicles. The topics which are recommended to be covered for employees who will diagnose electric vehicles are:

- Electrical Terms and Definitions
- Basic Circuit Construction and Components
- Circuit Types and Characteristics
- DMM operation and Circuit Connections
- Circuit Faults
- Wiring Diagrams
- Current Flow
- Diagnosing Electrical Circuits and Malfunctions

Advanced Electrical Systems Diagnosis: Training will be needed to help employees diagnose and troubleshoot complex electrical faults in the advanced electrical systems that are used in electric vehicles. Specifying and educating which electrical systems are important with electric vehicle use and maintenance will help fleet employees understand, troubleshoot, and operate these vehicles to the fullest extent. Topics that are necessary to cover include:

- Diagnosis of electrical systems using wiring schematics
- Frequency, pulse width and duty cycle
- Advanced Meter Functions

- Computer Controls
- Sensors (Inputs)
- Actuators (Outputs)

Electric Vehicle Supply Equipment Maintenance and Operations: Training in maintenance and operation of electric vehicle supply equipment is essential as all employees will interact with EVSE. Most employees will be new to electric vehicles and may not have interacted with charging stations before. Learning the basics and terminology of EVSE will be essential to ensure that City vehicles can be properly used and ready for work when needed. This training will also highlight best operational practices for charging electric vehicles and other considerations which are outlined in the below topics:

- Basic EVSE System Operation
- Requirements for EVST Installation
- Charger Types and Charge Levels
- AC and DC Charging
- Common EVSE Charger Cable Connectors
- Charge Rate and Time
- Factors Affecting Charge Rate
- Proximity Pilot Circuit Operation
- Control Pilot Circuit Operation
- Circuit Inspection and Testing (DMM and Oscilloscopes)
- On Board Vehicle Chargers
- "No-Charge" Diagnosing Concerns

CAN BUS and Other Network Communications: In addition to training on EVSE (Electric Vehicle Supply Equipment), City employees must also become familiar with the unique features and benefits of CAN BUS and other network communications protocols used in electric vehicles. A comprehensive understanding of EVSE technology, along with the associated software applications and their uses, is crucial for employees as they manage electric vehicle charging and the related software requirements. Notable topics to cover are:

- Network Fundamentals
- Network Advantages
- Network Architecture and Types of Module Communication
- Controller Area Network (CAN)
- CAN Signals
- CAN Communication Diagnostics
- Network Repair
- Additional Networks

NFPA 70E Electrical Safety Training: The program outlines the dual hazards of electric shock and arc flash, detailing the factors that contribute to the severity of injuries. It includes an explanation of the incident energy associated with an arc flash and how this determines the Arc Flash Boundary distance. The training further addresses the conditions that necessitate the establishment of an electrically safe work condition

and the systematic process involved in creating and verifying such a condition. Here are some of the key points covered in the training:

- The hierarchy of controls to eliminate electrical hazards.
- The required elements of the electrical safety program
- Worker training requirements.
- Program audits.
- Risk assessments.
- Proper labeling of electrical equipment for shock and arc flash hazards.

As the City of Raleigh moves forward with its procurement and use of ZEVs, having a robust and proficient training program to educate its employees will be key to the successful transition. The categories and topics laid out above will provide a comprehensive understanding among the City's employees and departments on how this change can be managed and utilized in the best way possible.

9. Fleet & Charge Management Solutions

Charging Management Market Overview and Features Comparison

Charge management solutions play a crucial role in the efficient operation of EV fleets, serving as the linchpin for balancing energy demands, optimizing charging schedules, and reducing operational costs. By intelligently managing when and how quickly EVs are charged, these systems can significantly mitigate the impact on the electrical grid, preventing costly upgrades by smoothing out peak demand periods. Additionally, charge management allows for the integration of renewable energy sources, further reducing the carbon footprint of EV operations. These solutions not only ensure that vehicles are charged and ready for use according to operational needs but also extend the lifespan of the EV batteries by avoiding excessive charging speeds and timings that can degrade battery health. This section is intended to provide an overview of the charging management software market and offer guidance on how different products in the market vary with respect to the specific features discussed.

Market Summary

Charging management software is a broad category of products and is referred to by many terms, including but not limited to charging management system (CMS), charging and energy management (CEM), charging network software, charge point operation (CPO) software, charging station management system (CSMS). These terms are sometimes used to refer to software providing the same feature set and other times used to refer to software with overlapping but distinct feature sets. Most charging stations are sold with some native charging management software capability (notable exceptions are Tritium and ChargeTronix), but a smaller percentage of the market has embedded charging management software that provides a complete set of features when compared to the possibilities discussed below. To assist with understanding the range of products available, it is useful to segment the market in various ways and consider four key trade-offs.

Monitoring vs. Control

The charge management software market includes a spectrum of software that provides only monitoring and reporting of charger activity, often facilitating payments as well, to software that provides, in addition to monitoring and reporting, a high level of dynamic load management and integration with distributed energy resources. Understanding where a software falls on the continuum of monitoring-only to a full suite of energy management applications is useful when considering the benefits of that product.

Reliability

The charge management software market also has a range of system architectures. There is a dichotomy between systems that are exclusively cloud-based (most systems) to systems that leverage a local controller in addition to a cloud back-end. Cloud-based systems have fewer installation requirements but do not function if the internet connection at the site is interrupted. Systems with a local controller require some additional planning during installation but add redundancy and ensure that charging is not reliant on unreliable internet.

Integrations

Another useful way of segmenting the charge management software market is to understand integration capability. In addition to features native to the software, many software systems can integrate with

external systems to expand their functionality for the customer. These integrations can be separated into two categories:

- Energy integrations: Usually local in nature, although they could be cloud based, energy integrations are primarily integrations between a charge management system and on-site energy resources such as an electricity meter, generator, solar or a microgrid controller - these integrations are usually done using hardwiring between a local controller and the on-site equipment and they expand the energy management functionality of the charging management software
- Software ecosystem integrations: Usually cloud-based, software ecosystem integrations are between a charging management software and other software tools used by a fleet such as a fleet management information system, fueling management system, scheduling or routing software, depot management system or even a yard management system. Each fleet type will have a different software ecosystem, meaning the relevant software integrations will differ.

Understanding each charging management software's strengths and weaknesses with regards to these integrations, and in comparison, to a fleet's needs, can help guide product choice.

Interoperability

In addition to market segmentation, interoperability is a final important characteristic to consider in the charging management software market. Open Charge Point Protocol (OCPP) is the industry-standard communication protocol between a charging station and charging management software. OCPP has different versions, and the most widely adopted version currently is OCPP 1.6. Most charging management software is based on OCPP, but some systems communicate with charging stations using proprietary communication.

Despite the presence of this standard, OCPP is not implemented the same across all charging stations. OCPP includes several optional features. For full interoperability, it is recommended that all charging stations and charge management software uses OCPP 1.6j, which includes the full suite of optional features.

A final consideration of interoperability is the ability of the charging management software company to maintain an integration throughout the lifespan of the charging station. Charging management software companies that excel at interoperability can test new charger firmware prior to any updates to that firmware to ensure that an integration does not fail after a charger is operational due to an unexpected or untested update to the charger firmware. To enable this, the charging software company must have mature testing processes, including relationships with charging station companies, developed, and implemented.

Interoperability is important because it enables a fleet to avoid technology lock-in. Fleets can easily switch between charging station vendors or integrate chargers from multiple vendors on a single system. Additionally, interoperability gives fleets the option to easily switch software vendors if the vendor is not meeting their needs.

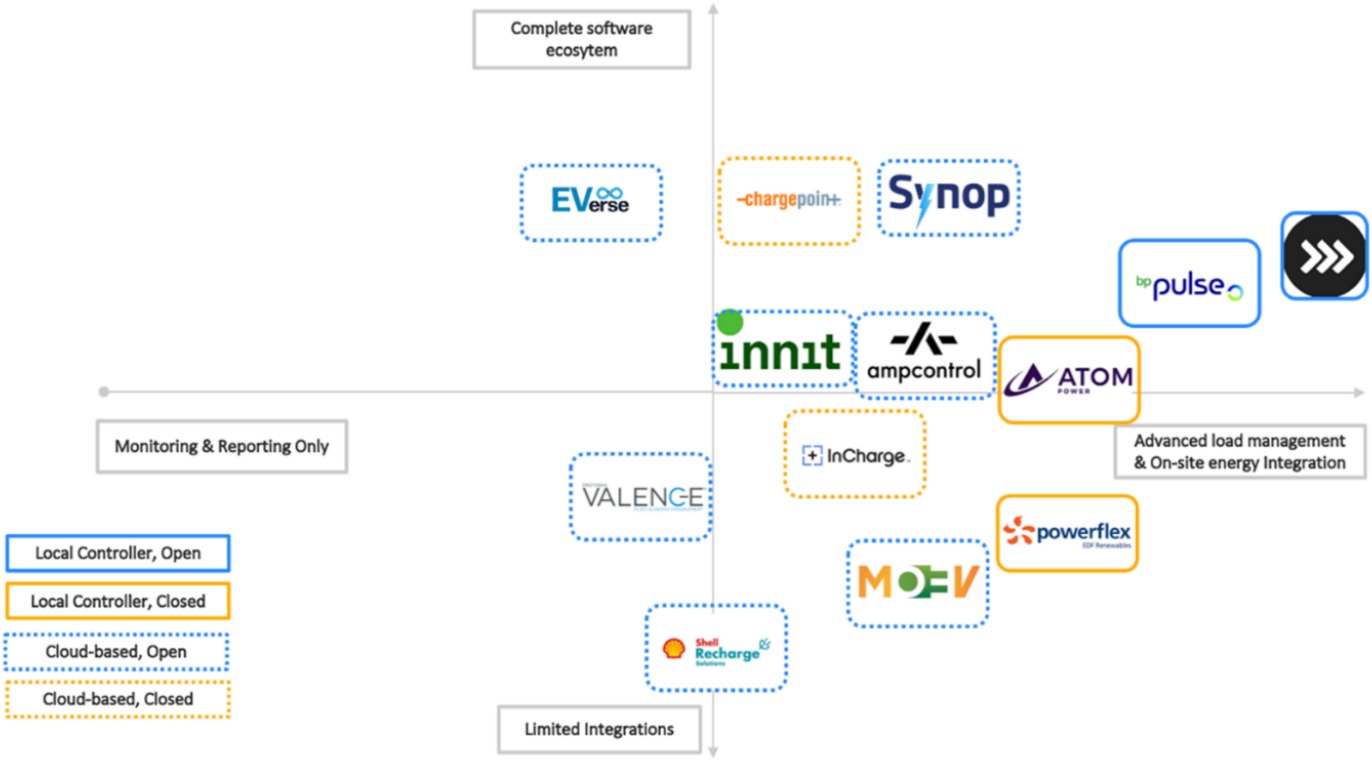
When considering charging management software, it is important to consider the tradeoffs and key features discussed above and summarized below.

- Local controller vs cloud-based.
- Monitoring & reporting only vs advanced load management.
- Which energy integrations are available, and which are important to your fleet?

- Which software integrations are available, and which are important to your fleet?
- Is the software OCPP 1.6j or above compliant? Has the software been extensively deployed with different charger types?

Figure 25 presents a detailed comparison of various products in the charging management software market, segmenting these systems into distinct categories. This segmentation is based on the comprehensiveness of the software ecosystem versus those with limited integrations. Additionally, the figure distinguishes between systems that solely provide monitoring and reporting functionalities and those that offer advanced load management and on-site energy integration. This visual representation aids in understanding the diverse capabilities and specializations within the market, helping stakeholders make informed decisions about which solutions best meet their needs.

Figure 25. Charging Management Market Segmentation



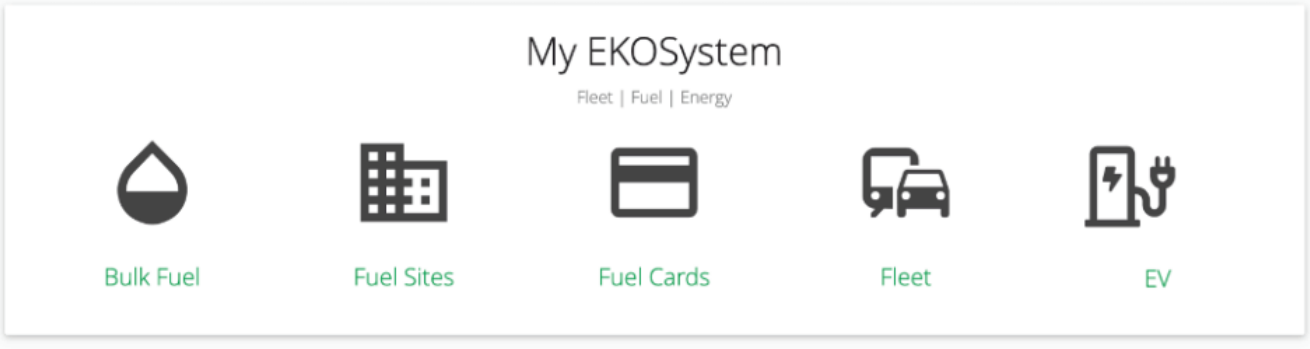
Fuel/EV Management Software Review: EKOS & EJ Ward

As the City of Raleigh continues to modernize its fleet operations and integrate sustainability initiatives, the selection of an appropriate Fuel/EV management software becomes increasingly important. Transitioning a fleet to EVs makes the implementation of an effective Fuel/EV Management solution critical. Fuel/EV Management solutions are vital for the efficient operation of the City of Raleigh's fleet, offering a comprehensive approach to managing its diverse array of vehicles. By leveraging advanced software and technologies, these solutions provide real-time data on vehicle usage, and maintenance needs, enabling proactive management and optimization of fleet performance. This not only enhances the operational efficiency by reducing downtime and extending vehicle lifespans but also contributes to significant cost savings through improved fuel management and the identification of underutilized assets. Furthermore, fleet management systems are instrumental in supporting the City's transition to EVs, facilitating charge scheduling, and monitoring to ensure the fleet meets its sustainability goals.

This section provides an overview of two fuel/EV management software solutions: EKOS[14] and EJ Ward[15]. These are the two-software system that the city has been considering for their Fuel/EV Management solution which is why the evaluation presented in this section is focused on these two systems. Both platforms deliver a comprehensive set of tools aimed at improving the efficiency, reliability, and cost-effectiveness of fleet operations.

Gasboy - EKOS

Gasboy's EKOS Fuel/EV management software is designed with a modular approach, catering to diverse operational needs of fleet management. It offers comprehensive monitoring capabilities across various modules, facilitating vehicle maintenance management. This includes a structured maintenance schedule for both preventive and reactive maintenance tasks. The software streamlines the digital transformation of work orders, enabling detailed tracking of service costs per vehicle and the generation of individual invoices with ease.



The platform also incorporates parts management functionality, which is helpful for maintaining an accurate parts inventory – a critical component for efficient fleet operations. Relevant to the City, EKOS' platform offers the ability to automate vehicle inspection schedules for each vehicle in the fleet as well.

[14] https://info.myekos.com/
[15] https://www.ejward.com/products/

The software is versatile, supporting the management of vehicles of all fuel types (e.g., maintenance, telematics, etc.). However, the EV charging management capabilities of the platform, especially concerning CMS, is still in the developmental phase. At present, the platform does not have the capability to manage charging operations for EVs. EKOS' suite of tools thus presents a robust solution for traditional fleet management, while its full potential for EV management remains to be realized with future updates.

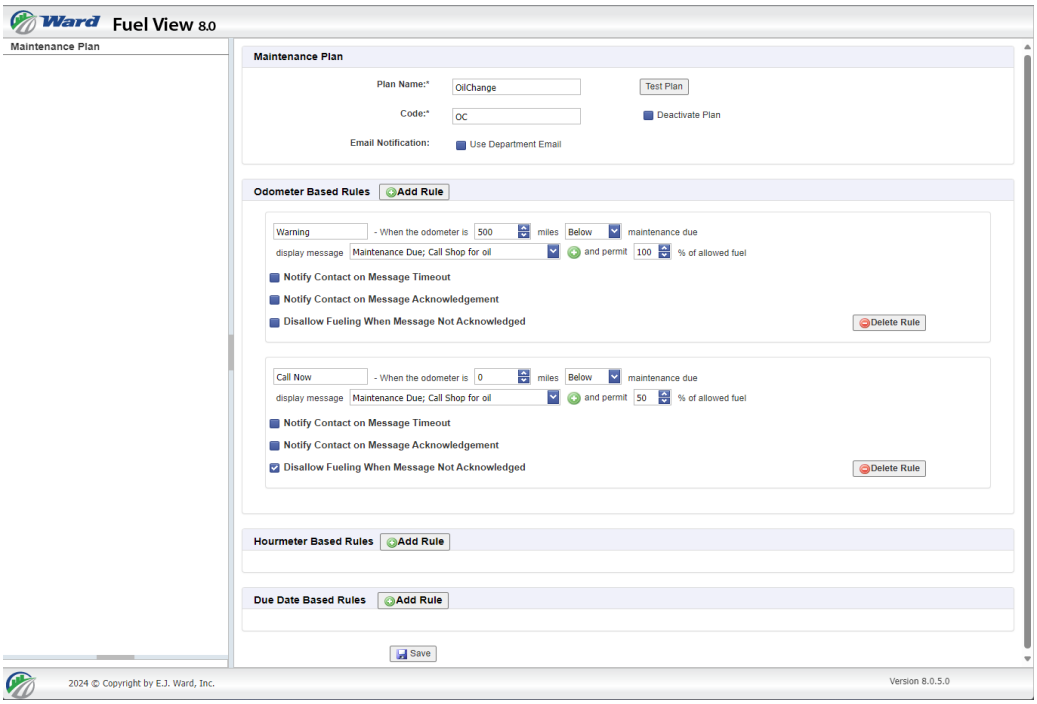
E.J. Ward Inc., SimplyFuel Solutions

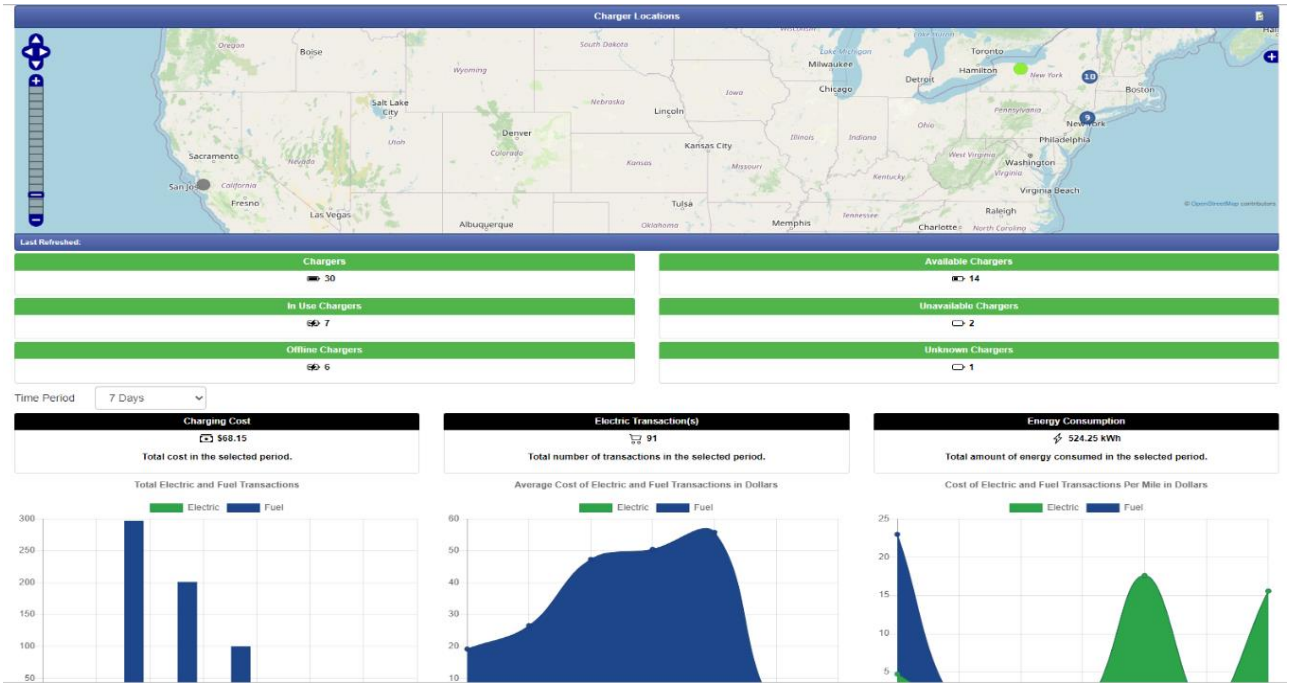
EJ Ward's fuel/ev management software presents a comprehensive solution to optimize fleet operations through a range of features and capabilities tailored to the needs of modern fleet management. With a focus on fuel management, driver behavior monitoring, and operational efficiency, EJ Ward's software offers a suite of tools designed to address the challenges faced by both small and large vehicle fleets.

