




MAYORAL DIRECTIVE

Date: May 23, 2023

To: City of Seattle Department Directors

From: Mayor Bruce Harrell 

Subject: Department Transition to Electric Leaf Blowers

Overview

Gas-powered leaf blowers (GPLBs) are an important tool for landscapers and maintenance workers, yet they present several significant public health and nuisance issues: toxic emissions, greenhouse gases (GHGs), particulate matter, noise, and vibration. The localized air pollution and noise can impact the health of the operator and bystanders during operation.

On September 6, 2022, the City Council passed [Resolution 32064](#), calling for the City to transition away from gas-powered to electric leaf blowers. In support of the City of Seattle’s commitments to clean air, healthy working conditions, carbon emissions reduction, and equity, the Mayor’s Office, in partnership with relevant departments, has developed an implementation plan for City departments to transition away from the use of gas-powered leaf blowers.

Background

Leaf blowers are used across lands managed by the City of Seattle, with heavier use in the autumn when leaves fall from deciduous trees. While many departments utilize blowers in some way, the primary users are Seattle Parks and Recreation (SPR), Seattle City Light (SCL), Seattle Center (SC), and Seattle Public Utilities (SPU). There are 427 (61-SCL, 252-SPR, 64-SPU, 12-SC) gas powered leaf blowers and 77 (6-FAS, 4-SCL, 38-SPR, 23-SPU, 6-SC) electric powered leaf blowers owned by the City of Seattle.

Leaf blowers are one of many critical tools used to clear areas for safety (paths, stairways, sidewalks), to keep permeable pavement clear from clogging, to clear leaves from recreational assets (such as wading pools, spray parks, dog parks, sport courts, skate parks, and play areas), to assist in adding mulch to garden beds, and to clear drains of organic debris.

Some uses for leaf blowers can effectively be met with existing electric-powered leaf blowers (EPLBs). Most custodial needs around buildings and certain small and short-term operations (i.e., job site cleanup) are well suited for EPLBs. In addition, staff have found they work well for short duration tasks, particularly in dry paved areas.

However, current EPLB technology is not on par with their commercial gas-powered equivalents and present many challenges for use in municipal landscape maintenance. GPLBs are more powerful in both air displacement and velocity than EPLBs currently on the market. This is primarily an issue in the autumn when leaves and rain merge to create large amounts of heavy material. GPLBs last longer on a full tank of gas than EPLBs that use attached batteries. Both types of equipment can last longer with more fuel or batteries, but batteries have extra challenges. To match the duration of a GPLB, an EPLB

requires the equivalent of 4-8 batteries. There are currently no in-field charging options, so this would require purchasing additional batteries, with an average cost of approximately \$400 per battery and adding charging stations throughout City facilities.

Many of these challenges can be addressed with time and improvements to technology. Yet some current facilities are not prepared to fully support an immediate transition to 100% EPLBs. However, a path exists to set the City of Seattle up as an example of how to shift from a system using fossil fuel-based small equipment to one that is carbon-neutral, quieter, and safer for workers and residents.

Actions

To support the City's transition from gas-powered leaf blowers to electric, City departments are instructed to undertake the following actions:

A. Actions by July 2023

The City of Seattle will take the following actions in 2023 to begin the transition to electric powered leaf blowers. The 2023 planning-related activities should note the extent to which implementation activities can occur with existing budget authority or require new resources. The Mayor encourages departments to be creative and resourceful within current budget authority to the extent possible.

1. Equipment Inventory

Each relevant department will conduct a current and **accurate inventory of existing handheld leaf blowers**, including whether they are gas or electric powered, the model number, and their purchase date to the extent possible given existing information. This inventory will be maintained annually to assess the transition to electric-powered leaf blowers until such time as a transition is complete.

2. New Purchases

All new leaf blower purchases by City of Seattle departments will be electric powered equipment (either plug in or battery). This will be the first step in transitioning to an all-electric inventory. It does not immediately preclude using or maintaining existing GPLBs but ensures an eventual shift to new equipment. Each department will determine the best equipment for their needs, including the required number of batteries needed to maintain the level of service needed for their operations.

3. Transition Team

Each department utilizing leaf blowers will **identify at least one representative to participate in a transition team to align practices and share information in 2023**. This team will meet at least quarterly, but more if needed. The team will be facilitated by SPR.

By July 31, 2023, Departments should submit their plans to Veronica Alvarez, Mayor's Office Operations Manager for Executive General Manager Adiam Emery.

B. Actions by December 2023

Departments will need to conduct an infrastructure assessment and transition plan to determine the most appropriate path forward for the transition away from GPLB.

1. Charging Infrastructure Assessment

Each department will conduct an assessment of current charging capacity at their facilities and identify any improvements needed to support electrified small equipment. Electric-powered equipment requires specific infrastructure to support battery charging, and it is critical that departments are prepared to

support this need as the transition to this technology happens. Newer facilities may already have the necessary capacity, while older facilities may need minimal electrical work or service upgrades. Assessments may be done internally or through a consultant.

2. Equipment Transition Plan

Each department will create a plan to transition to electric powered leaf blowers. In addition to the inventory described in Section 1A, the plan will include a:

- i. Charging infrastructure assessment.
- ii. Roadmap to phase out GPLBs by 2025, achieving at least a 50% reduction no later than 2025, 75% by 2026, and 100% by 2027, if not sooner.
- iii. Budget estimates and plan for achieving transition to EPLBs.
- iv. Description of land management practices to reduce overall reliance on leaf blowers.
- v. Options to address any labor and technical issues (charging in the field, duration).

By December 31, 2023, Departments should submit their plans to Veronica Alvarez, Mayor's Office Operations Manager for Executive General Manager Adiam Emery.

C. Future Actions

As departments undertake the requested 2023 actions, they should be considering the following issues that will likely arise in the near future and incorporate these considerations as necessary.

1. Electric Trucks

Providing charging infrastructure in the field will reduce many barriers to implementing this strategy. One opportunity to accomplish this is through use of electric vehicles (EV). Finance and Administrative Services (FAS) works with the City Budget Office and relevant departments to transition the City to electric vehicles and electric trucks. These vehicles, which are increasingly coming onto the market, will require new charging infrastructure and should be considered when departments evaluate electrical capacity at facilities. As FAS transitions to EVs with exportable power, batteries can be charged in the field, thus allowing for more flexibility and reduced costs for using EPLBs.

2. Landscape Design

Leaves that require blowing come from a combination of deciduous trees and proximity to public assets that need to be cleared. By planting evergreen trees instead of deciduous, placing trees in groves where leaf litter is a beneficial addition, and planting resilient ground covers that can handle this organic debris, City departments can lessen the need for the use of blowers. Departments should update relevant design standards and design review processes to support this effort.

3. Invest in Electrical Capacity Upgrades at Facilities

To support the quantity of EPLBs and the frequency of need for recharging batteries, many departments will need to update the electrical capacity at facilities that host these tools. Based on the assessment conducted by each department, investments must be made to support the additional electrical load required. Departments should plan accordingly in their budgets to support these potentially expensive facility improvements.