COLORADO
Department of Personnel & Administration

MEMORANDUM

TO: Joint Budget Committee, Senate Transportation Committee, and House Transportation & Energy Committee

FROM: Tony Gherardini, Executive Director, Department of Personnel & Administration

DATE: November 1, 2024

RE: State Fleet Vehicle Acquisition Report - Fiscal Year 2023-24

This *State Fleet Vehicle Acquisitions* report is submitted pursuant to 24-30-1104 (2)(c)(II), C.R.S. and 24-30-1104 (2)(c)(V), C.R.S. The report highlights the Department of Personnel & Administration (Department) efforts to increase Alternative Fuel Vehicles (AFV) in the State Fleet. This effort is supported by state agencies, policies, and statute.

Colorado statute directs the Department to "adopt a policy to significantly increase the utilization of alternative fuels and that establishes increasing utilization objectives for each following year." 24-30-1104 (2)(c)(II), C.R.S. requires the Department to purchase plug-in hybrid electric vehicles (PHEV), battery electric vehicles (BEV), compressed natural gas vehicles (CNG), or other alternative fuel vehicles if either the increased base cost or the increased life-cycle cost of the vehicle is not more than 10% over the cost of a comparable dedicated petroleum fuel vehicle. If the purchase of an Alternative Fuel Vehicle (AFV) is not below the 10% mandate, the Department will recommend the purchase of the most applicable AFV to the assigned agency.

DPA's State Fleet Management program (SFM) collaborates with each agency to maximize the use of AFVs in the state fleet and to ensure each new vehicle performs adequately in the field. In the event that an agency cannot adopt any available AFV option, the agency's executive director must submit documentation articulating the need for a non AFV. This documentation is reviewed by the Department, the Colorado Energy Office (CEO), and a State Fleet Sub Council.

SUMMARY OF FISCAL YEAR 2023-24 VEHICLE ACQUISITIONS

SFM worked with state agencies, local governments, and the private sector across Colorado to find creative solutions and products that provide agencies with flexibility and responsive solutions while allowing it to adopt new, innovative vehicle solutions to support AFV requirements. The following summary highlights these efforts.

Battery Electric & Plug-In Hybrid Electric Vehicles

The State of Colorado is a leader in the acquisition of electrified vehicles. In FY 2023-24, the SFM acquired 108 Plug-In Electric Vehicles (PHEVs), representing 14.52% of fleet acquisitions. PHEVs, powered by both an internal combustion engine and an electric motor with battery storage, are a good bridge between current petroleum-consuming vehicles and the future expansion of vehicle electrification. To maximize the positive impact of the PHEV technology efficiencies, the operators must consistently charge overnight to ensure that PHEV batteries are charged and ready for use the following day.

SFM also purchased 153 Battery Electric Vehicles (BEVs), representing 20.56% of fleet acquisitions in FY 2023-24. The number of BEV purchases is second only to gasoline powered vehicles and the first time BEVs held this distinction. In the past, BEVs had many technology and production limitations. However, recent advances in technology, cost reductions, and increase in the availability and types of EV models, make BEVs a viable alternative to many gasoline and diesel powered vehicles in the state fleet.

Nonetheless, large scale EV (BEV and PHEV) deployment is constrained by the availability of EV charging. Agency owned infrastructure is limited (e.g. there are insufficient number and level of EV chargers), employees have limited charging options in or near their homes (e.g. many employees rent and/or are unable to install charging), and privately owned charging options can be unreliable and inconvenient.

To address the EV charging limitations , SFM and the Office of Sustainability partner with the Colorado Energy Office (CEO), state agencies and other entities to identify EV charging gaps and seek funding for new EV charging infrastructure. This is addressed in more detail in the Infrastructure Strategy section below

Compressed Natural Gas

In FY 2023-24, the Department acquired no CNG vehicles. Infrastructure expansion was flat during the fiscal year, and industry indicators point to CNG displacing less than 1% of the vehicles within the light duty marketplace in the coming years. The trend is bolstered by limited CNG vehicle repair facilities and fueling sites in Colorado.