EJ Ward's software supports multi-fuel operations within a single platform, allowing for management of various fuel types such as unleaded, diesel, propane, CNG, and electric when utilized within the fleet. Moreover, pump chaining functionality optimizes fueling processes, improving efficiency, and reducing fueling time for fleet owners. The software also incorporates multiple authorization options and vehicle diagnostics functionality, providing real-time insights into vehicle health and performance, facilitating proactive maintenance practices.[16] In order to fully leverage the platforms vehicle diagnostic capabilities, vehicles would need to be outfitted with telematic devices.

E.J. Ward's software platform offers a comprehensive solution for monitoring, managing, and optimizing EV charging stations. It stands out with its capability to schedule charging operations for fleets of EVs,

ensuring that vehicles are charged during optimal times to reduce energy costs and maximize operational efficiency. E.J. Ward also brings a significant level of integration to the table, with its ability to incorporate all Open Charge Point Protocol (OCPP) enabled EV chargers into its fuel management system. This capability ensures a unified management experience, allowing fleet operators to oversee their EV charging infrastructure alongside traditional fueling operations within a single platform. Such integration not only simplifies the management process but also provides valuable insights into the overall energy consumption and efficiency of the fleet, enabling more informed decision-making and strategic planning.

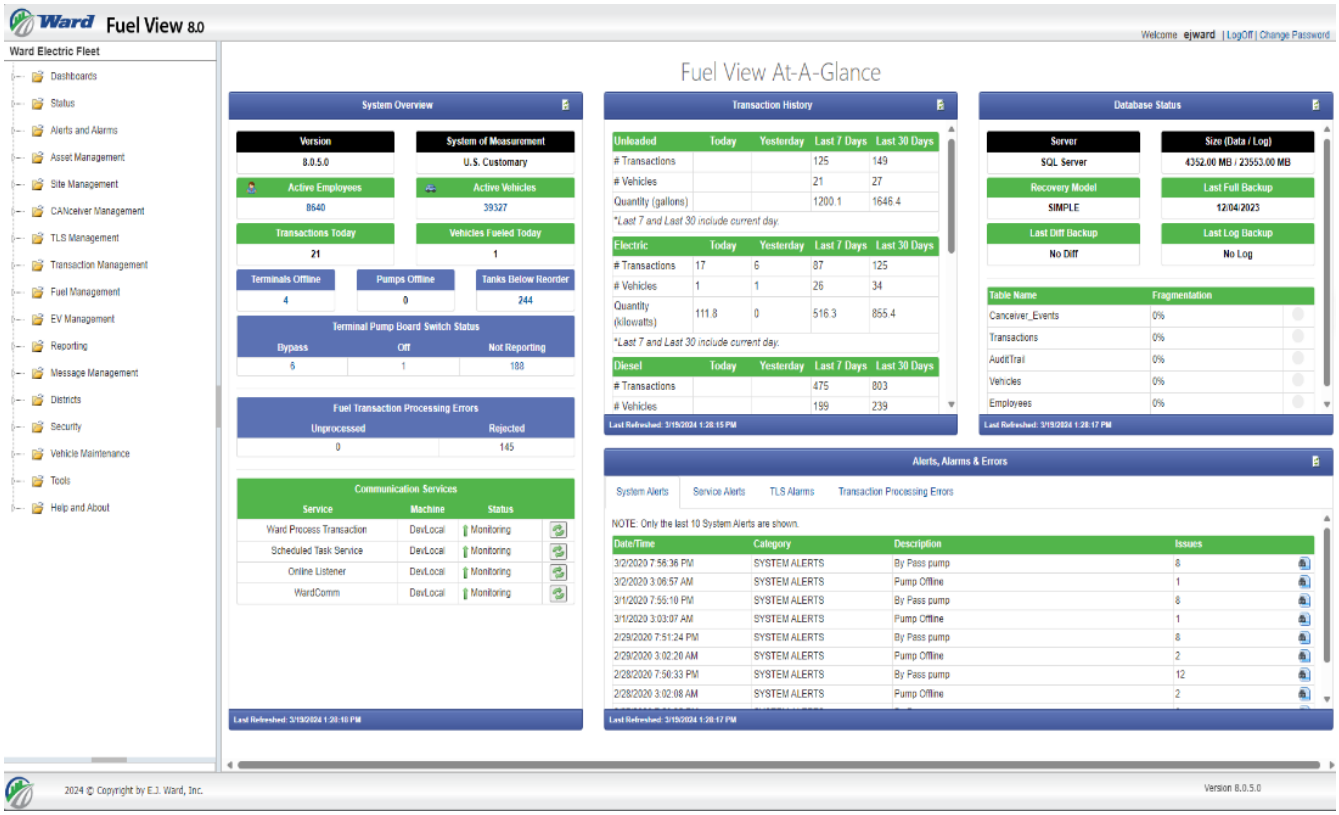




EV Manager

Site	Chargers	Available	In Use	Unavailable	Offline	Unknown	Site Voltage	Expand
BRIDGE CREW BUTTERNUT	1	0	0	0	0	1	Site Voltage	Chargers
HUNTERS POINT	9	5	0	0	0	0	Site Voltage	Chargers
MAIN OFFICE	10	5	2	0	0	0	Site Voltage	Chargers
Ward Demo	10	4	0	0	6	0	Site Voltage	Chargers

The EJ Ward system also provides customers with the ability to remotely control access or to schedule specific start and shutdown times for their operations. Its application stands out by offering the capability to independently manage EV chargers, BEVs, PHEVs, and ICE vehicle fuel types. This versatility makes it an invaluable tool for fleets that operate a mix of vehicle types. Moreover, the software excels in managing traditional fueling processes and optimizing fleet vehicle operations, providing a comprehensive solution that enhances the efficiency and effectiveness of fleet management.

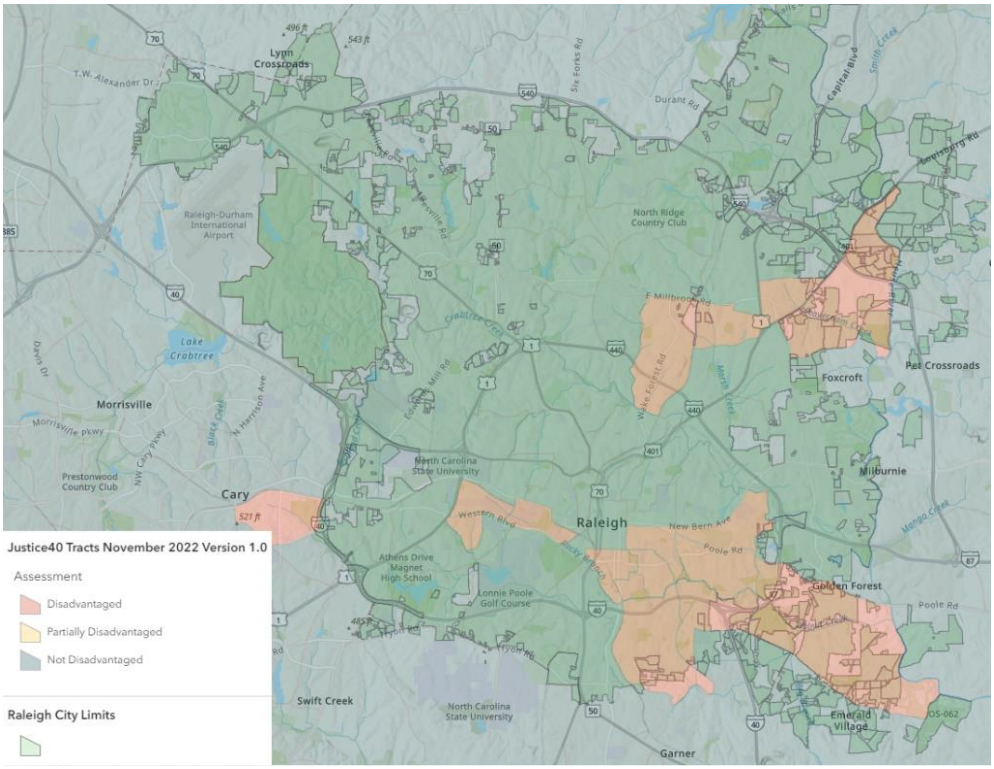


10. Addressing Equity through Electrification

The electrification of the City of Raleigh's fleet represents a transformative step forward, offering both substantial cost savings and significant environmental and community benefits. Beyond the clear economic and environmental advantages, it is critical that this implementation strategy also advances equity, community health, access, and environmental justice. This focus is especially crucial for the communities within the City of Raleigh which have been most impacted by historical disinvestments, climate change and negative environmental impacts.. The strategies outlined below emphasize addressing disparities and ensuring inclusive participation in the clean energy transition. Specifically, the strategy aims to prioritize investments in communities of color and low-income neighborhoods, which have been disproportionately affected by climate change and lack of infrastructure.

Ensuring that these communities benefit from the transition, including from reduced pollution and improved air quality resulting from fleet electrification is not just a matter of policy efficiency but is also a key value and core responsibility that the City highly values and prioritizes, as outlined through many of its guiding documents and work that is mentioned throughout this report. The City's Community Climate Action Plan and associated CCAP Implementation Reports also have several specific examples and strategies related to equity, environmental justice, and resilience to further inform an equity framework and the City's focus on this important topic. The transition towards a zero emissions fleet must be inclusive, aiming to rectify past inequities and promote health and well-being for all residents. Figure 26 below illustrates areas of the impacted by historical disinvestment and environmental impacts in the City of Raleigh, as identified by the Federal government's Justice40 maps, highlighting the areas that stand to gain the most from a thoughtful and equitable implementation of this initiative. This map is a useful reference, and the City has many other resources, data and initiatives related to equity and environmental justice that further refine Raleigh's areas of focus, priority and communities of need.

Figure 26. Justice40 map illustrating areas of the community impacted by historical disinvestment and environmental impacts in the City of Raleigh



In this chapter, our objective is to present a series of recommendations on how the city could strategically leverage the implementation strategy to advance equity within communities across the city. Recognizing the unique challenges and needs of these areas, our recommendations are designed to ensure that the benefits of electrification—such as improved air quality, reduced noise pollution, and increased access to clean technology—are equitably distributed. By integrating equity-focused strategies into the heart of this strategy, we hope to not only enhance the environmental and economic landscape of the city but also to contribute to the building of a more just and inclusive community for all Raleigh residents.

Environmental Equity and Health

The transition to EVs offers a benefit for local air quality, especially in communities disproportionately affected by vehicular emissions. Conventional medium and heavy-duty vehicles (MHDV) contribute significantly to local air pollution, impacting health outcomes in nearby communities. The city currently operates roughly 550 MHDVs, with electrification offering an immediate improvement to local air quality. Moreover, electrifying the City's vehicles will significantly reduce GHG emissions by an estimated 253,854 metric tons (MT) over 24 years.

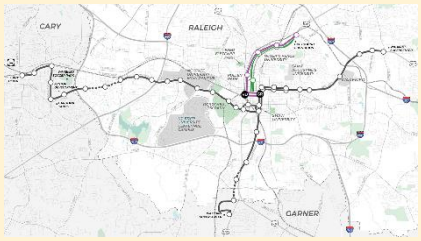
Targeted Electrification in Vulnerable Areas

The city should prioritize the replacement of vehicles that operate predominantly within or near communities with historical exposure to higher pollution levels. By adopting this targeted approach, immediate and tangible benefits in air quality improvements can be secured where they are most critically needed. Leveraging telematics data, the City has the capacity to accurately identify vehicles that spend most of their operational time within these vulnerable communities. This data-driven strategy allows for the prioritization of those vehicles for electrification. An example of the city already implementing this strategy includes the renewable, clean and electric buses the City is rolling out across the community as a part of its expansion of Bus Rapid Transit. Similar approaches can be planned for various other City service vehicles.

Continuing to Rollout Equity and Accessibility Strategies for Public Transportation

Electrification of transit vehicles, including shuttles and buses, is a strategic move towards advancing transit equity and environmental sustainability in the community that the city has been planning for and investing in for decades, as outlined in the CCAP and various transit initiatives. Implementing electric public transportation offers the City enhanced reliability and operational cost savings in the long term, while significantly improving access, health, economic benefits, and quality of life for its underserved communities. By prioritizing EVs within its transit fleet, the city mitigates environmental and community impacts and fosters a cleaner, more equitable transportation network. This approach not only underscores the City's commitment to sustainability and equitable access but also ensures that all community members benefit from improved mobility and reduced emissions.

Expand Electric and Clean Energy Public Transit Routes

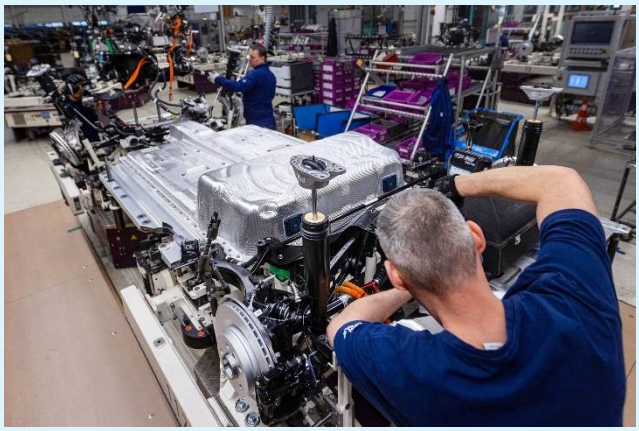


The city is already strategically increasing both the number and frequency of electric and clean renewable fuel buses and shuttle routes across Raleigh, and prioritizing underserved areas, ensuring that all residents have access to reliable and accessible transportation options. By prioritizing the expansion of electric transportation in areas that have historically lacked sufficient transit services, the City can continue to make a significant impact in bridging the mobility gap as well. This approach not only supports the City's broader goals for sustainability and equity, but also empowers communities by improving connectivity, health, facilitating easier access to employment, education, and healthcare services, and contributing to the overall reduction of the City's carbon footprint. The City should continue its strong progress in this area, such as the BRT Project Connect.

Economic Opportunities and Workforce Development

The shift to an electric fleet opens avenues for local economic development and job creation in the clean technology sector. There is a unique opportunity to foster workforce development and job training programs, particularly in communities facing economic challenges, as well as with youth engagement, both of which are focus areas for the city.

EV Maintenance and Operation Training Programs



Integrating the transition to zero emissions technologies with a strategic workforce development plan is crucial, especially considering the direct impact the disappearance of traditional internal combustion engine related jobs, such as mechanic shops and gas stations, will have on low-income communities. The shift towards EV presents an opportunity not only for environmental improvement but also for enhancing equity across the community. By partnering with local educational institutions and vocational schools to offer training programs focused on EV maintenance and operations, the city can ensure that individuals from communities impacted by a history of disinvestment are not left behind in this large economic transition to electrification. This initiative can help mitigate the potential negative effects of job displacement by providing pathways to higher-paying, sustainable green jobs. It is about transforming the challenge of a changing economy into an opportunity for all, particularly for those in low-income areas who stand to gain the most from equitable access to new skills and employment opportunities. Through deliberate planning and collaboration, the city can foster a just transition for its workforce, aligning economic development with sustainability and social equity. This can also include a focus on youth and those underrepresented in the sustainability and clean technology field. Certain communities are underrepresented in the sustainability and clean energy fields, such as people of color. Raleigh has existing partnerships, programs and initiatives focused on youth, equity, apprenticeships, job training and workforce development. The city can continue to build out these

partnerships with its strong local network of youth programs, universities, community colleges, Historically Black Colleges, and Universities (HBCU's), industry partners and more to strategically educate and create strategic workforce development opportunities and youth exposure to this emerging field as the clean energy and transportation field continues to expand and develop.

Increasing Access to Charging Infrastructure

Lack of access to charging infrastructure is an equity issue as it disproportionately affects low-income and marginalized communities, limiting their ability to adopt EVs and benefit from reduced transportation costs and improved air quality. Without accessible charging infrastructure, these communities are excluded from the advantages of the clean energy transition, perpetuating existing social and economic disparities.

Support for Local EV Infrastructure Development

The city should continue to proactively encourage the development of local EV charging infrastructure network through innovative public-private partnerships. This strategic effort is essential not only for supporting the City's fleet transition, but also for fostering broader community access to charging and therefore adoption of EVs, which in turn stimulates local economic growth. A critical focus of this initiative must be on prioritizing the accessibility of EV charging infrastructure for renters, low-income residents, and communities that have experienced disinvestment. Although Raleigh is a hot spot for EV adoption and charging, there are "charging deserts" where the community lacks access to available charging. More than half of the Raleigh population are renters, and most EV charging is done by people at home. Renters may often lack access to home charging options, particularly if they are living in multi-family apartments and condos, making the transition to EVs contingent upon the availability of public or workplace charging stations. The city has implemented new ordinances as part of their "Clean Transportation Ordinance Package" requiring EV charging infrastructure in new developments, such as multi-family residences, gas stations, and hotels, to enhance EV charging access as Raleigh develops. Strategies are also needed for residents in existing multifamily residences. The City's current work on "Park and Ride" locations (Section 3) and strategic charging sites for the city fleet includes opportunities to place these facilities where community members can share EV charging when City vehicles are not using them.

The electrification of the City of Raleigh's vehicle fleet presents a significant opportunity to address and improve climate and equity issues across the City. By prioritizing equity, access, and environmental justice, enhancing accessibility to public transportation, and fostering economic opportunities through workforce development, the city can ensure that the benefits of electrification are widely and equitably distributed. This approach not only supports the City's climate action goals but also promotes a more inclusive and resilient community.

Additionally, several other strategies addressing equity, environmental justice, and community health are mentioned throughout this report. These strategies are crucial for ensuring that all community members, especially those from historically marginalized and underserved areas, benefit from the transition to clean energy. For ease of access and as a one-stop shop, below is a comprehensive summary of all the equity-focused strategies discussed in this report, which the city should continue to prioritize as this work is implemented.

Promoting Equity Through Electrification - Summary of Strategies

1. **Targeted Electrification in Vulnerable Areas**: Prioritize replacing vehicles that operate mainly in historically high-pollution communities to secure immediate air quality improvements where most needed.
2. **Expanding Electric Public Transit**: Increase the number and frequency of electric buses and shuttle routes in underserved areas to improve access to reliable transportation, enhance connectivity, and reduce emissions.
3. **Community Engagement and Collaboration**: Foster partnerships with local organizations and businesses to support the equitable transition to clean energy. This includes community training on EV maintenance and promoting awareness of EV benefits.
4. **Environmental Justice and Accessibility**: Implement strategies to ensure that all community members, particularly those historically marginalized, benefit from fleet electrification. This includes expanding infrastructure in underserved areas.
5. **Support for Local EV Infrastructure Development**: Encourage the development of local EV charging infrastructure through public-private partnerships, focusing on accessibility for renters, low-income, and underinvested communities to bridge the mobility gap.
6. **Support for Renters and Multi-Family Residences Through Park & Ride Charging Strategy**: Explore the development of Park & Ride charging facilities (as described in Section 3) that can provide charging solutions for private businesses, multi-family residents with limited at-home charging options, commuters, and other residents when City fleet vehicles are not utilizing the infrastructure.
7. **Addressing Climate Action Equity and Resilience through Education and Training**: Provide training to City employees as well as the communities across the City on the equity and resilience impacts and opportunities associated with climate change and EV adoption, ensuring inclusivity in the transition to clean energy.
8. **Workforce Development and Job Training Programs**: Partner with educational institutions and vocational schools to offer training programs focused on EV maintenance and operations, ensuring that individuals from historically disinvested communities are not left behind in the transition to electrification.
9. **Community Training and Certification Programs**: Collaborate with institutions like Wake Technical Community College to offer community training and certification programs in EV maintenance and charging, supporting job opportunities and reducing the racial wealth gap.

