GREEN FLEET ACTION PLAN

2025 Update

2025

CITY OF SEATTLE

Produced by the Department of Finance and Administrative Services

Executive Summary

Since 2003, the City of Seattle's Green Fleet Action Plan (GFAP) has helped the City reduce fuel consumption and fleet emissions. The GFAP has advanced the City's green fleet efforts leading to one of the largest fleets of alternative fuel vehicles in the nation. Currently, the City has over 600 electric vehicles and over 600 electric vehicle chargers.

In addition to transitioning to electric vehicles, the City has also transitioned to renewable diesel which emits at least 50 percent fewer greenhouse gases (GHG) than regular diesel.

This updated 2025 GFAP, led by the City's Department of Finance and Administrative Services (FAS), renews the City's commitment to lowering vehicle emissions and builds upon the groundwork already laid to advance the City's green fleet and climate goals. The updated GFAP provides multifaceted strategies to meet these goals by reducing vehicle miles traveled, continuing transition to electric vehicles, and using renewable sustainable fuels.

The main new strategy in the 2025 GFAP is to diversify the City's clean fuel sources by piloting hydrogen vehicle investments. Additionally, City departments are asked to look critically at their operations to improve transportation efficiency and reduce vehicle miles traveled.

The City expects to reach a goal of fleet emissions falling below 10,000 metric tons by 2030 by adopting the strategies of the 2025 GFAP.

Purpose

The purpose of the GFAP is to ensure energy resiliency and achieve net zero fleet GHG emissions by 2050 in alignment with the Seattle Climate Action Plan. The updated 2025 GFAP aligns the City's actions and resources towards this goal over the next five years, seeking to limit the City's GHG emissions to fewer than 10,000 annual metric tons of carbon dioxide by 2030. This reduction represents a 46 percent emissions reduction compared to 2024 and a 70 percent reduction since 2013, the baseline year.

Strategies of the GFAP update include reducing vehicle miles traveled, using battery electric and hydrogen fuel cell vehicles, and utilizing renewable sustainable fuels.

Strategy 1- Vehicle Miles Traveled (VMT) Reduction

Reducing Vehicle Miles Traveled (VMT) is an effective emissions mitigation action, significantly lowering GHG and tailpipe emissions. For example, Seattle Parks and Recreation formerly had a policy that whenever a resident called to say a trashcan was overflowing, Parks and Recreation would immediately dispatch a truck to empty it. Parks and Recreation, acting on 2019 GFAP recommendations to reduce fuel, adjusted their procedures to instead empty trash on a set route with scheduled intervals and saw measurable reductions in fuel use. This strategy seeks more department operational planning towards reducing the vehicle miles traveled in delivering critical city services.

Strategy 1a - Reducing Mileage through Operational Changes

Reducing vehicle miles traveled can be accomplished by encouraging and planning strategic and efficient transportation practices when conducting City business, such as utilizing transit and determining meeting locations for offsite staff. Finance and Administrative Services (FAS) staff will design a vehicle miles traveled reduction planning template to help departments think about new ways to deliver City services. This planning template will guide departments in assessing their operations for opportunities to reduce vehicle miles; such as, conducting an operational policy and procedures review, planning logistics for routine work; right-sizing vehicles for operations, and dispatch management.

Strategy 1b- Right-Size Fleet with Telematics

FAS uses data to make fleet decisions employing vehicle telematics to analyze usage patterns, fuel economy, and maintenance costs. This data helps the City identify underutilized vehicles, discover operational efficiencies, and determine the proper size and fuel makeup of the City fleet. The City will increase the use of telematics fleetwide to have more empirical data to support the proper sizing and use of the City fleet.

Strategy 2- Electric Vehicles

Strategy 2a- Battery Electric and Plug-In Hybrid Electric Vehicles

Converting vehicles utilizing combustion engines to battery electric vehicles will significantly reduce carbon dioxide tailpipe emissions. For example, converting the City's remaining unleaded vehicles to electric will remove 10,000 metric tons of carbon dioxide annually. Currently, 16.6 percent of the motorized fleet (622 out of 3,751) are battery electric vehicles (BEV) and plug-in hybrid electric vehicles

(PHEV). These EVs have primarily replaced unleaded vehicles, which are typically lighter in weight and have much greater market-ready replacement options. Hybrid gas/electric vehicles, mostly police patrol vehicles, comprise a further 14.9 percent. By 2031, 1,055 more unleaded vehicles will be replaced with BEVs, bringing the electric fleet to over 1,500 vehicles.

Diesel vehicles are more difficult to transition to BEV or PHEV due to operational requirements for payload/carrying capacity and runtime in the field. The BEV market for medium and heavy-duty trucks has also been slower to develop and cost about twice as much as conventional trucks and require more electrical infrastructure to refuel. Regardless, the City will continue to seek opportunities to replace diesel vehicles with BEV or PHEV.

Strategy 2b- Hydrogen Vehicles

As mentioned above, diesel vehicles are more challenging to convert to BEVs. Batteries suitable for diesel displacement are extremely heavy and expensive and reduce payload/carrying capacity. Heavy BEVs require substantial power to recharge in a timely manner and oftentimes require adding new electrical service to sites.