Hybrid Vehicles

Hybrid vehicles continue to be a viable option for many state fleet vehicles. In FY 2023-24, SFM acquired 83 hybrid vehicles. This represents 11.16% of all vehicles acquired. The comparable life-cycle cost on hybrid models was less than 10% compared to their gasoline equivalents. As hybrid vehicle platforms have become more common, associated costs have decreased and on-board technology has become more efficient.

Flexible Fuel Vehicles

SMF ordered 51 E85 Flexible Fuel Vehicles (FFV). This represents 6.85% of all vehicles received. The cost of fuel and equipment to outfit vehicles for E85 is less than 10% of comparable standard petroleum vehicles. However, despite the fact that E85 is a relatively inexpensive fuel type, industry trends have marked a movement away from E-85 models. E-85 models are generally being displaced by hybrid models, particularly hybrid trucks.

Petroleum Vehicles

The Department received 349 dedicated petroleum vehicles this year, representing 46.91% of all vehicles. 315 were gasoline, and 34 were diesel vehicles. Respectively, this represented 42.34% and 4.57% of all vehicles purchased. The diesel powertrain has become a specialized ordering item due to the high added cost of initial purchase and a lower average rate of return on investment. Two-thirds of petroleum vehicles (214) acquired in FY 2023-24 were for the Colorado Department of Public Safety (CDPS).

PROCEDURES & POLICIES ON ORDERING NEW VEHICLES

The vehicle ordering process is governed by 24-30-1104, C.R.S. and Executive Orders. Between 2017 and 2022, successive Governors executed initiatives (E.O. D 2017-015, B 2018-006, D 2018-026, B 2019-002, D 2019-016, D 2022-016) to focus efforts on reducing greenhouse gas (GHG) emissions from transportation sources through alternative vehicle fuels. These directives have put additional focus on Zero Emission Vehicle (ZEV) technologies to achieve these goals.

During the vehicle selection process, AFV models must be reviewed and considered as the first choices for EV eligible vehicles types. SFM usually proposes a specific AFV model (e.g. truck) and AFV fuel type (e.g. BEV) for each state fleet vehicle order. If the agency determines that the proposed AFV model will not meet its functional requirements, the agency can consider other AFV models (e.g. sedan, van, etc) and/or AFV fuel types (e.g. PHEV, E85, etc). The last option is to select a gasoline or diesel petroleum vehicle. If an AFV will not meet the functional requirements for the agency, an additional "Non-AFV Purchase Justification From" must be completed and signed by the Executive Director for each requested vehicle.

INFRASTRUCTURE STRATEGY

AFVs typically have fueling challenges. Therefore, given the increase of electric vehicles within the state fleet, it is imperative to ensure sufficient charging infrastructure where electric vehicles operate. In some cases, this can be at or near a state owned facility or state owned property. However, in many cases charging is required along transportation corridors, in remote or rural areas, or even at or near a state employee's home when the employee is authorized to store a state fleet vehicle at their home.

While Colorado experienced many new charging options over the past couple years, EV charging remains a constraint on EV deployment within the state fleet. Agency owned EV charging infrastructure is limited (e.g. there are insufficient number and level of EV chargers), employees have limited charging options in or near their homes (e.g. many employees rent and/or are unable to install charging), and non state owned charging options can be unreliable and inconvenient.

To address the state fleet EV charging needs, the Department partners with the Colorado Energy Office, the U.S. Department of Energy's Clean Cities Coalition, Regional Air Quality Council, National Renewable Energy Laboratory, political subdivisions, representatives from alternative fuel suppliers, EV charging suppliers, infrastructure manufacturers, and property developers to foster best practices and strategies to develop AFV infrastructure statewide.