11. Recommendations for Implementation

Taking an EV transition assessment into the implementation phase requires a significant amount of planning, coordination, and allocation of resources. It is a complex process that involves multiple steps and considerations, and this report provides best practices and solutions to assist the city in implementation and continuing to leading the way in climate action, equity, resilience, and the clean energy transition. Here are a number of actions and consideration that the project team recommends for implementation of this rollout strategy:

Implementation Approach

The starting point of this process should be the creation of a comprehensive implementation approach that includes further refinement of the City's internal protocol, processes, and policies to support the information and vehicle transition analyses included in this Implementation Rollout. This approach must include specific steps to be taken, establish timelines for each action, and allocate the necessary budget for shifting to an EV fleet. Key elements in this implementation approach should include the necessary electrical infrastructure upgrades, the full infrastructure layout, budget planning, procurement strategies, and coordination with electric utilities.

For example, one of the most important next steps is to conduct a comprehensive analysis of the EV charging infrastructure. This includes the development of engineering documents outlining the technical specifications for the charging stations at all of the city facilities as well as park & ride location (similar to those illustrated in Section 3) to ensure their safe and efficient installation. These engineering drawings should depict the precise location of EV charging infrastructure as well as the layout of equipment, service equipment locations, and service line connections. A model for what these engineering documents might look like is provided in Figure 15 through Figure 18. These are a guide to assist in creating a future consistent build out across the city over time.

Developing a Diverse Funding Approach

Securing adequate funding is a pivotal aspect of this transition. The City of Raleigh should explore diverse funding avenues like grants, loans, and other financial mechanisms to ensure the transition is both timely and cost-effective. Additionally, the city must evaluate various procurement strategies for acquiring EVs, which could range from leasing to outright purchasing, based on specific needs and resource availability. The City must also plan for grant matching funds and overall EV charging needs through capital budget requests, beginning in FY2026 and beyond.

Leadership Support, Staff Focus and Internal City Teams

Forming a dedicated project team with expertise in fleet management, EV charging infrastructure, procurement, and finance is crucial for a successful transition. Having dedicated full time staff that have a dedicated focused on creating opportunities for stakeholder engagement, collaboration, training and education, pilots, following industry and technology updates and trends, and building organization-wide solutions, processes, policies, and protocol is key. Collaborating with key stakeholders, including utility companies, EV manufacturers, and charging infrastructure providers, will also be integral. A critical step in implementation, for example, will involve discussions with Duke Energy to prepare potential charging sites to handle the required load and number of charging stations. These discussions may lead to upgrades in distribution infrastructure, such as transformers, and enhancements at the site level, like

electrical panel upgrades, to accommodate the increased demand from charging stations. Another focus is on the processes to build, maintain and troubleshoot technical, operational challenges as they arise.

Pilot Programs

Another key implementation step is establishing a pilot program. Pilot programs offer a strategic avenue to test the feasibility of the Transition Assessment on a smaller scale. This approach allows the City of Raleigh to identify and resolve potential challenges or issues before committing to a full-scale implementation, paving the way for a smoother and more efficient transition to an EV fleet. This also allows for various departments to become more comfortable with EVs and "try them out" long before their vehicles are up for replacement, so they can become more comfortable and ready to transition larger portions of their operations to EVs and clean fuels. The city has prioritized transitioning its shared motor pool to electric which provides the opportunity for staff to pilot and run test cases for various operational uses, and work through logistical, process, education or operational challenges.

Education and Behavior Change

The transition of large fleets, such as that of the City of Raleigh, to EV also underscores the importance of effective change management strategies. Given the relatively nascent status of EV technology and the perceived uncertainties associated with it, such transitions can often be met with apprehension. Concerns typically revolve around the higher upfront costs of EVs—despite the operational savings they promise in the long run – which can lead to opposition and reluctance within various department. These challenges highlight the need for the City of Raleigh to employ robust education and change management solutions. By engaging in comprehensive communication, education, and stakeholder involvement, the city can address misconceptions, highlight the long-term benefits of EVs, and foster a culture of innovation and sustainability. Achieving buy-in from different departments and stakeholders is crucial for the smooth deployment of EVs and for ensuring that the transition aligns with the City's environmental and fiscal goals.

Summary of Specific Action Items for Implementation

- **Create supportive processes**: Work with staff stakeholders and engage with groups like the City's upcoming Clean Energy Vehicle Replacement Committee which is being formed to support some of the internal process for implementing this transition. This work should include the implementation approach mentioned earlier and ensure alignment with City leadership on the needed next steps.
- **Forecast infrastructure to align with budget processes**: Use the EVSE planning tool developed as part of this project to develop near-term and 10-year capital plans for EV charging infrastructure at specific locations, including the number and type of chargers.
- **Prepare a financial strategy for the EV charging needs**: Begin with strategies such as including a capital improvement project (CIP) request in FY2026. This will include projected future expenses based on the needs identified in this report and the use of the EVSE planning tool.
- **Dedicate specific staff to the implementation of this report**: Create internal staff EV teams with representative stakeholders to coordinate the planning, financing, installation, and maintenance issues outlined in this report, while also focusing on how this work can continue to support equity and access.
- **Pilot, test ideas and educate**: Continue to develop internal and external opportunities to educate City staff and the community on the importance and benefits of the clean energy and EV transition. Target key stakeholder groups with focused training, outreach, and messaging to break down barriers and create future opportunities that support the EV transition. Pilot projects are an effective way to test these ideas, demonstrate progress, build a case for future needs, and gain further buy-in from stakeholders.
- **Continue to lead and develop best practices to integrate community equity, resilience, and accessibility into strategies**: The City of Raleigh is a leader in developing climate action strategies that embed equity, resilience, and accessibility. This report provides numerous examples of how the City's leadership in this work can continue to create models for other local governments, the private sector, and others to follow.


Raleigh
VEHICLE FLEET SERVICES
BLUE ARROW TELEMATICS

Appendix A. Detailed EV Replacement Recommendations

For this fleet transition assessment, specific makes and models of electric vehicles are recommended; however, it is important to recognize that the EV market is evolving rapidly. As new technologies emerge and manufacturers update their offerings, the landscape of available models may change significantly. While the recommendations provided herein serve as a current guide, it is crucial for the City to closely monitor the market and review the latest models available at the time of each vehicle replacement.

Additionally, the city should consider factors such as total cost of ownership, including maintenance and operational costs, battery life expectancy, and charging infrastructure compatibility when evaluating new models. Environmental considerations and alignment with any future regulatory changes regarding emissions should also be factored into the decision-making process.