Hydrogen vehicles may be better suited for medium and heavy vehicles – filling a gap that currently exists with BEVs. Hydrogen, when renewably and sustainably created ("green hydrogen," or "Green H2"), is a zero-emission fuel. Hydrogen vehicles are EVs utilizing electric motors, but—instead of drawing power from the electric grid—they convert hydrogen directly to electricity. The only "exhaust" byproduct they produce is clean water. Incorporating Green H2 into the City's fuel profile accelerates the City's ability to procure zero emission vehicles.

Strategy 3 Renewable Sustainable Fuels

Renewable sustainable fuels ensure the City achieves its emissions reduction target while indefinitely securing the local fuel supply. Renewable fuels are fuels created from self-regenerating resources, such as wind, solar, and hydroelectric. Sustainable fuels refer to proper stewardship of resources to ensure fuel use does not deplete production capacity. Green electricity and Green H2 are the most abundant renewable sustainable sources of energy for the City. While these sources develop, the City will continue to maintain its use of renewable diesel.

Strategy 3a- EVSE – Hub and Spoke Charging Infrastructure

The City utilizes a hub and spoke charging infrastructure approach. Hubs are strategically located in areas throughout the City to meet operational needs. Hubs provide high electrical output to allow quick recharge times for vehicles that lack their own dedicated, individual charging stations and are suitable for charging the larger batteries of heavy and medium vehicles. The City will continue to build more hubs.

Along with hubs, the City utilizes charging "spokes" or level 2 and lower capacity level 3 charging stations that are installed at locations where BEVs park for extended periods of time – primarily at departmental buildings and facilities.

The City has installed over 600 level 2 spoke chargers and six level 3 hub chargers at various City locations. Future charging capacity will continue to be added in this hub and spoke model. Additionally, to provide more charging options, FAS also provides access to public charging networks with EV charging credit cards and the Bluedot mobile app allowing drivers to access the public charging network via smartphone.

Strategy 3b – Hydrogen Fuel Infrastructure

Investing in Green H2 infrastructure and hydrogen powered vehicles increases the City's ability to achieve GHG emissions reduction targets by expanding the potential pool of electric vehicles. Hydrogen has fueling infrastructure that closely mimics that of petroleum fuel. This infrastructure allows faster refuel speeds without needing significant electrical service upgrades. The main hindrance to hydrogen vehicle adoption is a lack of Green H2 fuel infrastructure. There is interest from the private sector for partnerships and state funding is available for hydrogen fueling infrastructure. The City will support efforts to develop a regional green hydrogen fueling infrastructure to improve green hydrogen options and fueling capacity.

Conclusion

The strategies in the 2025 GFAP update lay out a framework to reach the 2030 goal of producing fewer than 10,000 metric tons of carbon dioxide annually. This plan strives to reduce vehicle miles traveled, continue utilization of electric vehicles, and provide renewable and sustainable fueling options.

While challenges remain in implementing the strategies in this plan, the City is pursuing state and federal grants, creating cost-sharing partnerships with regional agencies and stakeholders and seeking internal funding for infrastructure projects to ensure we meet our fleet-related climate goals. This plan update does that by recognizing evolving technologies that may offer new pathways for faster and less expensive implementation.

Action Steps

Strategic Action	Measurable Outcome	Specific Actions	When
Strategy 1: Operational Changes and Right-Size Fleet	• Reductions in fuel use and MtCO2e	• Install telematics on the entire fleet • Develop VMT reduction plan template • Encourage departments to submit VMT reduction plans	2027 2026 2027
Strategy 2a: Battery Electric Vehicles	• Convert the remaining unleaded City vehicles to BEV • Fully transitioning the unleaded fleet to EV	• Purchase EVs to replace remaining unleaded vehicles (800-plus by 2031) • Form joint IDT with SPD/FAS to develop a five-year EV patrol vehicle charging plan • Develop CIP to install EV charging infrastructure at precincts	2026 -2031 2026 2027 – CIP request
Strategy 2b: Hydrogen Fuel Cell Vehicles	• Displace fleet with hydrogen vehicles	• Identify vehicles suitable for FCEV replacement • Partner with OEMs to procure FCEV vehicles • Explore replacing unleaded sedans with Toyota Mirais • Suggest policy directives to phase-in of ZEV refuse vehicles in City	2025-2031 2027
Strategy 3a: EVSE	• Increase the behind-the-fence charging capacity of the City fleet	• Install 70-plus grant funded charging ports • Haller Lake Hub • West Seattle Stadium Hub: FAS and Seattle Parks partnership • Charles Street Hub: Pending planned electrical service upgrade	2025 2026 2027 2028
Strategy 3b: Hydrogen fuel supply	• Install hydrogen fueling infrastructure on City property.	• Tap into available state funds for hydrogen station • Partner with regional stakeholders to create a hydrogen market (the Port, King County, etc)	2026 2025 – 2031

		• Coordinate local green hydrogen supply • Form IDT with SPU/SCL/SDOT/FAS to find use cases for Green H2	2026 2026-2027