Specific actions to increase the EV charging infrastructure across the state include:

- In 2019, CEO awarded high-speed charging stations at 33 locations across Colorado's major transportation corridors. As of 2024, all 33 stations are operational and open across the state.

- In 2021, Governor Polis signed SB21-260, creating the Community Access Enterprise (CAE). Also in 2021, Congress created the National Electric Vehicle Infrastructure (NEVI) Program. These two funding sources are critical to creating a robust charging network across Colorado that includes charging stations in communities and along major transportation corridors. Colorado is expected to receive $57 million over the next five years to build out an EV charging network across the State. NEVI funds are distributed through CEO's Direct Current Fast-Charging (DCFC) Plazas Program, a program additionally funded by the CAE.

- In April 2024, Governor Jared Polis and CEO announced $21 million in grants through the DCFC Plazas Program to create 290 new fast charger ports at 46 different sites across the state. The goal is to EV charging gaps along Colorado's federally designated alternative fuel corridors. Nearly 150 stations have been installed through FY 2023-24, and it is expected that more than 200 stations will be installed.

- The Public Utilities Commission (PUC) approved Xcel Energy's $110 million Transportation Electrification Plan in early 2021. This resulted in significant EV charging investment in Xcel's service area.

- In 2024, the Colorado PUC approved Xcel's Energy's $264 million for the 2024-2026 Transportation Electrification Plan (TEP). These funds are eligible to State agencies to participate in Xcel's EV Supply Infrastructure rebate and EV rebate programs, which should continue to reduce the costs for installing charging stations at State facilities in Xcel's territory.

- In June 2024, the Office of Sustainability, SFM, and state agencies formed a statewide EV charging infrastructure agency workgroup. The workgroup seeks the effective use and expansion of state-owned EV charging.

EXEMPTIONS

SFM is required by statute to purchase an AFV if either the increased base cost of such vehicle or the increased life-cycle cost of such vehicle is not more than 10% over the cost of a comparable dedicated petroleum fuel vehicle. As per statute, DPA is required to adopt a policy to allow some vehicles to be exempted from this requirement. Current AFV exemptions include:

- CDPS law enforcement patrol, undercover, and specialized vehicles, as well as crime scene labs and hazardous materials vehicles are exempted from this requirement until such time AFV vehicles are available and law enforcement pursuit certified. However, CDPS is required to purchase AFV vehicles wherever practicable except for the exemptions listed above.
    - In model year 2024 a "pursuit" rated EV came to market and the State Patrol is piloting its use. This "pursuit" rating is a standard of the Colorado State Patrol (CSP) to perform the required task.
- Non-CDPS law enforcement "certified patrol" vehicles used by State agencies may be exempt from this requirement until such time as AFV vehicles are available and proven reliable and certified for this function. At this time, these models will include the Police Dodge Durango, Chevy Police Tahoe, Ford Police Expedition, and Interceptor Utility.
- Vehicles that have specialized equipment that makes them less suitable for general transportation may also be exempted. These vehicles are essentially a "tool on wheels" or "mobile shop" that would be difficult to accommodate large additional fuel tank and battery storage configurations and be certified by the OEM. Examples include a drilling unit, water tanks, lab/research equipment, plumbing or telecommunications equipment, and patient and prisoner transport vehicles.
- Other potential exemptions will be considered on a case-by-case basis only through a cooperative review established between CEO and DPA.

The table below identifies the number of acquisitions by fuel type configuration or hybrid vehicles by agency for FY 2023-24.