EV Replacement Recommendations by Vehicle ID

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
58	Light-Duty Pickup	CHEVROLET	C2500	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
62	SUV	FORD	ESCAPE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
63	SUV	FORD	ESCAPE	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
64	SUV	FORD	ESCAPE	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
66	Van	CHEVROLET	EXPRESS CUTAWAY	FY2034	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
106	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
122	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
123	SUV	CHEVROLET	EQUINOX FWD	FY2032	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
129	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
131	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
142	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
143	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
145	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
146	Sedan	CHEVROLET	CAPRICE	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
147	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
175	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
177	SUV	FORD	EXPLORER	FY2028	Gasoline	PHEV	Hyundai - Tucson SEL	False
179	SUV	FORD	EXPLORER	FY2028	Gasoline	PHEV	Hyundai - Tucson SEL	False
182	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
197	Sedan	CHEVROLET	CAPRICE	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
198	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
221	Sedan	FORD	500	FY2034	Gasoline	BEV	Nissan - Leaf S	True
224	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
225	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
227	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
314	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
318	SUV	FORD	EXPLORER	FY2028	Gasoline	PHEV	Hyundai - Tucson SEL	False
333	School Bus	THOMAS	1418N	FY2028	Diesel	BEV	Lion Electric - LionD - 127 kWh	False
354	Van	FORD	E250	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	False
362	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
363	School Bus	THOMAS	18071	FY2027	Diesel	BEV	Lion Electric - LionD - 127 kWh	False
369	Van	FORD	ECONOLINE	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	False
414	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
415	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
427	SUV	NISSAN	ROGUE	FY2025	Gasoline	BEV	Hyundai - Kona Electric SE	True
431	Sedan	TOYOTA	CAMRY	FY2026	Gasoline	BEV	Nissan - Leaf S	True
435	SUV	TOYOTA	RAV4	FY2025	Gasoline	BEV	Hyundai - Kona Electric SE	True
471	SUV	HONDA	CRV	FY2034	Gasoline	BEV	Hyundai - Kona Electric SE	True
537	Motorcycle	HARLEY	ROADKING	FY2030	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
542	Motorcycle	HARLEY	ROADKING	FY2030	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
597	Van	FORD	E350	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
801	SUV	FORD	EXPEDITION 4x4	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
802	Sedan	TOYOTA	CAMRY HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
817	Sedan	FORD	Crown Victoria	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	False
827	Van	FORD	E350	FY2026	Diesel	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
829	Medium-Duty Vocational Truck	FORD	F800	FY2033	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
837	Sedan	CHEVROLET	IMPALA	FY2034	Gasoline	BEV	Nissan - Leaf S	True
840	Sedan	TOYOTA	PRIUS HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
854	Van	FORD	E350	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
855	Van	FORD	E350	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
892	Minivan	FORD	FREESTAR	FY2033	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
903	Sedan	TOYOTA	CAMRY HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
905	Sedan	TOYOTA	CAMRY HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
906	Sedan	TOYOTA	CAMRY HYBRID	FY2034	Gasoline	BEV	Nissan - Leaf S	True
909	Sedan	TOYOTA	CAMRY HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
910	Sedan	TOYOTA	CAMRY HYBRID	FY2034	Gasoline	BEV	Nissan - Leaf S	True
945	SUV	CHEVROLET	TAHOE	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
946	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
947	Sedan	FORD	FUSION HYBRID	FY2025	Gasoline	PHEV	Toyota - Prius Prime LE	True
948	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	PHEV	Toyota - Prius Prime LE	True
949	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	PHEV	Toyota - Prius Prime LE	True
950	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	PHEV	Toyota - Prius Prime LE	True
951	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	PHEV	Toyota - Prius Prime LE	True
952	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
953	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
954	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
955	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
957	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
958	Sedan	TOYOTA	CAMRY HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
959	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
960	Sedan	FORD	Crown Victoria	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	False
961	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
963	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
964	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
966	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
967	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
968	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
969	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
971	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
973	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
974	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
975	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
976	Van	FORD	TRANSIT	FY2030	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
977	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
978	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
1100	SUV	DODGE	JOURNEY SXT4	FY2027	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
1162	Refuse Truck	CRANE CARRIER	LET2-45	FY2027	Diesel	BEV	Peterbilt - 520EV	False
1253	Refuse Truck	AUTOCAR	ACX 64-NG	FY2031	Diesel	BEV	Peterbilt - 520EV	True
1273	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
1274	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
1361	Refuse Truck	PETERBILT	520/HEIL	FY2026	Diesel	BEV	Peterbilt - 520EV	False
1362	Refuse Truck	PETERBILT	520/HEIL	FY2026	Diesel	BEV	Peterbilt - 520EV	False
1660	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
1661	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
1665	SUV	CHEVROLET	EQUINOX FWD	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
1666	SUV	CHEVROLET	EQUINOX FWD	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
1667	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
1668	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
1669	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
1670	Light-Duty Pickup	FORD	RANGER	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
1673	SUV	FORD	ESCAPE	FY2033	Gasoline	BEV	Fisker - Ocean Sport	True
1676	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
1678	Light-Duty Pickup	CHEVROLET	COLORADO EC 4X4	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
1682	Light-Duty Pickup	CHEVROLET	COLORADO EC	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
1683	Light-Duty Pickup	CHEVROLET	COLORADO EC	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
1684	Light-Duty Pickup	CHEVROLET	COLORADO EC	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
1704	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
1730	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
1756	SUV	DODGE	JOURNEY SE	FY2027	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
1829	Medium-Duty Vocational Truck	FORD	F450	FY2031	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
1860	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
1866	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
2454	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
2625	Light-Duty Pickup	CHEVROLET	COLORADO RC	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
2698	Light-Duty Pickup	DODGE	RAM 1500 CC	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
2710	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
2772	Sedan	CHEVROLET	IMPALA	FY2025	Gasoline	BEV	Nissan - Leaf S	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
2776	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
2778	Light-Duty Pickup	FORD	RANGER	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	False
2782	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
2783	Sedan	TOYOTA	PRIUS HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
2800	Shuttle Bus	FREIGHTLINER	MB FRTL	FY2025	Diesel	BEV	Ford - E-Transit Cutaway	True
2840	Shuttle Bus	FORD	E450	FY2029	Gasoline	BEV	Ford - E-Transit Cutaway	True
2841	Shuttle Bus	FORD	E450	FY2025	Gasoline	BEV	Ford - E-Transit Cutaway	True
2842	Shuttle Bus	FORD	E450	FY2031	Gasoline	BEV	Ford - E-Transit Cutaway	True
2892	Shuttle Bus	FORD	F53 CHASSIS	FY2026	Gasoline	BEV	Ford - E-Transit Cutaway	True
2927	Sedan	TOYOTA	PRIUS HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
2950	Van	FORD	E350	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
2957	Van	FORD	E250	FY2033	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
3025	Heavy Truck	NAVISTAR	4700	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	False
3072	Heavy Truck	FREIGHTLINER	114SD	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
3092	Heavy Truck	FREIGHTLINER	M2	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	False
3094	Heavy Truck	VOLVO	8500	FY2030	Diesel	BEV	Tesla - Semi	False
3163	Heavy Truck	STERLING	LT9500	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	False
3166	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
3171	Medium-Duty Vocational Truck	FORD	F350	FY2029	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
3200	Medium-Duty Vocational Truck	FORD	F350	FY2025	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
3267	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
3311	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
3396	Heavy Truck	FREIGHTLINER	M2106	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
3397	Heavy Truck	FREIGHTLINER	M2106	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
3455	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
3539	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
3760	Light-Duty Pickup	DODGE	DAKOTA EC	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
3765	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
3807	Heavy Truck	FREIGHTLINER	M2112	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
3808	Medium-Duty Vocational Truck	FORD	F550	FY2026	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
3877	SUV	CHEVROLET	TRAVERSE	FY2032	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
3964	Heavy Truck	FREIGHTLINER	M2106	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
3967	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
3971	SUV	CHEVROLET	EQUINOX FWD	FY2027	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
3994	Sedan	FORD	FUSION	FY2030	Gasoline	BEV	Nissan - Leaf S	True
4127	Heavy Truck	GMC	8500	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	False
4134	Van	FORD	E350	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	False
4143	Minivan	DODGE	CARAVAN	FY2025	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
4144	Minivan	DODGE	CARAVAN	FY2025	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
4155	Medium-Duty Vocational Truck	FORD	F700	FY2033	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
4284	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
4307	Heavy Truck	NAVISTAR	7600T	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4310	Heavy Truck	FREIGHTLINER	M2106	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4315	Medium-Duty Vocational Truck	NISSAN	NV2500	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
4321	Heavy Truck	FREIGHTLINER	M2106	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4322	Heavy Truck	FREIGHTLINER	M2106	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4323	Heavy Truck	FREIGHTLINER	M2106	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4324	Heavy Truck	FREIGHTLINER	M2106	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4325	Heavy Truck	FREIGHTLINER	M2106	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4326	Heavy Truck	FREIGHTLINER	M2106	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4327	Heavy Truck	FREIGHTLINER	M2106	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4340	Medium-Duty Vocational Truck	NISSAN	NV2500	FY2031	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
4353	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
4360	Heavy Truck	FREIGHTLINER	M2106	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4361	Heavy Truck	FREIGHTLINER	M2106	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4362	Heavy Truck	FREIGHTLINER	M2106	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4367	SUV	CHEVROLET	TRAVERSE	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
4380	Van	FORD	TRANSIT CONNECT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
4523	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
4524	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
4531	Medium-Duty Vocational Truck	FORD	F450	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
4532	Medium-Duty Vocational Truck	FORD	F450	FY2028	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
4533	Medium-Duty Vocational Truck	FORD	F450	FY2027	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
4534	Heavy Truck	FREIGHTLINER	114SD	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
4535	Heavy Truck	FREIGHTLINER	114SD	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4566	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4568	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
4628	Heavy Truck	FREIGHTLINER	M2106	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4655	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4664	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4665	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4676	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
4713	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
4886	Heavy Truck	CHEVROLET	C8500	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	False
4897	Medium-Duty Vocational Truck	FORD	F550	FY2028	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
4921	Light-Duty Pickup	FORD	RANGER	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
4928	Light-Duty Pickup	FORD	RANGER	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
4949	Sedan	TOYOTA	PRIUS HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
4991	Heavy Truck	CHEVROLET	C8500	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
5018	Heavy Truck	STERLING	ACTERRA	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	False
5064	Medium-Duty Vocational Truck	CHEVROLET	C7C042	FY2034	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
5071	Medium-Duty Vocational Truck	CHEVROLET	CC5C042	FY2025	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
5104	Medium-Duty Vocational Truck	FORD	F650	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
5110	Sedan	TOYOTA	PRIUS HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
5111	Sedan	TOYOTA	PRIUS HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
5123	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
5127	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
5148	Van	FORD	E250	FY2034	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
5155	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
5157	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
5158	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
5159	Sedan	TOYOTA	PRIUS HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
5160	Sedan	TOYOTA	PRIUS HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
5161	Sedan	TOYOTA	PRIUS HYBRID	FY2033	Gasoline	BEV	Nissan - Leaf S	True
5400	Sedan	FORD	FOCUS	FY2027	Gasoline	BEV	Nissan - Leaf S	True
5412	Light-Duty Pickup	CHEVROLET	COLORADO RC	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
5514	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
5532	Light-Duty Pickup	FORD	F250	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
5535	Light-Duty Pickup	FORD	F250	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
5536	Light-Duty Pickup	FORD	F250	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
5537	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
5544	Medium-Duty Vocational Truck	FORD	F450	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
5546	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
5575	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
5576	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
5700	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
5701	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
5702	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
5703	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
5900	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
6400	Van	FORD	TRANSIT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
6401	Van	FORD	TRANSIT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
6402	Van	FORD	TRANSIT	FY2027	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
6403	Van	FORD	TRANSIT	FY2029	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
6404	Van	FORD	TRANSIT	FY2027	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
6405	Van	FORD	TRANSIT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
6410	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
6411	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
6412	Van	FORD	TRANSIT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
6413	Van	FORD	TRANSIT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
6418	Sedan	TOYOTA	PRIUS TWO	FY2031	Gasoline	BEV	Nissan - Leaf S	True
6419	Sedan	TOYOTA	PRIUS TWO	FY2031	Gasoline	BEV	Nissan - Leaf S	True
6422	Van	FORD	TRANSIT CONNECT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
6423	Van	FORD	TRANSIT CONNECT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
7000	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
7001	SUV	FORD	ESCAPE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
7002	Heavy Truck	FREIGHTLINER	M2106	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
7003	Street Sweeper	UD NISSAN	UDRSHF	FY2033	Diesel	BEV	Global - M3 SUPERCHARGED	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
7004	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
7005	Refuse Truck	FORD	F550	FY2030	Diesel	BEV	Peterbilt - 520EV	False
7007	Light-Duty Pickup	CHEVROLET	C1500	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
7008	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
7011	Heavy Truck	FREIGHTLINER	M2112	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
7013	Heavy Truck	FORD	F750	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
7014	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
10002	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
10045	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
10057	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
10059	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
10061	Minivan	DODGE	GRAND CARAVAN	FY2026	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
10067	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
10082	SUV	FORD	ESCAPE	FY2028	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
10083	Medium-Duty Vocational Truck	FORD	F450	FY2034	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
10110	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10113	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10128	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10140	SUV	FORD	EXPLORER	FY2028	Gasoline	PHEV	Hyundai - Tucson SEL	False
10144	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10150	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10164	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10181	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10184	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10187	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10188	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10189	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10192	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10193	SUV	FORD	EXPLORER	FY2028	Gasoline	PHEV	Hyundai - Tucson SEL	False
10194	SUV	CHEVROLET	TAHOE	FY2029	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10230	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
10299	Medium-Duty Vocational Truck	NAVISTAR	4700	FY2030	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
10301	Sedan	TOYOTA	CAMRY HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10316	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	False
10317	Van	DODGE	RAM VAN 1500	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	False
10326	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10331	School Bus	NAVISTAR	3800	FY2026	Diesel	BEV	Starcraft - E-Quest XL (Paratransit)	False
10350	SUV	SUBARU	OUTBACK	FY2033	Gasoline	BEV	Fisker - Ocean Sport	True
10351	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
10355	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
10360	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10370	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10371	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10372	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10373	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10374	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10375	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
10380	Sedan	FORD	FUSION HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
10381	Sedan	FORD	FUSION HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
10382	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10384	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10388	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10395	Sedan	CHEVROLET	IMPALA	FY2034	Gasoline	BEV	Nissan - Leaf S	True
10405	Minivan	KIA	SEDONA	FY2026	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
10437	SUV	TOYOTA	RAV4	FY2026	Gasoline	BEV	Hyundai - Kona Electric SE	True
10438	SUV	NISSAN	ROGUE	FY2025	Gasoline	BEV	Hyundai - Kona Electric SE	True
10441	SUV	HONDA	CRV	FY2034	Gasoline	BEV	Hyundai - Kona Electric SE	True
10445	SUV	HONDA	CRV	FY2034	Gasoline	BEV	Hyundai - Kona Electric SE	True
10487	Sedan	CHEVROLET	IMPALA	FY2034	Gasoline	BEV	Nissan - Leaf S	True
10493	Sedan	FORD	Crown Victoria	FY2025	Gasoline	BEV	Tesla - Model 3 (Police)	True
10497	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10499	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
10510	Sedan	FORD	Crown Victoria	FY2025	Gasoline	BEV	Tesla - Model 3 (Police)	False
10515	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
10536	Sedan	DODGE	CHARGER	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
10539	Sedan	DODGE	CHARGER	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	True
10540	Sedan	DODGE	CHARGER	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	True
10541	Sedan	DODGE	CHARGER	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	True
10543	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10558	Sedan	FORD	Crown Victoria	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	False
10591	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10595	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
10624	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10633	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10637	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10640	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10642	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10643	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10644	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10645	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10659	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10660	Light-Duty Pickup	CHEVROLET	C1500	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
10661	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10662	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10663	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10664	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10665	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10667	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10668	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10670	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10671	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10672	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10673	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10674	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10675	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10676	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
10677	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10679	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10680	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10681	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10682	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10683	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10684	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10685	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10686	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10687	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10688	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10690	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10707	Sedan	FORD	Crown Victoria	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
10710	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10713	Sedan	FORD	Crown Victoria	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	False
10714	Sedan	FORD	Crown Victoria	FY2025	Gasoline	BEV	Tesla - Model 3 (Police)	False
10722	Sedan	FORD	Crown Victoria	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	False
10742	SUV	CHEVROLET	TAHOE	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10743	Sedan	TOYOTA	CAMRY HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10745	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10746	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10747	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10749	Sedan	TOYOTA	CAMRY HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
10750	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10751	SUV	CHEVROLET	TAHOE	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10754	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10755	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
10756	Sedan	TOYOTA	CAMRY HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10757	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
10759	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
10763	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10764	Van	FORD	E350	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
10765	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10766	Sedan	TOYOTA	CAMRY HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10769	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10776	SUV	CHEVROLET	TAHOE	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10778	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10779	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10788	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10800	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10807	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10808	Light-Duty Pickup	FORD	F250	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
10812	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	PHEV	Toyota - Prius Prime LE	True
10813	Sedan	FORD	FUSION HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
10819	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10820	Light-Duty Pickup	FORD	F250	FY2031	Diesel	BEV	Chevrolet - Silverado EV	True
10821	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
10822	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
10826	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10828	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10830	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10832	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10833	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10834	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
10835	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10836	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
10838	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
10839	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10841	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
10842	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10843	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10844	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10845	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10846	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
10847	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10849	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10850	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
10857	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10858	Sedan	FORD	FUSION HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
10859	Sedan	FORD	Crown Victoria	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	False
10861	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10862	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10864	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10865	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10866	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10867	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10868	Sedan	FORD	FUSION HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
10869	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10870	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10871	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10872	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10873	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10874	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10875	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10876	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10877	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10878	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
10880	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
10881	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10883	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10884	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
10885	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10886	SUV	CHEVROLET	TAHOE	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10887	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10890	Van	FORD	TRANSIT CONNECT	FY2030	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
10891	Van	FORD	TRANSIT CONNECT	FY2027	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
10899	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
10900	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
10901	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
10904	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
10907	SUV	FORD	ESCAPE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
10908	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
10911	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
10912	Sedan	TOYOTA	CAMRY HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
10913	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
10914	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10915	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10916	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10917	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10918	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10919	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10920	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10921	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10922	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10923	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10924	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10925	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10926	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
10927	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10928	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10929	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10930	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10931	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10932	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10934	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10935	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10936	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10937	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
10938	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10941	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10942	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10943	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
10970	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
10972	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
10979	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	False
10998	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
11113	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
11133	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
11150	Refuse Truck	ISUZU	NRR RC	FY2025	Diesel	BEV	Peterbilt - 520EV	False
11151	Refuse Truck	ISUZU	NRR RC	FY2030	Diesel	BEV	Peterbilt - 520EV	False
11152	Refuse Truck	ISUZU	NRR RC	FY2025	Diesel	BEV	Peterbilt - 520EV	False
11164	Heavy Truck	FREIGHTLINER	114SD	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
11169	Heavy Truck	FREIGHTLINER	M2106	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
11182	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
11183	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
11201	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11203	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11205	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11208	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11212	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11217	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11218	Refuse Truck	PETERBILT	520/NEWAY	FY2025	Diesel	BEV	Peterbilt - 520EV	False
11220	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11221	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11222	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11223	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11224	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11225	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11226	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11227	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
11229	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11230	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11231	Refuse Truck	PETERBILT	520/NEWAY	FY2025	Diesel	BEV	Peterbilt - 520EV	False
11232	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11233	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11235	Refuse Truck	PETERBILT	520/NEWAY	FY2025	Diesel	BEV	Peterbilt - 520EV	True
11236	Refuse Truck	PETERBILT	520/NEWAY	FY2026	Diesel	BEV	Peterbilt - 520EV	False
11237	Refuse Truck	PETERBILT	520/NEWAY	FY2031	Diesel	BEV	Peterbilt - 520EV	True
11238	Refuse Truck	PETERBILT	520/NEWAY	FY2025	Diesel	BEV	Peterbilt - 520EV	False
11239	Refuse Truck	PETERBILT	520/NEWAY	FY2031	Diesel	BEV	Peterbilt - 520EV	True
11242	Refuse Truck	PETERBILT	520/NEWAY	FY2027	Diesel	BEV	Peterbilt - 520EV	True
11243	Refuse Truck	PETERBILT	520/NEWAY	FY2026	Diesel	BEV	Peterbilt - 520EV	False
11247	Refuse Truck	AUTOCAR	ACX 64	FY2029	Diesel	BEV	Peterbilt - 520EV	True
11339	Refuse Truck	AUTOCAR	ACX 64-NG	FY2030	Diesel	BEV	Peterbilt - 520EV	True
11672	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
11674	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
11675	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
11677	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
11679	Light-Duty Pickup	FORD	RANGER	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
11680	Light-Duty Pickup	FORD	RANGER	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
11681	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
11685	SUV	CHEVROLET	EQUINOX FWD	FY2028	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11686	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
11687	SUV	DODGE	JOURNEY SE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11688	SUV	DODGE	JOURNEY SE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11689	SUV	CHEVROLET	EQUINOX FWD	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11690	SUV	CHEVROLET	EQUINOX FWD	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11691	SUV	DODGE	JOURNEY SE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11692	SUV	DODGE	JOURNEY	FY2033	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11694	SUV	CHEVROLET	EQUINOX FWD	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11695	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
11697	SUV	CHEVROLET	EQUINOX AWD	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
11698	SUV	CHEVROLET	EQUINOX FWD	FY2028	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11699	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
11702	SUV	DODGE	JOURNEY	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11707	SUV	DODGE	JOURNEY SE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
11708	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
11709	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
11852	Medium-Duty Vocational Truck	FORD	F450	FY2032	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
11904	Van	FORD	TRANSIT CONNECT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
11976	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
11978	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
11979	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
11980	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
12048	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
12275	SUV	FORD	ESCAPE	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
12340	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
12391	SUV	CHEVROLET	EQUINOX AWD	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
12501	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
12529	Light-Duty Pickup	FORD	F250	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
12591	Heavy Truck	FREIGHTLINER	M2106	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12631	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12632	Heavy Truck	MACK	GU713	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12633	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12634	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12635	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12636	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12637	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12638	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12639	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12649	Medium-Duty Vocational Truck	FORD	F450	FY2031	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
12711	SUV	CHEVROLET	S10/BLAZER	FY2033	Gasoline	BEV	Fisker - Ocean Sport	True
12726	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
12770	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
12771	Sedan	TOYOTA	PRIUS HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
12773	Sedan	TOYOTA	PRIUS TWO	FY2030	Gasoline	BEV	Nissan - Leaf S	True
12777	SUV	FORD	ESCAPE	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
12779	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
12780	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
12806	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
12825	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
12861	School Bus	THOMAS	31OTS	FY2033	Diesel	BEV	ZEVx - Chevrolet Express 3500 (School Bus)	False
12869	Heavy Truck	FREIGHTLINER	M2106	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
12872	Shuttle Bus	STARCRAFT	PRODIGY	FY2031	Gasoline	BEV	Ford - E-Transit Cutaway	True
12899	Shuttle Bus	FORD	E450	FY2026	Gasoline	BEV	Ford - E-Transit Cutaway	True
12915	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
12917	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
12925	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
12926	Light-Duty Pickup	FORD	F250	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
12957	Van	FORD	TRANSIT CONNECT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
13015	Heavy Truck	MACK	GU713	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13017	Heavy Truck	FREIGHTLINER	M2106	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	False
13019	Van	FORD	E150	FY2033	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
13020	Medium-Duty Vocational Truck	CHEVROLET	C7500 CC	FY2034	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13029	Medium-Duty Vocational Truck	CHEVROLET	CC7E042	FY2025	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13030	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
13040	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
13041	Van	FORD	E150	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
13054	Medium-Duty Vocational Truck	FORD	F550	FY2034	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13069	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
13075	Heavy Truck	STERLING	LT9500	FY2030	Diesel	BEV	Tesla - Semi	False
13078	Medium-Duty Vocational Truck	FORD	F350	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13083	Medium-Duty Vocational Truck	FORD	F550	FY2031	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13085	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
13087	SUV	FORD	ESCAPE	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
13089	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
13091	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
13098	Light-Duty Pickup	FORD	RANGER	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
13099	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
13112	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
13114	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
13121	Heavy Truck	MACK	GU713	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13122	Heavy Truck	MACK	GU713	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13146	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
13151	Medium-Duty Vocational Truck	FORD	F550	FY2030	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13156	SUV	FORD	ESCAPE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
13158	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
13162	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
13179	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
13180	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
13185	Medium-Duty Vocational Truck	FORD	F550	FY2029	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13190	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
13191	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
13192	Heavy Truck	MACK	GU713	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13194	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13202	Heavy Truck	MACK	GU713	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13205	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13218	Heavy Truck	CHEVROLET	C8500	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	False
13222	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
13242	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
13248	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
13256	Heavy Truck	NAVISTAR	7400/GODWIN	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13257	Heavy Truck	CHEVROLET	C8500	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	False
13262	Heavy Truck	FREIGHTLINER	114SD	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	False
13264	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
13265	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
13266	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
13389	Medium-Duty Vocational Truck	CHEVROLET	C7500 CC	FY2033	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13398	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
13465	Light-Duty Pickup	CHEVROLET	COLORADO RC	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
13474	Heavy Truck	FREIGHTLINER	114SD	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13692	Medium-Duty Vocational Truck	CHEVROLET	C3500	FY2025	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13727	Light-Duty Pickup	FORD	RANGER	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	False
13733	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
13735	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
13737	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
13738	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
13739	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
13740	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
13741	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
13743	SUV	CHEVROLET	TRAVERSE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
13745	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
13752	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
13754	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
13755	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
13756	Light-Duty Pickup	FORD	F250	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
13759	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
13763	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
13764	Light-Duty Pickup	CHEVROLET	COLORADO EC	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
13780	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
13843	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
13852	Light-Duty Pickup	FORD	RANGER	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
13859	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
13876	SUV	FORD	ESCAPE	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
13944	Medium-Duty Vocational Truck	FORD	F350	FY2026	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
13949	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
13987	SUV	DODGE	JOURNEY SE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
14067	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
14070	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
14095	Medium-Duty Vocational Truck	FORD	F350	FY2033	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14128	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
14129	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
14130	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
14135	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
14136	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
14137	Medium-Duty Pickup	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True
14138	Heavy Truck	FREIGHTLINER	114SD	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14140	Heavy Truck	FREIGHTLINER	114SD	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14141	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
14142	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
14146	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
14148	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
14149	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
14150	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
14154	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
14163	Medium-Duty Vocational Truck	FORD	F550	FY2032	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14164	Medium-Duty Vocational Truck	FORD	F350	FY2034	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14172	Sedan	TOYOTA	PRIUS HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
14178	Medium-Duty Vocational Truck	FORD	F550	FY2033	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14180	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
14181	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14182	Heavy Truck	FREIGHTLINER	114SD	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14185	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
14186	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
14190	Light-Duty Pickup	FORD	F250	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
14191	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
14193	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14291	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
14292	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14295	Heavy Truck	PETERBILT	337/TCM425-120	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14298	Street Sweeper	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Global - M3 SUPERCHARGED	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
14303	Medium-Duty Vocational Truck	FORD	F450	FY2028	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14304	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14305	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14306	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14308	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14309	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14402	Van	FORD	E250	FY2026	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
14405	Van	FORD	E250	FY2026	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
14408	Van	FORD	E250	FY2033	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
14413	Van	FORD	E250	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
14414	Van	FORD	E250	FY2026	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
14415	Van	FORD	E250	FY2026	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
14418	Van	FORD	E250	FY2027	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
14478	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
14481	Van	FORD	TRANSIT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
14498	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
14499	Light-Duty Pickup	FORD	F250	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14508	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
14510	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
14511	Light-Duty Pickup	FORD	F250	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
14518	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
14527	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
14561	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
14644	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
14672	Heavy Truck	MACK	GU713	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14685	Light-Duty Pickup	FORD	RANGER	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
14695	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14705	Box Truck	CHEVROLET	TILT CAB	FY2032	Diesel	BEV	Ford - E-Transit Chassis Cab (Box Truck)	True
14708	Medium-Duty Vocational Truck	FORD	F350	FY2031	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14801	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14802	SUV	FORD	ESCAPE	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
14803	Medium-Duty Pickup	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
14806	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14814	Medium-Duty Pickup	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True
14815	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14822	Medium-Duty Pickup	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True
14823	SUV	FORD	ESCAPE	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
14824	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
14825	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
14827	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
14832	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
14833	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
14836	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
14837	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
14838	SUV	FORD	ESCAPE	FY2028	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
14839	Medium-Duty Vocational Truck	FORD	F350	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14844	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
14845	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
14849	Medium-Duty Vocational Truck	FORD	F550	FY2031	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14861	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
14864	Medium-Duty Pickup	FORD	F350	FY2027	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True
14867	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
14869	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
14870	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14871	Van	FORD	TRANSIT	FY2029	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
14872	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14873	Medium-Duty Vocational Truck	FORD	F350	FY2030	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14885	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14896	Medium-Duty Vocational Truck	FORD	F350	FY2027	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14916	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14923	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
14933	Medium-Duty Vocational Truck	FORD	F350	FY2025	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14935	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
14936	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
14938	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
14940	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
14941	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14942	Medium-Duty Vocational Truck	FORD	F350	FY2030	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
14945	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
14946	Medium-Duty Pickup	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True
14947	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
14951	Heavy Truck	FREIGHTLINER	114SD	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14952	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
14953	Heavy Truck	FREIGHTLINER	114SD	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14954	Light-Duty Pickup	FORD	F250	FY2027	Diesel	BEV	Chevrolet - Silverado EV	True
14984	Box Truck	FORD	F550	FY2026	Diesel	BEV	BYD - 6F Cab-Forward Truck	False
14988	Van	FORD	TRANSIT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
14992	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
14996	Heavy Truck	FREIGHTLINER	114SD	FY2033	Diesel	BEV	Tesla - Semi	True
14999	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
15003	Light-Duty Pickup	FORD	F250	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
15006	Medium-Duty Vocational Truck	FORD	F450	FY2033	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
15008	Medium-Duty Vocational Truck	FORD	F450	FY2033	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
15015	Medium-Duty Vocational Truck	FORD	F450	FY2028	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
15023	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
15028	Refuse Truck	FORD	F750	FY2030	Diesel	BEV	Peterbilt - 520EV	False
15029	Refuse Truck	FREIGHTLINER	M2106	FY2031	Diesel	BEV	Peterbilt - 520EV	False
15032	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
15033	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
15036	Light-Duty Pickup	FORD	F250	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
15052	Light-Duty Pickup	FORD	F250	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
15067	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
15072	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
15082	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
15112	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
15113	Light-Duty Pickup	FORD	F250	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
15114	Medium-Duty Vocational Truck	FORD	F350	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
15115	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
15116	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
15117	SUV	CHEVROLET	TRAVERSE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
15118	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
15119	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
15120	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
15121	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
15122	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
15124	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
15128	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
15129	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
15150	Van	FORD	TRANSIT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
15151	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
15156	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
15596	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
20036	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
20049	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
20056	SUV	CHEVROLET	EQUINOX FWD	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
20060	SUV	FORD	ESCAPE	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
20108	Sedan	CHEVROLET	CAPRICE	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
20135	Sedan	CHEVROLET	CAPRICE	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
20141	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20144	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
20170	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20180	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20186	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
20195	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
20228	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20233	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20274	Sedan	FORD	Crown Victoria	FY2025	Gasoline	BEV	Nissan - Leaf S	True
20292	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
20297	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
20310	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
20320	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
20348	Sedan	TOYOTA	PRIUS HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
20349	Sedan	TOYOTA	CAMRY HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
20356	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20357	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
20358	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	False
20361	Van	FORD	E250	FY2034	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
20364	Sedan	CHEVROLET	CAPRICE	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
20376	SUV	CHEVROLET	TRAVERSE	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20378	SUV	CHEVROLET	EQUINOX FWD	FY2025	Gasoline	BEV	Hyundai - Kona Electric SE	True
20386	SUV	CHEVROLET	TAHOE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
20387	SUV	CHEVROLET	TAHOE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
20389	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20390	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20394	Van	FORD	E150	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	False
20399	Sedan	FORD	Crown Victoria	FY2034	Gasoline	BEV	Nissan - Leaf S	True
20400	Minivan	KIA	SEDONA	FY2026	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
20418	Minivan	KIA	SEDONA	FY2025	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
20426	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
20474	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
20483	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20486	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20491	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20494	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20498	Sedan	FORD	FUSION HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
20500	Sedan	TOYOTA	CAMRY HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
20503	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20505	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
20507	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20509	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
20511	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20517	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20518	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
20519	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
20527	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20529	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
20534	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20545	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
20546	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
20550	SUV	CHEVROLET	TAHOE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
20552	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20553	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20554	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20557	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20560	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20562	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20564	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20565	Sedan	DODGE	CHARGER	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
20567	Medium-Duty Vocational Truck	FORD	F350	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
20568	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
20569	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20570	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
20579	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20582	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20593	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20600	Light-Duty Pickup	FORD	F250	FY2031	Diesel	BEV	Chevrolet - Silverado EV	True
20601	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20602	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20606	Sedan	FORD	Crown Victoria	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	True
20608	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20616	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20618	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
20620	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20621	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20622	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20623	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20627	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20629	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20632	Sedan	CHEVROLET	VOLT	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20634	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20639	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20641	SUV	CHEVROLET	TRAVERSE	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20648	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20649	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20653	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
20678	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20689	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20691	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20692	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20694	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
20695	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20696	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
20699	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20700	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20701	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20703	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20704	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20705	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20708	Light-Duty Pickup	FORD	F250	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
20709	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20712	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20715	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20716	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20717	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
20718	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20719	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20723	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20724	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20726	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20728	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20729	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20730	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20731	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20732	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20734	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20735	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20736	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20737	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20739	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
20740	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20744	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20748	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
20752	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20758	SUV	CHEVROLET	TAHOE	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
20761	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
20762	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
20770	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20771	SUV	CHEVROLET	TAHOE	FY2027	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
20772	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20773	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20774	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
20775	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20777	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20780	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20781	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20782	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
20783	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20784	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20785	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20787	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20789	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20791	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20792	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
20795	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20796	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20797	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20798	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20799	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20803	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
20806	Medium-Duty Vocational Truck	FORD	F250	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
20811	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20818	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
20860	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
20933	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
21110	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
21113	Refuse Truck	CRANE CARRIER	LET2-44	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21122	Refuse Truck	ISUZU	NRR RC	FY2025	Diesel	BEV	Peterbilt - 520EV	False
21141	Refuse Truck	CRANE CARRIER	LET2-44	FY2029	Diesel	BEV	Peterbilt - 520EV	False
21201	Refuse Truck	CRANE CARRIER	LET2-46	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21202	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21203	Refuse Truck	CRANE CARRIER	LET2-46	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21204	Refuse Truck	AUTOCAR	ACX 64	FY2031	Diesel	BEV	Peterbilt - 520EV	False
21205	Refuse Truck	CRANE CARRIER	LET2-46	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21206	Refuse Truck	AUTOCAR	ACX 64	FY2031	Diesel	BEV	Peterbilt - 520EV	False
21207	Refuse Truck	CRANE CARRIER	LET2-46	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21209	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
21210	Refuse Truck	AUTOCAR	ACX 64	FY2031	Diesel	BEV	Peterbilt - 520EV	False
21211	Refuse Truck	AUTOCAR	ACX 64	FY2031	Diesel	BEV	Peterbilt - 520EV	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
21213	Refuse Truck	AUTOCAR	ACX 64	FY2031	Diesel	BEV	Peterbilt - 520EV	False
21214	Refuse Truck	CRANE CARRIER	LET2-46	FY2029	Diesel	BEV	Peterbilt - 520EV	False
21215	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21216	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21219	Refuse Truck	PETERBILT	520/NEWAY	FY2025	Diesel	BEV	Peterbilt - 520EV	False
21228	Refuse Truck	PETERBILT	520/NEWAY	FY2031	Diesel	BEV	Peterbilt - 520EV	True
21241	Heavy Truck	FREIGHTLINER	M2106	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	True
21246	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
21255	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
21306	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
21333	Refuse Truck	AUTOCAR	ACX 64	FY2029	Diesel	BEV	Peterbilt - 520EV	True
21334	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
21335	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21336	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
21337	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
21339	Refuse Truck	CRANE CARRIER	LET2-46	FY2030	Diesel	BEV	Peterbilt - 520EV	False
21700	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
21703	SUV	CHEVROLET	EQUINOX AWD	FY2032	Gasoline	BEV	Fisker - Ocean Sport	True
21705	SUV	FORD	ESCAPE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21706	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
21710	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
21712	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
21713	SUV	DODGE	JOURNEY SE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21714	SUV	CHEVROLET	EQUINOX AWD	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
21715	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
21716	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
21717	SUV	FORD	ESCAPE	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
21718	SUV	CHEVROLET	EQUINOX FWD	FY2027	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21719	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
21720	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
21721	SUV	FORD	ESCAPE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21722	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
21723	SUV	CHEVROLET	EQUINOX AWD	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
21724	SUV	CHEVROLET	EQUINOX FWD	FY2032	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21778	SUV	DODGE	JOURNEY	FY2027	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21792	SUV	CHEVROLET	EQUINOX FWD	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21795	SUV	DODGE	JOURNEY SE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21796	SUV	DODGE	JOURNEY SE	FY2033	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21797	SUV	DODGE	JOURNEY SE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21798	SUV	DODGE	JOURNEY SE	FY2033	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
21799	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
21834	Medium-Duty Vocational Truck	FORD	F450	FY2028	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
21983	Light-Duty Pickup	FORD	F250	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
21987	Medium-Duty Vocational Truck	FORD	F650	FY2030	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
22044	Medium-Duty Vocational Truck	FORD	F450	FY2033	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
22083	SUV	CHEVROLET	TRAVERSE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
22091	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
22093	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
22142	Medium-Duty Vocational Truck	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
22163	Van	FORD	E250	FY2033	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
22175	Heavy Truck	NAVISTAR	7400/GODWIN	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
22228	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
22261	Heavy Truck	FORD	F750	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
22451	Van	FORD	E250	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
22452	Medium-Duty Vocational Truck	FORD	F350	FY2031	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
22456	Sedan	TOYOTA	PRIUS HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
22457	Van	FORD	E250	FY2026	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
22476	Heavy Truck	FREIGHTLINER	M2106	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
22630	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
22667	Van	FORD	TRANSIT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
22708	Medium-Duty Vocational Truck	FORD	F550	FY2025	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
22725	Heavy Truck	FORD	F750	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
22774	Sedan	FORD	FIESTA	FY2026	Gasoline	BEV	Nissan - Leaf S	True
22875	Van	FORD	TRANSIT CONNECT	FY2032	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
22890	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
22891	Van	FORD	E250	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
22898	Shuttle Bus	GOSHEN	GCII 5500	FY2031	Gasoline	BEV	Ford - E-Transit Cutaway	True
23010	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
23011	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
23012	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23014	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
23016	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
23018	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
23026	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
23031	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23042	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
23076	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
23081	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
23084	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23090	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
23096	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
23103	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
23104	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
23106	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23111	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
23113	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23116	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
23118	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
23119	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
23120	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
23126	Medium-Duty Vocational Truck	FORD	F550	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23137	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
23144	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23155	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
23164	Medium-Duty Vocational Truck	FORD	F350	FY2028	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23165	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
23168	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
23174	Heavy Truck	MACK	GU713	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23183	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23201	Heavy Truck	STERLING	LT7500	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	False
23212	Heavy Truck	MACK	GU713	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23216	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23226	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23237	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
23239	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23268	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
23277	Heavy Truck	FREIGHTLINER	108SD RC	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23298	Medium-Duty Vocational Truck	FORD	F350	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23337	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23340	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
23348	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	False
23369	Medium-Duty Vocational Truck	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23378	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23385	Heavy Truck	MACK	GU713	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23390	Heavy Truck	FREIGHTLINER	M2112	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23391	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
23404	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
23459	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
23464	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
23477	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
23479	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
23499	Heavy Truck	CHEVROLET	C7500	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	False
23530	Medium-Duty Vocational Truck	FORD	F450	FY2033	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23548	Light-Duty Pickup	FORD	F250	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23549	Heavy Truck	STERLING	LT9500	FY2025	Diesel	BEV	Tesla - Semi	False
23557	Medium-Duty Vocational Truck	FORD	F350	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23578	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
23597	Heavy Truck	MACK	GU713	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
23631	Light-Duty Pickup	FORD	F250	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
23648	Medium-Duty Vocational Truck	CHEVROLET	C7C042	FY2025	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23654	Van	FORD	E150	FY2025	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
23711	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
23712	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23715	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
23724	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
23725	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
23736	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
23746	SUV	FORD	ESCAPE	FY2027	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
23751	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
23758	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
23761	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
23762	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
23766	SUV	DODGE	DURANGO	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
23767	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23768	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
23769	Sedan	FORD	FUSION S	FY2028	Gasoline	BEV	Nissan - Leaf S	True
23773	Light-Duty Pickup	DODGE	DAKOTA EC	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
23774	Sedan	FORD	FUSION HYBRID	FY2032	Gasoline	BEV	Nissan - Leaf S	True
23781	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
23786	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
23794	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
23842	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
23849	SUV	FORD	ESCAPE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
23853	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
23942	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
23951	Medium-Duty Vocational Truck	FORD	F550	FY2029	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
23986	Van	FORD	TRANSIT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
24133	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
24151	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
24162	Heavy Truck	FREIGHTLINER	108SD RC	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
24171	Medium-Duty Vocational Truck	FORD	F550	FY2032	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
24262	Heavy Truck	FREIGHTLINER	M2106	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
24263	Heavy Truck	FREIGHTLINER	M2106	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
24272	Heavy Truck	NAVISTAR	7400	FY2026	Diesel	BEV	Xos - MDXT SR (Class 7)	True
24288	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
24563	Heavy Truck	PETERBILT	337	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
24620	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
24645	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
24683	SUV	CHEVROLET	EQUINOX AWD	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
24811	Medium-Duty Vocational Truck	FORD	F350	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
24812	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
24817	Light-Duty Pickup	FORD	F250	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
24826	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
24880	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
24881	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
24884	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
25005	SUV	CHEVROLET	EQUINOX AWD	FY2032	Gasoline	BEV	Fisker - Ocean Sport	True
30027	SUV	DODGE	JOURNEY SXT4	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
30032	SUV	FORD	ESCAPE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
30038	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
30104	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
30114	Sedan	FORD	Crown Victoria	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	True
30126	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30127	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30130	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
30137	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30152	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30156	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30167	SUV	CHEVROLET	TAHOE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
30171	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30176	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
30196	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
30208	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30252	Sedan	CHEVROLET	IMPALA	FY2034	Gasoline	BEV	Nissan - Leaf S	True
30256	Shuttle Bus	CHEVROLET	CC5C042	FY2028	Diesel	BEV	Ford - E-Transit Cutaway	False
30257	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30261	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30268	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30280	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
30281	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
30285	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
30287	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
30293	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
30294	SUV	CHEVROLET	TAHOE	FY2029	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30295	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30298	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30343	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
30345	Sedan	CHEVROLET	CAPRICE	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	True
30366	SUV	CHEVROLET	TAHOE	FY2029	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30368	SUV	FORD	EXPEDITION 4x4	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
30377	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
30385	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
30398	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
30443	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
30449	Sedan	CHEVROLET	CAPRICE	FY2033	Gasoline	BEV	Nissan - Leaf S	True
30454	Sedan	HYUNDAI	ELANTRA	FY2025	Gasoline	BEV	Nissan - Leaf S	True
30475	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
30476	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
30478	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
30484	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
30485	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
30489	SUV	CHEVROLET	TAHOE	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
30492	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30495	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
30506	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30512	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30530	SUV	CHEVROLET	TAHOE	FY2030	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30531	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30532	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
30535	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
30548	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
30549	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
30565	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
30566	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30571	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30574	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
30575	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30577	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30592	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30594	Sedan	FORD	FUSION HYBRID	FY2034	Gasoline	BEV	Nissan - Leaf S	True
30603	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30605	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30607	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
30609	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
30610	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30613	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30615	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30617	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
30631	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30693	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
30702	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30706	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30727	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
30741	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
30767	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
30852	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
31115	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
31185	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
31189	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
31192	Refuse Truck	FORD	F750	FY2025	Diesel	BEV	Peterbilt - 520EV	False
31193	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
31195	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
31196	Refuse Truck	FORD	F750	FY2031	Diesel	BEV	Peterbilt - 520EV	False
31198	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
31240	Heavy Truck	FREIGHTLINER	M2106	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
31257	Heavy Truck	FREIGHTLINER	M2112	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
31301	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
31304	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
31330	Refuse Truck	PETERBILT	520/NEWAY	FY2027	Diesel	BEV	Peterbilt - 520EV	True
31331	Refuse Truck	PETERBILT	520/NEWAY	FY2027	Diesel	BEV	Peterbilt - 520EV	True
31332	Refuse Truck	PETERBILT	520/NEWAY	FY2029	Diesel	BEV	Peterbilt - 520EV	True
31338	Refuse Truck	AUTOCAR	ACX 64	FY2030	Diesel	BEV	Peterbilt - 520EV	True
31711	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
31773	SUV	DODGE	JOURNEY SE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31774	SUV	DODGE	JOURNEY	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31781	SUV	CHEVROLET	EQUINOX FWD	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31782	SUV	FORD	ESCAPE	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31783	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
31785	SUV	FORD	ESCAPE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31786	SUV	DODGE	JOURNEY SE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31787	SUV	DODGE	JOURNEY SE	FY2033	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31789	SUV	DODGE	JOURNEY SE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31790	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
31794	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
31832	Medium-Duty Vocational Truck	FORD	F450	FY2025	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
31833	SUV	DODGE	JOURNEY SE	FY2027	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
31981	Van	FORD	TRANSIT	FY2030	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
31982	Medium-Duty Vocational Truck	FORD	F450	FY2025	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
31994	Light-Duty Pickup	FORD	RANGER	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
32031	Light-Duty Pickup	FORD	F250	FY2032	Diesel	BEV	Chevrolet - Silverado EV	True
32060	Van	FORD	E250	FY2033	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
32065	Heavy Truck	FREIGHTLINER	114SD	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
32069	Medium-Duty Vocational Truck	FREIGHTLINER	M2106	FY2033	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
32140	Van	FORD	E250	FY2033	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
32167	Medium-Duty Vocational Truck	FORD	F350	FY2032	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
32170	Light-Duty Pickup	FORD	F250	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
32258	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
32442	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
32481	Heavy Truck	FORD	F750	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
32496	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
32531	Van	FORD	E250	FY2027	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
32654	Light-Duty Pickup	FORD	RANGER	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
32704	Heavy Truck	FORD	LT9000	FY2030	Diesel	BEV	Tesla - Semi	False
32860	School Bus	THOMAS	310TS	FY2027	Diesel	BEV	ZEVx - Chevrolet Express 3500 (School Bus)	True
32877	School Bus	THOMAS	310TS	FY2029	Diesel	BEV	ZEVx - Chevrolet Express 3500 (School Bus)	True
32894	Shuttle Bus	STARCRAFT	PRODIGY	FY2026	Gasoline	BEV	Ford - E-Transit Cutaway	True
33028	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
33109	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
33110	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
33167	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
33203	Van	FORD	E150	FY2033	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
33209	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
33211	SUV	FORD	ESCAPE	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
33217	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
33219	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
33229	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
33231	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
33234	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
33238	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
33333	Medium-Duty Vocational Truck	FORD	F350	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
33343	Light-Duty Pickup	CHEVROLET	COLORADO RC	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
33355	Medium-Duty Vocational Truck	FORD	F550	FY2027	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
33359	Medium-Duty Vocational Truck	CHEVROLET	CC7E042	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
33363	Medium-Duty Vocational Truck	FORD	F350	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
33364	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
33383	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
33424	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
33440	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
33454	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
33456	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
33457	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
33478	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
33531	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
33543	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
33622	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
33624	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
33635	Light-Duty Pickup	FORD	F250	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
33643	Medium-Duty Vocational Truck	FORD	F550	FY2027	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
33650	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
33678	Light-Duty Pickup	FORD	RANGER	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
33713	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
33770	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
33788	SUV	CHEVROLET	EQUINOX AWD	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
33955	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
33992	Medium-Duty Vocational Truck	FORD	F350	FY2031	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
34205	Heavy Truck	NAVISTAR	7300	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	False
34207	Heavy Truck	NAVISTAR	4700	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34216	Heavy Truck	FREIGHTLINER	M2106	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34232	Street Sweeper	UD NISSAN	UDRSHF	FY2033	Diesel	BEV	Global - M3 SUPERCHARGED	False
34233	Heavy Truck	FREIGHTLINER	M2106	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
34236	Heavy Truck	FREIGHTLINER	M2106	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34238	Street Sweeper	GLOBAL	M4HSD	FY2030	Diesel	BEV	Global - M3 SUPERCHARGED	False
34250	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
34255	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
34256	Heavy Truck	FREIGHTLINER	M2106	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34257	Heavy Truck	FORD	F750	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34258	Heavy Truck	FREIGHTLINER	M2106	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34264	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34266	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34267	Heavy Truck	FORD	F750	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34522	Heavy Truck	PETERBILT	337	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34548	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
34692	Heavy Truck	MACK	GU713	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
34704	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
40030	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
40050	SUV	FORD	ESCAPE	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
40102	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40125	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40134	Sedan	TOYOTA	CAMRY HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
40136	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40151	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40160	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40169	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
40190	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
40203	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
40205	Sedan	CHEVROLET	CAPRICE	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