FY2023-24 Acquisitions by Department and Fuel/Hybrid Type								
Department	**AFV**					**NON-AFV**		**Total by Department**
	CNG	**E85**	**Hybrid**	**PHEV**	**BEV**	**Diesel**	**Gasoline**	
CDPS	0	1	21	4	15	9	214	264
CDA	0	4	0	3	4	0	1	12
CDOC	0	6	1	40	3	0	14	64
CDE	0	0	0	0	0	0	0	0
CDPHE	0	0	3	8	0	0	1	12
CDHE	0	1	1	0	3	2	14	21
CDHS	0	2	0	9	2	0	4	17
LAW	0	0	0	1	0	0	0	1
DEC	0	0	0	0	0	0	0	0
DOLA	0	0	3	1	0	0	0	4
CDLE	0	0	0	1	0	0	2	3
DMVA	0	1	0	2	0	0	0	3
DNR	0	32	30	5	14	23	63	167
DOR	0	0	2	23	0	0	0	25
DORA	0	0	9	4	7	0	0	20
SOS	0	0	0	0	0	0	0	0
CDOT	0	4	11	5	104	0	2	126
GOV	0	0	0	0	0	0	0	0
DPA	0	0	0	0	1	0	0	1
JUD	0	0	2	2	0	0	0	4
Total Acquisitions	0	51	83	108	153	34	315	744
Percent of Total	**0.00%**	**6.85%**	**11.16%**	**14.52%**	**20.56%**	**4.57%**	**42.34%**	**100.00%**

AFV VEHICLE ACQUISITIONS – FY 2007-08 to FY 2023-24

Since January 2008, Colorado has been committed to purchasing AFVs available in the marketplace. Fueling infrastructure, technology, and budgetary constraints often impact the number of vehicles purchased each year and over time. This is represented in the table below.

Summary of Vehicle Acquisitions - FY 2007-08 to FY 2023-24								
Fiscal Year	AFV					NON-AFV		Total Acquisitions
	CNG	E85	Hybrid	PHEV	BEV	Diesel	Gasoline	
2008	-	284	30	-	-	52	288	654
2009	-	303	213	-	-	44	335	895
2010	-	245	86	-	-	5	215	551
2011	-	98	4	-	-	30	109	241
2012	1	113	12	-	2	9	180	317
2013	81	220	53	-	-	21	191	566
2014	153	233	61	-	-	16	217	680
2015	35	246	69	-	-	40	331	721
2016	48	128	158	9	1	44	277	665
2017	-	221	136	6	-	46	145	554
2018	2	215	142	7	13	30	285	694
2019	-	189	161	17	8	28	250	653
2020	-	112	87	37	-	44	245	525
2021	-	74	198	44	7	37	272	632
2022	-	73	84	148	3	16	166	490
2023	-	72	65	8	42	15	199	401
2024	-	51	83	108	153	34	315	744
Total	**320**	**2877**	**1642**	**384**	**229**	**511**	**4020**	**9983**

Between FY 2007-08 and FY 2023-24, SFM purchased a total of 5,452 alternative fuel vehicles reducing significant petroleum use. Over the past ten years, both E-85 and CNG vehicles

declined due to a reduction in fuel infrastructure as well as a reduction in manufacturer vehicle models. This has been in large part the result of the rise of more efficient Hybrid, PHEV, and BEV options. Overall, this shift allowed the State to purchase 1,642 hybrid vehicles, 384 PHEVs, and 229 BEVs between FY 2007-08 and FY 2023-24.

The industry witnessed a resurgence in vehicle production years. This resulted in a significant fiscal year for the state fleet during which over half of new state fleet vehicles were AFVs. The high percentage of AFVs was largely a result of the State's efforts to position itself as an early adopter of Zero Emission Vehicles and provided the State greater access to EV models. The Department expects this trend to continue as technology and demand for AFVs grow.

As noted above, the significant increase of EVs in the state fleet requires sufficient charging to ensure that agencies can deliver services to Coloradans. The Department and its partners are working hard to address these gaps using data and seeking new funding opportunities.

The Department sincerely appreciates the Legislature's continued support for our State Fleet Management program and the ongoing acquisition of AFVs for state agencies.

Best regards,

Tony Gherardini
Executive Director
Colorado Department of Personnel and Administration