40212	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
40253	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
40271	SUV	FORD	ESCAPE	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
40276	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40323	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
40329	Van	FORD	TRANSIT	FY2030	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
40332	Sedan	FORD	Crown Victoria	FY2025	Gasoline	BEV	Nissan - Leaf S	True
40335	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
40346	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
40347	SUV	CHEVROLET	TAHOE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
40393	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
40419	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40420	Minivan	FORD	WINDSTAR	FY2033	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	False
40422	SUV	CHEVROLET	TAHOE	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40424	SUV	FORD	FLEX SEL	FY2033	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
40436	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
40444	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
40447	Minivan	DODGE	CARAVAN	FY2025	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
40448	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
40449	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
40450	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
40453	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
40455	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
40457	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
40459	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
40461	Sedan	TOYOTA	CAMRY HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
40462	Sedan	TOYOTA	CAMRY HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
40472	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
40481	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
40482	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
40508	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40528	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
40551	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
40589	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
40625	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
40626	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
40711	SUV	CHEVROLET	EQUINOX FWD	FY2025	Gasoline	BEV	Hyundai - Kona Electric SE	True
40804	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
41135	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
41143	Refuse Truck	CRANE CARRIER	LET2-44	FY2026	Diesel	BEV	Peterbilt - 520EV	False
41144	Refuse Truck	CRANE CARRIER	LET2-45	FY2025	Diesel	BEV	Peterbilt - 520EV	False
41145	Refuse Truck	CRANE CARRIER	LET2-45	FY2025	Diesel	BEV	Peterbilt - 520EV	False
41146	Refuse Truck	CRANE CARRIER	LET2-45	FY2025	Diesel	BEV	Peterbilt - 520EV	False
41157	Refuse Truck	CRANE CARRIER	LET2-44	FY2026	Diesel	BEV	Peterbilt - 520EV	False
41165	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
41168	Heavy Truck	FREIGHTLINER	M2106	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
41184	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
41188	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
41190	Refuse Truck	CRANE CARRIER	LET2-45	FY2025	Diesel	BEV	Peterbilt - 520EV	False
41191	Refuse Truck	CRANE CARRIER	LET2-45	FY2030	Diesel	BEV	Peterbilt - 520EV	False
41194	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
41197	Refuse Truck	ISUZU	NRR RC	FY2029	Diesel	BEV	Peterbilt - 520EV	False
41294	Minivan	DODGE	GRAND CARAV SE	FY2028	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
41305	SUV	CHEVROLET	EQUINOX AWD	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
41740	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
41752	SUV	DODGE	JOURNEY SE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
41755	SUV	DODGE	JOURNEY SE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
41757	SUV	DODGE	JOURNEY SE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
41758	SUV	CHEVROLET	EQUINOX FWD	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
41762	SUV	CHEVROLET	EQUINOX FWD	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
41766	SUV	CHEVROLET	EQUINOX FWD	FY2028	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
41777	SUV	DODGE	JOURNEY SE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
41788	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
41810	Medium-Duty Vocational Truck	FORD	F450	FY2026	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
41820	Medium-Duty Vocational Truck	FORD	F450	FY2034	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
41880	Heavy Truck	FREIGHTLINER	M2106	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
41909	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
41912	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
41917	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
41991	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
41999	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
42042	Medium-Duty Vocational Truck	FORD	F450	FY2028	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
42082	Medium-Duty Vocational Truck	FORD	F450	FY2033	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
42141	Light-Duty Pickup	FORD	F250	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
42174	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
42207	Medium-Duty Vocational Truck	FORD	F450	FY2025	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
42292	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
42320	Medium-Duty Vocational Truck	FORD	F450	FY2026	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
42380	SUV	CHEVROLET	EQUINOX AWD	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
42390	SUV	CHEVROLET	EQUINOX AWD	FY2032	Gasoline	BEV	Fisker - Ocean Sport	True
42398	Heavy Truck	FORD	F750	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
42399	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
42453	Van	FORD	TRANSIT	FY2029	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
42478	Medium-Duty Vocational Truck	FORD	F450	FY2028	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
42480	Light-Duty Pickup	FORD	F250	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
42621	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
42640	Light-Duty Pickup	FORD	RANGER	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
42703	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
42723	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
42850	Shuttle Bus	CHEVROLET	CG33803	FY2030	Gasoline	BEV	Ford - E-Transit Cutaway	True
42864	School Bus	THOMAS	31OTS	FY2029	Diesel	BEV	ZEVx - Chevrolet Express 3500 (School Bus)	True
42865	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
43105	SUV	FORD	ESCAPE	FY2026	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
43107	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
43208	Sedan	TOYOTA	PRIUS HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
43210	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
43243	Light-Duty Pickup	FORD	F250	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
43285	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
43286	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
43307	Heavy Truck	GMC	8500	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	False
43328	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
43346	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
43352	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
43353	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
43365	Heavy Truck	MACK	GU713	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
43422	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
43449	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
43532	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
43554	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
43587	Medium-Duty Vocational Truck	FORD	F350	FY2033	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
43589	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
43590	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
43591	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
43621	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
43632	Medium-Duty Vocational Truck	FORD	F550	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
43634	Light-Duty Pickup	FORD	F250	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
43651	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
43653	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
43659	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
43661	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
43771	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
43772	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
43778	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
43779	Light-Duty Pickup	DODGE	DAKOTA EC	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
43791	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
43795	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
43796	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
43797	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
43836	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
43848	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
43969	Medium-Duty Vocational Truck	FORD	F550	FY2029	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
43970	Van	FORD	TRANSIT	FY2029	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
43977	SUV	FORD	ESCAPE	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
43983	Light-Duty Pickup	FORD	F350	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
44204	Heavy Truck	FREIGHTLINER	M2106	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44208	Heavy Truck	FREIGHTLINER	M2106	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	False
44209	Street Sweeper	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Global - M3 SUPERCHARGED	False
44215	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
44224	Street Sweeper	FREIGHTLINER	M2106	FY2027	Diesel	BEV	Global - M3 SUPERCHARGED	False
44248	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
44249	Heavy Truck	FORD	F750	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44268	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
44271	Light-Duty Pickup	FORD	F250	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
44501	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44506	Heavy Truck	NAVISTAR	7600T	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44544	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
44623	Heavy Truck	FREIGHTLINER	114SD	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44624	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44637	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44639	Heavy Truck	FREIGHTLINER	114SD	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44660	Heavy Truck	FREIGHTLINER	M2106	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44661	Heavy Truck	FREIGHTLINER	108SD CC	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44666	Heavy Truck	FREIGHTLINER	114SD	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44668	Heavy Truck	FORD	F750	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44671	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
44675	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
44703	Light-Duty Pickup	FORD	F250	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
44926	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
45405	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
50001	Shuttle Bus	FORD	CHAMPION	FY2026	Gasoline	BEV	Ford - E-Transit Cutaway	False
50075	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
50107	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50117	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50133	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50161	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
50168	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
50200	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
50201	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
50202	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
50204	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
50209	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50211	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50215	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
50236	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
50243	Van	FORD	TRANSIT CONNECT	FY2028	Gasoline	BEV	Maxwell Vehicles - ePro SR Cargo Van	False
50247	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50248	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50251	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
50254	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50263	SUV	CHEVROLET	TAHOE	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50264	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
50278	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50289	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
50290	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50296	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50322	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50330	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
50334	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
50339	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
50340	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
50341	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50344	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
50396	Sedan	NISSAN	ALTIMA	FY2034	Gasoline	BEV	Nissan - Leaf S	True
50410	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
50412	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50417	Sedan	TOYOTA	CAMRY HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
50425	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
50439	Sedan	TOYOTA	CAMRY HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
50440	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
50446	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50451	SUV	FORD	ESCAPE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
50452	Sedan	FORD	FUSION HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
50460	Sedan	FORD	Crown Victoria	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	True
50465	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50466	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
50467	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
50470	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
50477	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50513	Minivan	CHRYSLER	VOYAGER	FY2026	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
50587	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
50590	SUV	CHEVROLET	TAHOE	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
50824	SUV	NISSAN	ROGUE	FY2026	Gasoline	BEV	Hyundai - Kona Electric SE	True
51112	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
51114	Refuse Truck	FORD	F550	FY2030	Diesel	BEV	Peterbilt - 520EV	False
51119	Sedan	TOYOTA	PRIUS C HB	FY2027	Gasoline	BEV	Nissan - Leaf S	True
51121	Refuse Truck	FORD	F550	FY2030	Diesel	BEV	Peterbilt - 520EV	False
51126	Refuse Truck	CRANE CARRIER	LET2-45	FY2025	Diesel	BEV	Peterbilt - 520EV	False
51127	Refuse Truck	ISUZU	NRR RC	FY2027	Diesel	BEV	Peterbilt - 520EV	False
51128	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
51130	Refuse Truck	CRANE CARRIER	LET2-45	FY2025	Diesel	BEV	Peterbilt - 520EV	False
51137	Refuse Truck	CRANE CARRIER	LET2-44	FY2027	Diesel	BEV	Peterbilt - 520EV	False
51139	Refuse Truck	FORD	F550	FY2031	Diesel	BEV	Peterbilt - 520EV	False
51142	Refuse Truck	CRANE CARRIER	LET2-44	FY2029	Diesel	BEV	Peterbilt - 520EV	False
51147	Refuse Truck	CRANE CARRIER	LET2-44	FY2028	Diesel	BEV	Peterbilt - 520EV	False
51148	Refuse Truck	CRANE CARRIER	LET2-45	FY2025	Diesel	BEV	Peterbilt - 520EV	False
51156	Refuse Truck	CRANE CARRIER	LET2-44	FY2026	Diesel	BEV	Peterbilt - 520EV	False
51165	Refuse Truck	CRANE CARRIER	LET2-44	FY2030	Diesel	BEV	Peterbilt - 520EV	False
51170	Refuse Truck	CRANE CARRIER	LET2-45	FY2031	Diesel	BEV	Peterbilt - 520EV	False
51171	Refuse Truck	CRANE CARRIER	LET2-44	FY2028	Diesel	BEV	Peterbilt - 520EV	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
51172	Refuse Truck	CRANE CARRIER	LET2-44	FY2026	Diesel	BEV	Peterbilt - 520EV	False
51173	Refuse Truck	CRANE CARRIER	LET2-44	FY2026	Diesel	BEV	Peterbilt - 520EV	False
51174	Refuse Truck	CRANE CARRIER	LET2-44	FY2027	Diesel	BEV	Peterbilt - 520EV	False
51179	Medium-Duty Vocational Truck	FORD	F550	FY2034	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
51188	Refuse Truck	CRANE CARRIER	LET2-44	FY2030	Diesel	BEV	Peterbilt - 520EV	False
51737	SUV	DODGE	JOURNEY SE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
51738	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
51742	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
51744	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
51747	Sedan	TOYOTA	PRIUS HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
51751	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
51754	SUV	DODGE	JOURNEY SE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
51761	SUV	DODGE	JOURNEY SE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
51763	SUV	CHEVROLET	EQUINOX FWD	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
51764	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
51767	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
51769	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
51770	Sedan	TOYOTA	PRIUS C HB	FY2028	Gasoline	BEV	Nissan - Leaf S	True
51771	SUV	DODGE	JOURNEY	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
51775	SUV	DODGE	JOURNEY	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
51779	SUV	FORD	ESCAPE	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
51800	Medium-Duty Vocational Truck	FORD	F250	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
51892	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
51896	Light-Duty Pickup	CHEVROLET	2500	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
51902	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
52067	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
52308	Medium-Duty Vocational Truck	FORD	F350	FY2033	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
52316	Medium-Duty Vocational Truck	FORD	F450	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
52351	Medium-Duty Vocational Truck	FORD	F450	FY2027	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
52364	Heavy Truck	FREIGHTLINER	M2106	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
52373	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
52382	Light-Duty Pickup	FORD	F250	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
52384	Light-Duty Pickup	FORD	F250	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
52385	Light-Duty Pickup	FORD	F250	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
52386	Medium-Duty Vocational Truck	CHEVROLET	C7H042	FY2027	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
52387	Heavy Truck	FREIGHTLINER	M2112	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
52433	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
52446	SUV	FORD	ESCAPE	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
52462	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
52464	Medium-Duty Vocational Truck	FORD	F450	FY2032	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
52700	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
52713	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
52721	Light-Duty Pickup	CHEVROLET	C1500	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
52852	SUV	CHEVROLET	TRAILBLAZER	FY2025	Gasoline	BEV	Fisker - Ocean Sport	True
52853	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
52871	Shuttle Bus	STARCRAFT	PRODIGY	FY2033	Gasoline	BEV	Ford - E-Transit Cutaway	True
52878	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
53206	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
53207	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
53284	Medium-Duty Vocational Truck	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
53292	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
53352	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
53371	Sedan	TOYOTA	CAMRY HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
53393	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
53402	Heavy Truck	MACK	GU713	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
53408	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
53410	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
53420	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
53507	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
53521	Heavy Truck	MACK	GU713	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
53522	Heavy Truck	FREIGHTLINER	108SD RC	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	False
53537	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
53541	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
53580	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
53636	Light-Duty Pickup	FORD	F150	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
53637	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
53638	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
53639	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
53640	Light-Duty Pickup	FORD	RANGER	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
53641	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
53642	Light-Duty Pickup	FORD	F250	FY2033	Diesel	BEV	Chevrolet - Silverado EV	True
53644	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
53657	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
53775	Light-Duty Pickup	DODGE	DAKOTA EC	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
53790	SUV	FORD	ESCAPE	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
53798	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
53799	SUV	CHEVROLET	EQUINOX AWD	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
53875	Van	FORD	TRANSIT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
53962	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
53976	Medium-Duty Vocational Truck	FORD	F450	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
53984	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
54212	Street Sweeper	FREIGHTLINER	M2106	FY2028	Diesel	BEV	Global - M3 SUPERCHARGED	False
54218	Street Sweeper	PETERBILT	220/CROSSWIND	FY2028	Diesel	BEV	Global - M3 SUPERCHARGED	False
54219	Street Sweeper	GLOBAL	M4HSD	FY2030	Diesel	BEV	Global - M3 SUPERCHARGED	False
54247	Heavy Truck	FREIGHTLINER	M2106	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	False
54274	Light-Duty Pickup	FORD	F250	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
54601	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
54606	Heavy Truck	FREIGHTLINER	114SD	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54610	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54612	Heavy Truck	FREIGHTLINER	M2106	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54614	Heavy Truck	FORD	F750	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54619	Heavy Truck	FORD	F750	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54622	Heavy Truck	FORD	F750	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54627	Heavy Truck	FORD	F750	FY2027	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54629	Heavy Truck	MACK	GU713	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54630	Heavy Truck	FREIGHTLINER	114SD	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
54643	Heavy Truck	FORD	F750	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54650	Heavy Truck	FORD	F750	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54654	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
54688	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
54696	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
54698	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
54701	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
60026	Sedan	TOYOTA	PRIUS C HB	FY2030	Gasoline	BEV	Nissan - Leaf S	True
60031	SUV	FORD	ESCAPE	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
60101	Sedan	TOYOTA	CAMRY HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
60112	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60119	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
60149	Sedan	TOYOTA	CAMRY HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
60154	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60158	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
60163	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
60206	SUV	CHEVROLET	TRAVERSE	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
60207	Light-Duty Pickup	FORD	F250	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
60215	SUV	FORD	ESCAPE	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
60217	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
60219	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60240	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
60244	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60249	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
60255	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60258	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60259	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
60267	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60272	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
60273	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
60277	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60282	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
60284	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
60288	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
60302	Van	FORD	TRANSIT	FY2031	Gasoline	BEV	Maxwell Vehicles - ePro SR Passenger Van	True
60304	Sedan	CHEVROLET	CAPRICE	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
60305	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
60311	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
60313	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60315	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60324	Sedan	TOYOTA	CAMRY	FY2026	Gasoline	BEV	Nissan - Leaf S	True
60325	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
60327	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	False
60391	Sedan	NISSAN	ALTIMA	FY2025	Gasoline	BEV	Nissan - Leaf S	True
60411	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
60421	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60432	Sedan	TOYOTA	CAMRY HYBRID	FY2026	Gasoline	BEV	Nissan - Leaf S	True
60434	Sedan	TOYOTA	CAMRY HYBRID	FY2025	Gasoline	BEV	Nissan - Leaf S	True
60458	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
60463	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
60464	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60468	SUV	FORD	ESCAPE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
60469	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
60480	SUV	CHEVROLET	TAHOE	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
60488	SUV	HONDA	CRV	FY2034	Gasoline	BEV	Hyundai - Kona Electric SE	True
60585	Motorcycle	BMW	R1200RT-P	FY2026	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
60586	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
60588	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
60851	Sedan	NISSAN	ALTIMA	FY2034	Gasoline	BEV	Nissan - Leaf S	True
60853	SUV	CHEVROLET	EQUINOX FWD	FY2025	Gasoline	BEV	Hyundai - Kona Electric SE	True
60863	Minivan	CHRYSLER	Pacifica	FY2033	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
61102	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
61105	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
61106	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
61109	Minivan	DODGE	GRAND CARAVAN	FY2029	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
61111	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
61112	Refuse Truck	CRANE CARRIER	LET2-44	FY2030	Diesel	BEV	Peterbilt - 520EV	False
61116	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
61117	Refuse Truck	ISUZU	NRR RC	FY2025	Diesel	BEV	Peterbilt - 520EV	False
61118	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
61129	Refuse Truck	CRANE CARRIER	LET2-44	FY2027	Diesel	BEV	Peterbilt - 520EV	False
61132	Refuse Truck	ISUZU	NRR RC	FY2029	Diesel	BEV	Battle Motors - Battle LET	False
61134	Refuse Truck	FORD	F550	FY2030	Diesel	BEV	Peterbilt - 520EV	False
61138	Refuse Truck	CRANE CARRIER	LET2-44	FY2027	Diesel	BEV	Peterbilt - 520EV	False
61140	Refuse Truck	CRANE CARRIER	LET2-44	FY2028	Diesel	BEV	Peterbilt - 520EV	False
61160	Refuse Truck	CRANE CARRIER	LET2-46	FY2028	Diesel	BEV	Peterbilt - 520EV	False
61161	Refuse Truck	CRANE CARRIER	LET2-46	FY2028	Diesel	BEV	Peterbilt - 520EV	False
61163	Heavy Truck	FREIGHTLINER	M2106	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
61275	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
61734	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
61739	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
61743	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
61745	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
61746	SUV	FORD	ESCAPE	FY2030	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
61748	SUV	DODGE	JOURNEY SE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
61749	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
61759	SUV	CHEVROLET	EQUINOX AWD	FY2032	Gasoline	BEV	Fisker - Ocean Sport	True
61760	SUV	CHEVROLET	EQUINOX AWD	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
61772	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
61776	SUV	DODGE	JOURNEY	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
61881	SUV	CHEVROLET	EQUINOX AWD	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
61882	Heavy Truck	NAVISTAR	7400/GODWIN	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
61908	Heavy Truck	FREIGHTLINER	M2112	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
62305	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
62307	Light-Duty Pickup	FORD	F250	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
62322	Heavy Truck	FREIGHTLINER	M2106	FY2030	Diesel	BEV	Xos - MDXT SR (Class 7)	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
62338	Medium-Duty Vocational Truck	FORD	F450	FY2032	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
62369	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
62392	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
62445	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
62701	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
62702	Light-Duty Pickup	FORD	RANGER	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
62707	Medium-Duty Vocational Truck	FORD	F350	FY2034	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
62715	Light-Duty Pickup	FORD	F250	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
62867	Shuttle Bus	CHEVROLET	PRODIGY	FY2031	Gasoline	BEV	Ford - E-Transit Cutaway	True
62876	Light-Duty Pickup	FORD	F250	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
62893	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
62897	Light-Duty Pickup	FORD	F250	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
63299	Medium-Duty Vocational Truck	FORD	F350	FY2028	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
63304	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
63330	Light-Duty Pickup	FORD	F350	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
63358	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
63401	Medium-Duty Vocational Truck	FORD	F550	FY2029	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
63407	Heavy Truck	MACK	GU713	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
63411	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
63421	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
63425	Heavy Truck	MACK	GU713	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
63448	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
63493	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
63504	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
63513	Medium-Duty Vocational Truck	FORD	F350	FY2030	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
63533	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
63567	Heavy Truck	MACK	GU713	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
63588	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
63782	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
63961	Medium-Duty Vocational Truck	FORD	F350	FY2033	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
63973	Heavy Truck	FREIGHTLINER	M2106	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
63974	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
64211	Street Sweeper	FREIGHTLINER	M2106	FY2030	Diesel	BEV	Global - M3 SUPERCHARGED	False
64504	Heavy Truck	FORD	F750	FY2028	Diesel	BEV	Xos - MDXT SR (Class 7)	True
64615	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	False
64621	Heavy Truck	FREIGHTLINER	114SD	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
64635	Medium-Duty Vocational Truck	FORD	F450	FY2028	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
64641	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
64646	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
64647	Heavy Truck	FREIGHTLINER	114SD	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
64662	Heavy Truck	MACK	GU713	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
64669	Medium-Duty Vocational Truck	FORD	F450	FY2029	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
70109	SUV	FORD	EXPLORER	FY2033	Gasoline	BEV	Fisker - Ocean Sport	True
70111	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70115	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
70116	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
70124	Sedan	CHEVROLET	IMPALA	FY2034	Gasoline	BEV	Nissan - Leaf S	True
70159	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
70165	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70183	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
70235	SUV	CHEVROLET	TAHOE	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70237	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70238	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70239	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70245	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
70246	Sedan	CHEVROLET	CAPRICE	FY2027	Gasoline	BEV	Tesla - Model 3 (Police)	True
70250	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
70262	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
70265	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70266	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70307	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	False
70309	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
70403	SUV	CHEVROLET	TAHOE	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70406	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
70407	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
70416	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
70428	Sedan	MAZDA	6 TOURING	FY2033	Gasoline	BEV	Nissan - Leaf S	True
71103	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
71104	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
71107	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
71120	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
71123	Refuse Truck	CRANE CARRIER	LET2-44	FY2027	Diesel	BEV	Peterbilt - 520EV	False
71124	Refuse Truck	CRANE CARRIER	LET2-44	FY2028	Diesel	BEV	Peterbilt - 520EV	False
71125	Refuse Truck	ISUZU	NRR RC	FY2026	Diesel	BEV	Peterbilt - 520EV	False
71131	Refuse Truck	ISUZU	NRR RC	FY2026	Diesel	BEV	Peterbilt - 520EV	False
71155	Refuse Truck	CRANE CARRIER	LET2-44	FY2027	Diesel	BEV	Peterbilt - 520EV	False
71270	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
71726	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
71727	SUV	CHEVROLET	EQUINOX AWD	FY2027	Gasoline	BEV	Fisker - Ocean Sport	True
71728	SUV	FORD	ESCAPE	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
71732	Sedan	TOYOTA	PRIUS HYBRID	FY2030	Gasoline	BEV	Nissan - Leaf S	True
71736	SUV	CHEVROLET	EQUINOX AWD	FY2031	Gasoline	BEV	Fisker - Ocean Sport	True
72330	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Fisker - Ocean Sport	True
72331	Light-Duty Pickup	FORD	F250	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
72370	SUV	FORD	ESCAPE	FY2029	Gasoline	BEV	Fisker - Ocean Sport	True
72372	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
72388	Light-Duty Pickup	FORD	F250	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
72855	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
73418	Heavy Truck	FREIGHTLINER	114SD	FY2031	Diesel	BEV	Xos - MDXT SR (Class 7)	True
73431	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
73482	Light-Duty Pickup	FORD	F250	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
73516	Heavy Truck	MACK	GU713	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
73776	Light-Duty Pickup	FORD	F150	FY2026	Gasoline	BEV	Chevrolet - Silverado EV	True
73783	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
73785	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
73787	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
73792	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
73960	Medium-Duty Vocational Truck	ISUZU	NPRGASHD CC	FY2032	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
73972	Medium-Duty Vocational Truck	FORD	F550	FY2033	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
73978	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
74203	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
74220	Light-Duty Pickup	CHEVROLET	C1500	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
74604	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
74625	Sedan	FORD	FUSION HYBRID	FY2031	Gasoline	BEV	Nissan - Leaf S	True
74633	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
80103	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
80120	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
80121	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
80148	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
80155	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
80172	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
80214	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
80218	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
80229	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
80231	Sedan	FORD	FUSION HYBRID	FY2029	Gasoline	BEV	Nissan - Leaf S	True
80241	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
80260	Sedan	CHEVROLET	CAPRICE	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	True
80270	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
80275	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
80303	Sedan	FORD	FUSION HYBRID	FY2026	Gasoline	PHEV	Toyota - Prius Prime LE	True
80306	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
80308	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
80312	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
80401	SUV	TOYOTA	RAV4	FY2025	Gasoline	BEV	Hyundai - Kona Electric SE	True
80404	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
80409	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
80413	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
80520	Motorcycle	BMW	R1200RT-P	FY2026	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
80521	Motorcycle	BMW	R1200RT-P	FY2026	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
80525	Motorcycle	BMW	R1200RT-P	FY2026	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
80848	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
81725	SUV	DODGE	JOURNEY SE	FY2025	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
81729	SUV	FORD	ESCAPE	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
81735	SUV	CHEVROLET	EQUINOX AWD	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
82310	Light-Duty Pickup	FORD	F150	FY2025	Gasoline	BEV	Chevrolet - Silverado EV	True
82355	Heavy Truck	FREIGHTLINER	M2112	FY2025	Diesel	BEV	Xos - MDXT SR (Class 7)	True
82378	Light-Duty Pickup	FORD	F150	FY2032	Gasoline	BEV	Chevrolet - Silverado EV	True
82383	Light-Duty Pickup	FORD	F250	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
82389	Light-Duty Pickup	FORD	F250	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
82728	Sedan	FORD	FUSION HYBRID	FY2028	Gasoline	BEV	Nissan - Leaf S	True
82863	Heavy Truck	FREIGHTLINER	M2106	FY2029	Diesel	BEV	Xos - MDXT SR (Class 7)	True
83784	SUV	FORD	ESCAPE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
83793	SUV	CHEVROLET	EQUINOX AWD	FY2030	Gasoline	BEV	Fisker - Ocean Sport	True
83830	Light-Duty Pickup	FORD	F150	FY2030	Gasoline	BEV	Chevrolet - Silverado EV	True
83834	Light-Duty Pickup	FORD	RANGER	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
83975	Sedan	TOYOTA	PRIUS HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
84297	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
84640	Light-Duty Pickup	FORD	F150	FY2027	Gasoline	BEV	Chevrolet - Silverado EV	True
84657	Light-Duty Pickup	FORD	F150	FY2029	Gasoline	BEV	Chevrolet - Silverado EV	True
90139	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
90178	SUV	FORD	EXPLORER	FY2025	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
90185	SUV	FORD	EXPLORER	FY2027	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
90191	Sedan	FORD	Crown Victoria	FY2026	Gasoline	BEV	Tesla - Model 3 (Police)	False
90199	SUV	FORD	EXPLORER	FY2026	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
90213	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	True
90220	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	True
90222	Sedan	FORD	FUSION HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
90232	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Tesla - Model Y Long Range (Police)	False
90279	Sedan	TOYOTA	CAMRY HYBRID	FY2027	Gasoline	BEV	Nissan - Leaf S	True
90319	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
90328	Sedan	HYUNDAI	SONATA	FY2025	Gasoline	BEV	Nissan - Leaf S	True
90338	Sedan	NISSAN	ALTIMA	FY2025	Gasoline	BEV	Nissan - Leaf S	True
90402	SUV	FORD	EXPLORER	FY2028	Gasoline	BEV	Fisker - Ocean Sport	False
90408	SUV	FORD	ESCAPE	FY2031	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
90522	Motorcycle	BMW	R1200RT-P	FY2026	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
90523	Motorcycle	BMW	R1200RT-P	FY2026	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
90524	Motorcycle	BMW	R1200RT-P	FY2026	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
90526	Motorcycle	BMW	R1200RT-P	FY2026	Gasoline	BEV	Zero Motorcycles - Zero FXS ZF3.6	True
91101	Minivan	DODGE	GRAND CARAV SE	FY2029	Gasoline	BEV	Canoo - Lifestyle Delivery Vehicle	True
92326	Medium-Duty Vocational Truck	FORD	F350	FY2034	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
92720	Light-Duty Pickup	FORD	F150	FY2031	Gasoline	BEV	Chevrolet - Silverado EV	True
93777	Light-Duty Pickup	FORD	F150	FY2028	Gasoline	BEV	Chevrolet - Silverado EV	True
93968	Medium-Duty Vocational Truck	FORD	F550	FY2033	Diesel	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
94210	Medium-Duty Vocational Truck	FORD	F450	FY2025	Gasoline	BEV	ZEVx - Ford F-450 (Chassis Cab)	True
94600	SUV	CHEVROLET	EQUINOX AWD	FY2026	Gasoline	BEV	Fisker - Ocean Sport	True
000173	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
000234	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
000989	Light-Duty Pickup	Chevrolet	Silverado 1500	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
002605	Sedan	Chevrolet	Bolt	FY2034	Gasoline	BEV	Nissan - Leaf S	True
002606	Sedan	Chevrolet	Bolt	FY2034	Gasoline	BEV	Nissan - Leaf S	True
002607	Sedan	Chevrolet	Bolt	FY2034	Gasoline	BEV	Nissan - Leaf S	True
002608	Sedan	Chevrolet	Bolt	FY2034	Gasoline	BEV	Nissan - Leaf S	True
002609	Sedan	Chevrolet	Bolt	FY2034	Gasoline	BEV	Nissan - Leaf S	True
002610	Sedan	Chevrolet	Bolt	FY2034	Gasoline	BEV	Nissan - Leaf S	True
003938	Heavy Truck	International	CV515	FY2033	Diesel	BEV	Xos - MDXT SR (Class 7)	True
004391	Heavy Truck	Western Star	4700SB	FY2032	Diesel	BEV	Xos - MDXT SR (Class 7)	True
010105	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
010162	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
010197	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
010226	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
010945	SUV	Chevrolet	TAHOE	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
020045	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
020174	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
021692	SUV	FORD	ESCAPE	FY2033	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
021702	SUV	FORD	ESCAPE	FY2033	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
021709	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
024299	Street Sweeper	GLOBAL	R4AIR	FY2034	Diesel	BEV	Global - M3 SUPERCHARGED	False
030108	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
030135	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
030166	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
030242	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
030364	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
030367	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
032163	Van	FORD	TRANSIT	FY2033	Diesel	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
033026	Medium-Duty Pickup	FORD	F350	FY2033	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True
033027	Medium-Duty Pickup	FORD	F350	FY2033	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True
033213	Light-Duty Pickup	Chevrolet	Silverado 1500	FY2034	Gasoline	BEV	Chevrolet - Silverado EV	True
040118	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
040280	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
040321	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
040365	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
043655	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
044232	Street Sweeper	GLOBAL	R4AIR	FY2034	Diesel	BEV	Global - M3 SUPERCHARGED	False
050205	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
050286	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
050337	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
050379	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
054506	Heavy Truck	MACK	GR64F	FY2034	Diesel	BEV	Xos - MDXT SR (Class 7)	True
060153	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
060296	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
061896	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
063644	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
070210	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
070244	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Make/Model	Cost Effective
070269	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
070304	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
070315	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
071116	Light-Duty Pickup	FORD	F150	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
080216	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
080336	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
090120	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
090223	SUV	FORD	EXPLORER	FY2034	Gasoline	BEV	Chevrolet - Equinox EV 1LT	True
R000206	Light-Duty Pickup	FORD	F250	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
R000215	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
R000216	Light-Duty Pickup	FORD	RANGER	FY2033	Gasoline	BEV	Chevrolet - Silverado EV	True
R000217	Van	FORD	TRANSIT	FY2032	Diesel	BEV	Maxwell Vehicles - ePro SR Cargo Van	True
R011053	Medium-Duty Pickup	FORD	F550	FY2033	Diesel	BEV	ZEVx - Ford F-350 (Pickup)	True

Appendix B. Details on Funding and Financing Options

Funding Programs

Federal Programs

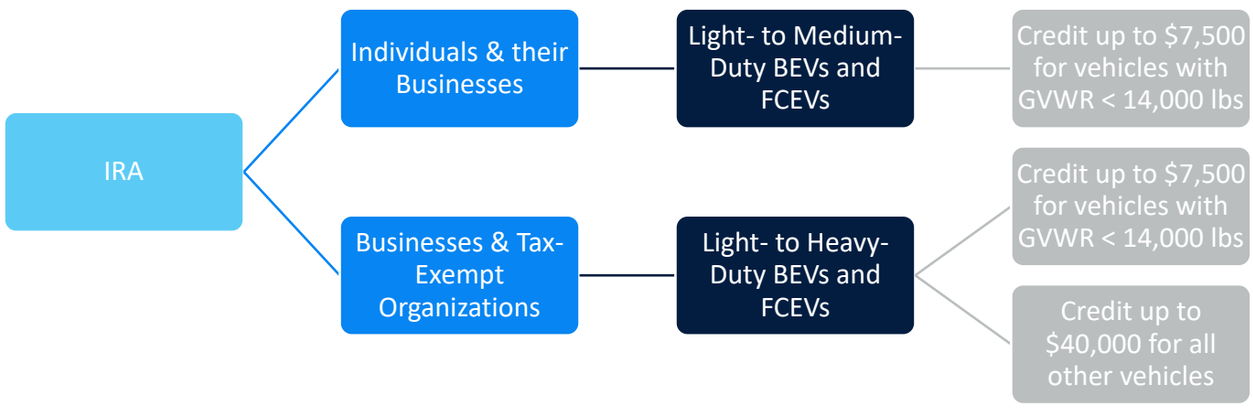
There are several federal incentive programs that are aimed at increasing the adoption of EVs and the installation of EV charging stations. Some of the key federal incentive programs include the Inflation Reduction Act (IRA) and the Alternative Fuel Infrastructure Tax Credit. These incentive programs offer different tax credits for qualifying vehicles and can reduce EV charging equipment installation costs. The federal government has initially aimed its incentive programs towards the promotion of light-duty electric vehicles (EVs) and the installation of lower-power EV charging stations. However, there are now programs available that cater to medium-duty and heavy-duty EVs as well. This section is meant to provide a general overview of the federal incentive programs that the City may be eligible for and serve as a starting point for the application process.

Inflation Reduction Act

The IRA contains several provisions aimed at increasing the number of clean fuels and vehicles used by fleets. The IRA will offer refundable income tax credits for qualifying EVs and extends tax credits for alternative fuel refueling property through 2032. Notably, the IRA will provide different tax benefits based on the type of applicant and type of EVs being considered for purchase. Figure 27 features an illustration that breaks down eligible applicants, types of EVs, and maximum applicable tax credits under the IRA. The final tax credit amount offered through IRA is the smallest of the following amounts:

- 30% of the vehicle purchase price for EVs and FCEVs
- The incremental cost of the vehicle compared to an equivalent internal combustion engine vehicle

Figure 27. Summary of IRA Tax Credits Available for Individuals and Commercial Entities



The IRA has several clean vehicle credit options, most notably: 1) Credits for New Clean Vehicles Purchased in 2023 or after and 2) Commercial Clean Vehicle Credits. Individuals and their businesses may qualify for a credit up to $7,500 when buying new, qualified battery electric vehicles (BEV) or fuel cell electric vehicles (FCEV) assembled in North America. Qualifying BEVs must have a battery capacity of at least 7 kilowatt-hours (kWh) and have a gross vehicle weight rating (GVWR) of less than 14,000 lbs.; no restrictions are set for FCEVs. Additionally, the vehicle's manufacturer suggested retail price (MSRP) cannot exceed $55,000 for light-duty vehicles or $80,000 for vans, SUVs, and pickup trucks. Credit for new clean vehicle purchases between 2023 through 2032 can be claimed by filing Form 8936, Qualified Plug-In Electric Drive Motor Vehicle Credit, and providing the vehicle identification number (VIN). One important thing to note is that the Clean Vehicle Credit is not eligible for direct pay.

Businesses and tax-exempt organizations can receive a tax credit or direct payment of up to $40,000 for buying a qualified commercial clean vehicle under IRC 45W. The credit amount is based on the lesser of 15% of the vehicle's basis or the incremental cost of the vehicle. The maximum credit is $7,500 for qualified vehicles with GVWRs under 14,000 pounds and $40,000 for all other vehicles. To qualify, the vehicle must be made by a qualified manufacturer as defined in IRC 30D(d)(1)(C), be for use in the business, not for resale, primarily used in the US, and not have received a credit under sections 30D (Clean Vehicle Credit) or 45W (Commercial Clean Vehicle Credit). The vehicle must meet also one of the following requirements

a) It must be treated as a motor vehicle for purposes of title II of the Clean Air Act and manufactured primarily for use on public roads (excluding vehicles operated exclusively on a rail or rails), or b) It must be classified as mobile machinery according to IRC 4053(8), including vehicles that are not designed to transport a load over a public highway. Additionally, the vehicle or machinery must be either a plug-in electric vehicle that draws significant propulsion from an electric motor with a battery capacity of at least 7 kilowatt hours if the gross vehicle weight rating is under 14,000 pounds, or 15 kilowatt hours if the GVWR is 14,000 pounds or more. Alternatively, it can be a fuel cell motor vehicle that meets the requirements of IRC 30B(b)(3)(A) and (B). There is no limit to the number of credits a business can claim, but the credits are nonrefundable and can only be carried over as a general business credit.

Additionally, the Alternative Fuel Infrastructure Tax Credit is a federal income tax credit for businesses and individuals who install alternative fuel infrastructure. As of January 1, 2023, fueling equipment for natural gas, propane, hydrogen, electricity, E85, or diesel fuel blends containing a minimum of 20% biodiesel, is eligible for a tax credit of 30% of the cost or 6% in the case of property subject to depreciation, not to exceed $100,000. Note that permitting and inspection fees are not included as part of the covered expenses. Also note that under IRC 30C, the Alternative Fuel Infrastructure Tax Credit is direct pay eligible, meaning that entities that do not benefit from income tax credits, such as state, local, and Tribal governments or other tax-exempt entities can elect to receive these tax credits in the form of direct payments.

Eligible fueling equipment must be installed in locations that meet one of the following census tract requirements:

- The census tract is not an urban area.
- A population census tract where the poverty rate is at least 20%; or
- Metropolitan and non-metropolitan area census tract where the median family income is less than 80% of the state median family income level.

Additionally, eligible projects must also meet workforce requirements, such as apprenticeships and prevailing wages. To apply for the credit, the Internal Revenue Service (IRS) requires that Form 8911 be completed and filed with a federal income tax return.

Charging and Fueling Infrastructure (CFI) Discretionary Grant

The Charging and Fueling Infrastructure (CFI) Program, established under the Bipartisan Infrastructure Law, with a total funding of $2.5 billion from FY 2022 to 2026, is a competitive grant initiative aimed at deploying publicly accessible electric vehicle charging and alternative fueling infrastructure along designated alternative fuel corridors. A key aspect of the program is that at least 50% of the funding is allocated to a community grant program that prioritizes expanding access to this infrastructure in rural areas, low- and moderate-income neighborhoods, and communities with a low ratio of private parking spaces. Eligible projects include the acquisition and installation of publicly accessible EV charging or alternative fueling infrastructure, operating assistance for the first five years post-installation, and the installation of traffic control devices. Eligible entities include state or local governments, metropolitan planning organizations (MPOs), special purpose districts with a transportation function, Indian Tribes, and U.S. territories. As of August 30, 2024, the program has awarded a total of $1.144 billion in grants to 98 applicants across two rounds.

Diesel Emissions Reduction Act (DERA)

The Diesel Emissions Reductions Act (DERA) was established in the Energy Policy Act of 2005, which authorized the U.S. EPA to administer grant and loan programs at both the national- and state-level to encourage emission reductions from legacy diesel engines. DERA's Clean Diesel Program provides funding for retrofitting or replacing older diesel engines with newer, cleaner ones. This program is especially relevant for municipalities with large vehicle fleets, such as the City of Raleigh, which may have a significant number of older diesel vehicles that contribute to air pollution. By retrofitting or replacing these vehicles, the city could not only improve air quality and public health but also reduce its carbon footprint and save money on fuel and maintenance costs in the long run.

The 2022-2023 Notice of Funding Opportunity (NOFO) opened in August of 2023. Proposed legislation seeks to reauthorize the DERA program through fiscal year 2029 at $100 million annually.[17] To apply for DERA funding, the city would need to submit a grant proposal through the U.S. EPA's competitive grant application process. The EPA provides information and resources on its DERA webpage to help potential

[17] DERA (senate.gov)

applicants understand the program's eligibility requirements, funding opportunities, and application process. The City of Raleigh is eligible for up to $2,500,000 in funding for purchase of diesel vehicles, engines, and equipment, including: school buses, Class 5 – 8 heavy-duty highway vehicles, non-road engines, and construction equipment or vehicles. The City's diesel vehicles would be subject to certain criteria, one of which requires that the vehicle to be replaced travel 7,000 miles (or more) per year within the past two years of application submission. Another requirement is that the City would be required to match 55 percent of the funding and cannot stack other federal funds to meet the cost share.

Low-No Emission Vehicle

The Federal Transit Administration's (FTA) Low or No Emission Vehicle Program (Low-No) is a grant program that provides funding to state and local governments, transit agencies, and other eligible entities to purchase or lease low or zero emission buses and supporting infrastructure. The program aims to reduce GHG emissions and improve air quality by promoting the use of cleaner public transportation. Low-No funding can also be used to support workforce development and research and development projects related to low or no-emission vehicle technology. The FTA evaluates grant applications based on several factors, including environmental benefits, cost-effectiveness, and project readiness. Successful applicants receive funding to purchase or lease low or zero emission buses and to build the infrastructure needed to support these vehicles.

The most recent funding period accepted applications from January 27, 2023 through April 13, 2023. For this funding period, FTA announced the availability of nearly $1.7 billion in FY 2023 funding to support state and local efforts to buy or modernize buses, improve bus facilities, and support workforce development. Of the $1.7 billion, at least $1.2 billion is available under the Low-No Emission grant. All eligible expenses under the Low-No Program are attributable to compliance with the Clean Air Act and/or the Americans with Disabilities Act. Therefore, the Federal share of the cost of leasing or purchasing a transit bus is not to exceed 85 percent of the total transit bus cost. The federal share of the cost of leasing or acquiring low- or no-emission bus-related equipment and facilities is 90 percent of the net project cost. Funding is anticipated to continue to open annually through 2026. To apply for Low-No funding, the City would need to submit a grant proposal through Grants.Gov.

Clean School Bus Program

With funding from the Bipartisan Infrastructure Law (BIL), EPA's new Clean School Bus Program provides $5 billion for the next five years (Fiscal Year 2022-2026) to replace existing school buses with zero emissions and low-emission models. To date, the program has solicited applications for the Clean School Bus Rebate program and the Clean School Bus Grant Program. Neither funding opportunities are currently open, however, funding opportunities are anticipated to open annually through 2026. Details on the funding released to date are detailed below.

Clean School Bus Rebates

The EPA solicited rebate applications for $500 million through the 2022 Clean School Bus Rebates for zero emissions and low-emission school bus rebates as the first funding opportunity. The first round for the rebate application closed in August 2022, which was heavily oversubscribed – nearly 2,000 applications requesting nearly $4 billion for over 12,000 buses. In response, EPA nearly doubled the funding awarded for clean school buses in 2022, due to high demand, awarding a total of $931.1 million across 400 applications. Although the first application period has closed, the following application periods are likely to collect as many if not more applications once reopened. To apply for Clean School Bus program funding, the City will need to first perform SAM.gov account registration, rebate application submission, review and selection by EPA, purchase order submission and request for payment, payment receipt, new bus delivery and old bus replacement, and close out. Clean School Bus Technical Assistance is a service made available by the EPA to support school bus electrification and answer any questions regarding the program. The City of Raleigh may be eligible for up to $190,000 per school bus replacement and up to $13,000 for infrastructure funding per school bus replacement. It is important to note, however, that these funding amounts are contingent on bus fuel type, size, and geographic location. Specifically, the $190,000 is the maximum available funding for zero emissions buses that are between sizes Class 3 through 6, and the buses must serve eligible school districts.

Clean School Bus Grants

In 2023, the EPA opened the Clean School Bus Grant program, which accepted applications from April 23, 2023 through August 22, 2023. This program allocated grants totaling to $400 million to entities operating school bus services. Through this funding opportunity, applicants were eligible to receive up to $195,000 per class 3-6 school bus and charging infrastructure, or up to $315,000 for school districts meeting one

or more of the programs prioritization criteria. Like the Rebate program, these funding amounts are contingent on bus fuel type, size, and geographic location.

This competitive program targeted larger fleets that were limited by the 2022 Clean School Bus Rebate cap of 25 buses per application. To better serve larger fleets, the Grant program created two sub-program application types: The School District Sub-Program and the Third-Party Sub-Program. Applicants in the School District Sub-Program may apply for a minimum of 15 and maximum 50 school buses. Third-Party Sub-Program applicants, defined as third-party applicants who apply in partnership with at least 4 school districts, must request a minimum of 25 school buses and may request up to a maximum of 100 school buses.[18] To apply for future funding, the City will need to submit application packages electronically to EPA through Grants.gov, or work with a third party to apply in partnership with.

State Programs

Clean Fuel Advanced Technology (CFAT) Project

The North Carolina Clean Energy Technology Center's (NCCETC) Clean Fuel Advanced Technology (CFAT) Project is a grant program that provides funding to eligible entities in North Carolina to support clean transportation projects. The program is funded by the North Carolina Department of Transportation (NCDOT) and administered by NCCETC. The CFAT Project provides funding for projects that reduce transportation-related emissions, improve air quality, and promote the use of alternative fuels and advanced vehicle technologies. Eligible projects may include the purchase or retrofit of alternative fuel vehicles, the installation of alternative fuel infrastructure, and the deployment of idle reduction technologies. The grant funding amount available varies each year, with past grant cycles awarding up to $2.5 million in funding. Purportedly, a total of $3 million in funding will be available for FY 2023, for the following eligible counties: Cabarrus, Catawba, *Chatham, Davidson, Davie, Durham, Edgecombe, Forsyth, Franklin, Gaston, Granville, Guilford, *Haywood, *Iredell, Johnston, Lincoln, Mecklenburg, Nash, Orange, Person, Rowan, *Swain, Union, Wake, (*Represents partial counties). In past NCCETC RFPs, projects have been awarded between $5,000 through $300,000, although these amounts can change in the next call for projects. It should be noted that applicants are expected to provide between 20 through 24 percent cost share and cannot use other federal funding to meet the match requirement.

To apply for CFAT Project grant funding, the City must submit an application available on the NCCETC website when the grant cycle is open. The application typically requires information about the proposed project, including project goals, expected benefits, and a detailed budget. Supporting documentation may include quotes or estimates for equipment or services, organizational information, and letters of support from project partners. Applicants that wish to be recipients of funding will also need to participate in the NC Smart Fleet Initiative, a program that expands public awareness and education on alternative fuels and advanced transportation technologies through a shared data agreement.

Congestion Mitigation and Air Quality (CMAQ) Improvement Program

The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), continues the Congestion Mitigation and Air Quality Improvement Program (CMAQ). The CMAQ Program provides funding to State DOTs and MPOs for projects that reduce mobile source emissions in nonattainment or maintenance areas. Eligible project types include transit improvements, travel demand management strategies, congestion relief efforts (such as high occupancy vehicle lanes), diesel retrofit projects, alternative fuel vehicles and infrastructure, and medium- or heavy-duty zero emission vehicles and related charging equipment. Projects supported with CMAQ funds must demonstrate emissions reductions, be in or benefit a U.S. EPA-designated nonattainment or maintenance area and be a transportation project. Descriptions for projects relevant to fleet electrification and eligible for CMAQ funding are listed below:

1. **Diesel Retrofits:** Vehicle and engine replacements, engine rebuild and conditioning, after-treatment or other technologies, heavy-duty vehicle retirement programs; applies to on-road vehicles, non-road construction equipment, and freight and intermodal projects.
2. **Alternative Fuel Vehicles and Infrastructure:** Purchases, conversion to alternative fuels, diesel alternatives, hybrids; fueling facilities that dispense one or more alternative fuels (public and private facilities eligible).

[18] 2023-csb-grant-nofo-4-20-23.pdf (epa.gov)

The FHWA administers the federal-aid program through State DOTs and MPOs, which make decisions about how to spend federal transportation funds through a continuous transportation planning process. All eligible CMAQ funded projects must be included in the MPO's metropolitan transportation plans and transportation improvement program (TIP) where applicable, and the State DOTs statewide transportation improvement program (STIP). In North Carolina, NCDOT serves as the administrator for this program. Funding is apportioned to the State based on the population in non-attainment and maintenance areas of the state and the severity of air quality problem. The State's allocation of CMAQ funding (approximately $57 million in FY 2023) is split in three pots available for funding, as follows:

- **Statewide CMAQ** funds are administered by NCDOT and are awarded to prioritized NCDOT-driven CMAQ eligible projects either on a statewide tier facility or involving a system wide improvement within nonattainment and maintenance areas. Statewide CMAQ funds are not subject to regional or subregional allocations or the allocation formula. This category accounts for 35% of the total North Carolina CMAQ apportionment.
- **Regional CMAQ** funds are locally administered and awarded to projects spanning more than one air quality region that cannot be considered subregional projects. Air quality regions are Catawba, Great Smoky Mountains National Park, Metrolina, Rocky Mount, Triad and Triangle. The local project sponsor is responsible for providing the required match. This category accounts for 5% of the total North Carolina CMAQ apportionment.
- **Subregional CMAQ** funds are locally administered and awarded at the MPO/RPO level to projects within eligible counties. The local project sponsor is responsible for providing the required match and meeting federal funding requirements. This category accounts for 60% of the total North Carolina CMAQ apportionment. CMAQ eligible counties include Cabarrus, Edgecombe, Haywood, Orange, Catawba, Forsyth, Iredell, Person, Chatham, Franklin, Johnston, Rowan, Davidson, Gaston, Lincoln, Swain, Davie Granville, Mecklenburg, Union, Durham, Guilford, Nash, and Wake.

To apply for CMAQ funding, the City of Raleigh would need to wait for the next call for projects by NCDOT's Transportation Planning Division (TPD) and submit an application online via NCDOT Connect (complete with air quality calculations, project description, and work phase timeline). Note that private agencies and non-profit agencies can submit a CMAQ Program project application only if it establishes a partnership with a public agency, which would oversee the application and investment process. Otherwise, if the project is deemed eligible, NCDOT's TPD issues an award letter to the recipient, and the City would have 6 months to establish a contract with NCDOT for the CMAQ Project.

DERA

The DERA program funds were calculated using the actual or assumed MSRP of the recommended replacement vehicle and assumed cost of recommended charging hardware. Recommendations were limited to vehicles that meet DERA's vehicle class, annual mileage, program term, replaced fuel type, and replacement fuel type criteria. The program term conservatively extends to 2024 vehicle retirements, though current legislation may extend the program to 2029. According to the task 2 assessment, Raleigh may be eligible for an estimated $180,000 in DERA funds. If legislation extends the DERA program to 2029, Raleigh's fleet may be eligible for up to $1.1 million in DERA funding for their recommended vehicle replacements.

Other Funding

The following programs were evaluated in the task 2 report but not recommended due to limited program details being available at the time of the assessment or program incompatibility with the fleet's characteristics, including vehicle types and retirement schedule:

- **Federal**
  - Clean School Bus Grants– EPA
  - Low or No Emissions Vehicle Grants – FTA
  - IRA Alternative Fuel Infrastructure Tax Credit - IRS
- **State**
  - Alternative Fuel Vehicle (AFV) Idle Reduction Technologies and Diesel Retrofits Funding (CFAT) – NCCETC & NCDOT
  - Congestion Mitigation and Air Quality (CMAQ) Improvement Program – NCDOT

    - Level 2 Workplace Program (VW Settlement, Phase 2) – NC Department of Environmental Quality
- **Utility**
    - Electric School Bus and Infrastructure Rebate - Duke Energy
    - Commercial EV Charging Station Rebate - Duke Energy

It is recommended that Raleigh monitor these programs for future opportunities, as additional funding periods may open. Additional funding programs may also be available for mixed charging applications, which were not evaluated in this report (such as workplace or public charging).

Financing Component

Public-Private Partnerships

Public-private partnerships (PPP) can be used to build charging infrastructure by involving a private partner who finances initial capital costs with private debt and equity in exchange for returns on investment over time. This involves a partnership between a government entity and a private sector company, where the latter takes the lead in designing, financing, constructing, and operating the charging infrastructure. The government entity provides funding, land, and other resources, while the private partner is responsible for financing and operating the charging infrastructure. This model allows for the sharing of risks and benefits and can lead to the faster deployment of charging infrastructure, as well as increased innovation.

There are several PPP models that are available for charging infrastructure deployment. Some of the common PPP models include:

- **Build-Operate-Transfer (BOT) Model**: Under this model, a private partner is responsible for the design, construction, and operation of charging infrastructure, and transfers the ownership to the government or public entity after a specified period of time.
- **Design-Build-Finance-Operate-Maintain (DBFOM) Model**: Similar to the BOT model, a private partner takes responsibility for design, construction, financing, operation, and maintenance of charging infrastructure, but operates it for a specified period of time before transferring ownership back to the government or public entity.
- **Concession Model**: This model involves the government granting a private partner the right to build and operate charging infrastructure within a specified area for a specified period of time, in exchange for payment or a share of revenue.
- **Joint Venture Model**: This model involves the formation of a joint venture between the public and private sectors, where both partners collaborate to develop and operate charging infrastructure.

The choice of PPP model depends on the specific goals and needs of the government or public entity and the private partner. The model selected should allow for efficient and effective deployment of charging infrastructure while ensuring that public interest is protected.

Purchasing Contracts from Sourcewell

Sourcewell is a government agency that provides cooperative purchasing contracts to public entities in the United States and Canada. Sourcewell financing is a way for entities to finance the purchase of goods or services, spreading the cost of the purchase over time. By pooling the purchasing power of its members, Sourcewell is able to negotiate lower prices and better terms on the products and services it procures. This allows its members to save time and money compared to if they had to purchase these products and services on their own. In terms of charging infrastructure, Sourcewell may negotiate contracts with suppliers and manufacturers of EV charging equipment and services and offer these contracts to its members. By leveraging the collective purchasing power of its members, Sourcewell may be able to secure more favorable pricing, terms, and conditions, which can help reduce the cost of procurement for its members.

There are a variety of Sourcewell purchasing contracts available for fleet related services, including loan and lease programs for electric vehicles, charging equipment, and workforce training. Figure 28 shows some of Sourcewell's current finance and leasing contracts. These purchasing contracts can make it easier for entities with limited budgets to access the goods and services they need. D&M Leasing has partnered with Sourcewell to offer EV leasing and purchasing solutions to commercial and government entities. Municipal leases remain eligible for any applicable state and federal incentives, and D&M Leasing simplifies the process of receiving the largest federal tax-credit. Lease terms range from 24 through 60 months, and at the end of the lease, fleets may purchase the vehicles. Over the duration of the lease, fleets also have access to vehicle telematics and vehicle maintenance programs through D&M Leasing's fleet management program. Merchants Fleet Management is another Sourcewell partner that offers EV leasing and management solutions, along with EV fleet pilot programs. Merchants Fleet Management can facilitate the delivery of different EV models to help fleet managers understand vehicle capabilities and determine which subsections of their business should adopt more EVs. NCL Government Capital, another contract available through Sourcewell, differs from the two previous contracts by offering tax-exempt financing solutions to acquire light- through heavy-duty vehicles.

Figure 28. Sourcewell Financing & Leasing Contracts

Charging Infrastructure-as-a-service

Charging Infrastructure-as-a-service (ClaaS) for EV chargers refers to the provision of EV charging infrastructure as a service to customers. ClaaS for EV chargers offer a range of charging solutions and services that can be tailored to the needs of businesses, municipalities, and property managers. This type of service allows them to provide charging infrastructure to their customers without having to invest in the equipment themselves, and also allowing them to manage the installation, maintenance, and billing of the service, which can make the adoption of EV more accessible and convenient for the end-users. Some established companies providing ClaaS for EV chargers include:

1. EVgo: EVgo is another provider of ClaaS for EV chargers. The company offers a network of fast-charging stations for EV drivers and provides ClaaS to businesses, municipalities, and property managers. EVgo also offers a mobile app for customers to locate and pay for charging services.
2. Blink Charging: Blink Charging is a provider of EV charging equipment and services, including ClaaS for businesses, municipalities, and property managers. The company provides the charging equipment and manages the installation, maintenance, and billing for the service.
3. Shell Recharge: Shell Recharge is an open-source network provider of EV charging infrastructure and services. They offer a variety of charging solutions, including ClaaS for businesses, municipalities, and property managers. The company provides charging stations, manages the installation, maintenance, and billing, and also offers a mobile app for customers to locate and pay for charging services.
4. SemaConnect: SemaConnect is another provider of EV charging infrastructure and services. The company offers a range of charging stations and manages the installation, maintenance, and billing for the service. They also provide a web-based network management system that allows property managers and fleet operators to manage and monitor EV charging on their premises.
5. Sustainability Partners: Sustainability Partners provides funding for municipalities to replace government fleets with electric vehicles, charging infrastructure, and vehicle and infrastructure maintenance through a variety of financing arrangements, including debt, lease, and purchase arrangements

Appendix C: Business-as-Usual Replacement Schedule

This section intends to compare the cost, emissions, and timeline results between the 10-year replacement schedule requested by the city and the original, 15-year replacement schedule provided by the City in fleet data it sent to ICF. As previously described, the 10-year replacement schedule can be achieved by rolling back scheduled vehicle retirements between FY2035 through 2039 by five years, such that the latest vehicle retirement is FY2034. The cost difference between the 15-year and 10-year schedule is $3,285,415, meaning that the 10-year replacement schedule is less expensive.

Based on our analysis, converting the 2,014 recommended on-road vehicles to EVs is estimated to produce the following impacts:

$32,811,046
Net savings over 24 years[5]*

$57,519,551
fuel cost savings over 24 years*

$13,054,735
maintenance savings over 24 years*

247,806
metric tons (MT) of CO_2 eliminated over 24 years

* NPV assumes a 5% discount rate

Over 24 years, those estimated CO_2 reductions equate to:

eliminating **28,498** homes' energy use for one year, or:

switching **9,416,620** incandescent lamps to LEDs, or:

recycling **84,254** tons of waste instead of landfilling it, or:

planting **4,088,523** trees

Appendix D: Underutilized Vehicles

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Annual Mileage	Make/Model	Cost Effective
66	Van	CHEVROLET	EXPRESS CUTAWAY	2033	Gasoline	BEV	168	Maxwell Vehicles - ePro SR Cargo Van	True
177	SUV	FORD	EXPLORER	2027	Gasoline	BEV	55	Hyundai - Tucson SEL	False
179	SUV	FORD	EXPLORER	2027	Gasoline	BEV	13	Hyundai - Tucson SEL	False
318	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Hyundai - Tucson SEL	False
333	School Bus	THOMAS	1418N	2027	Diesel	BEV	414	Lion Electric - LionD - 127 kWh	False
354	Van	FORD	E250	2024	Gasoline	BEV	854	Maxwell Vehicles - ePro SR Cargo Van	False
363	School Bus	THOMAS	18071	2026	Diesel	BEV	382	Lion Electric - LionD - 127 kWh	False
369	Van	FORD	ECONOLINE	2027	Gasoline	BEV	967	Maxwell Vehicles - ePro SR Cargo Van	False
537	Motorcycle	HARLEY	ROADKING	2029	Gasoline	BEV	831	Zero Motorcycles - Zero FXS ZF3.6	True
542	Motorcycle	HARLEY	ROADKING	2029	Gasoline	BEV	702	Zero Motorcycles - Zero FXS ZF3.6	True
3092	Heavy Truck	FREIGHTLINER	M2	2024	Diesel	BEV	903	Xos - MDXT SR (Class 7)	False
3163	Heavy Truck	STERLING	LT9500	2026	Diesel	BEV	747	Xos - MDXT SR (Class 7)	False
3964	Heavy Truck	FREIGHTLINER	M2106	2030	Diesel	BEV	822	Xos - MDXT SR (Class 7)	False
4127	Heavy Truck	GMC	8500	2026	Diesel	BEV	797	Xos - MDXT SR (Class 7)	False
4155	Medium-Duty Vocational Truck	FORD	F700	2032	Diesel	BEV	618	ZEVx - Ford F-450 (Chassis Cab)	True
5900	SUV	CHEVROLET	EQUINOX AWD	2029	Gasoline	BEV	752	Fisker - Ocean Sport	True
6418	Sedan	TOYOTA	PRIUS TWO	2030	Gasoline	BEV	932	Nissan - Leaf S	True
10140	SUV	FORD	EXPLORER	2027	Gasoline	BEV	528	Hyundai - Tucson SEL	False
10193	SUV	FORD	EXPLORER	2027	Gasoline	BEV	28	Hyundai - Tucson SEL	False
10299	Medium-Duty Vocational Truck	NAVISTAR	4700	2029	Diesel	BEV	764	ZEVx - Ford F-450 (Chassis Cab)	True
10317	Van	DODGE	RAM VAN 1500	2024	Gasoline	BEV	945	Maxwell Vehicles - ePro SR Cargo Van	False
10331	School Bus	NAVISTAR	3800	2025	Diesel	BEV	310	Starcraft - E-Quest XL (Paratransit)	False
11208	Refuse Truck	AUTOCAR	ACX 64	2029	Diesel	BEV	406	Peterbilt - 520EV	True
11222	Refuse Truck	AUTOCAR	ACX 64	2029	Diesel	BEV	807	Peterbilt - 520EV	True
11223	Refuse Truck	AUTOCAR	ACX 64	2029	Diesel	BEV	561	Peterbilt - 520EV	True
13017	Heavy Truck	FREIGHTLINER	M2106	2029	Diesel	BEV	734	Xos - MDXT SR (Class 7)	False
13218	Heavy Truck	CHEVROLET	C8500	2027	Diesel	BEV	424	Xos - MDXT SR (Class 7)	False
13257	Heavy Truck	CHEVROLET	C8500	2025	Diesel	BEV	888	Xos - MDXT SR (Class 7)	False
13262	Heavy Truck	FREIGHTLINER	114SD	2029	Diesel	BEV	905	Xos - MDXT SR (Class 7)	False
14705	Box Truck	CHEVROLET	TILT CAB	2031	Diesel	BEV	618	Ford - E-Transit Chassis Cab (Box Truck)	True
20186	SUV	FORD	EXPLORER	2027	Gasoline	BEV	30	Fisker - Ocean Sport	False
20195	SUV	FORD	EXPLORER	2027	Gasoline	BEV	75	Fisker - Ocean Sport	False
20546	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
20570	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
20653	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	True
20739	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
20748	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
20792	SUV	FORD	EXPLORER	2027	Gasoline	BEV	502	Fisker - Ocean Sport	True

ID	Vehicle Type	Make	Model	Vehicle Retirement	Engine Fuel Type	Replacement Fuel Type	Annual Mileage	Make/Model	Cost Effective
23201	Heavy Truck	STERLING	LT7500	2026	Diesel	BEV	332	Xos - MDXT SR (Class 7)	False
23499	Heavy Truck	CHEVROLET	C7500	2027	Diesel	BEV	622	Xos - MDXT SR (Class 7)	False
30176	SUV	FORD	EXPLORER	2027	Gasoline	BEV	30	Fisker - Ocean Sport	False
30256	Shuttle Bus	CHEVROLET	CC5C042	2027	Diesel	BEV	472	Ford - E-Transit Cutaway	False
30293	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
30549	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
30565	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
30617	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
30693	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
30741	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
32704	Heavy Truck	FORD	LT9000	2029	Diesel	BEV	277	Tesla - Semi	False
34207	Heavy Truck	NAVISTAR	4700	2033	Diesel	BEV	76	Xos - MDXT SR (Class 7)	True
40459	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
40472	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
43307	Heavy Truck	GMC	8500	2027	Diesel	BEV	747	Xos - MDXT SR (Class 7)	False
43797	SUV	CHEVROLET	EQUINOX AWD	2030	Gasoline	BEV	571	Fisker - Ocean Sport	True
44208	Heavy Truck	FREIGHTLINER	M2106	2030	Diesel	BEV	251	Xos - MDXT SR (Class 7)	False
50001	Shuttle Bus	FORD	CHAMPION	2025	Gasoline	BEV	956	Ford - E-Transit Cutaway	False
50289	SUV	FORD	EXPLORER	2027	Gasoline	BEV	6	Fisker - Ocean Sport	False
50440	SUV	FORD	EXPLORER	2027	Gasoline	BEV	210	Fisker - Ocean Sport	False
53875	Van	FORD	TRANSIT	2030	Gasoline	BEV	979	Maxwell Vehicles - ePro SR Passenger Van	True
53976	Medium-Duty Vocational Truck	FORD	F450	2029	Gasoline	BEV	344	ZEVx - Ford F-450 (Chassis Cab)	True
54247	Heavy Truck	FREIGHTLINER	M2106	2030	Diesel	BEV	299	Xos - MDXT SR (Class 7)	False
60026	Sedan	TOYOTA	PRIUS C HB	2029	Gasoline	BEV	530	Nissan - Leaf S	True
60249	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
60259	SUV	FORD	EXPLORER	2027	Gasoline	BEV	25	Fisker - Ocean Sport	False
61734	SUV	FORD	ESCAPE	2028	Gasoline	BEV	477	Fisker - Ocean Sport	True
80121	SUV	FORD	EXPLORER	2027	Gasoline	BEV	28	Fisker - Ocean Sport	False
80308	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False
90319	SUV	FORD	EXPLORER	2027	Gasoline	BEV	66	Fisker - Ocean Sport	False
90402	SUV	FORD	EXPLORER	2027	Gasoline	BEV	60	Fisker - Ocean Sport	False