

August 17, 2022

M E M O R A N D U M

To: Sustainability and Renters' Rights Committee
From: Yolanda Ho, Analyst
Subject: Gas-Powered Leaf Blower Phase Out (Resolution 32064)

On August 19, the Sustainability and Renters' Rights Committee (Committee) will receive a briefing and may vote on [Resolution \(RES\) 32064](#), declaring the City Council's intent to phase out the use of all gas-powered leaf blowers in Seattle.

This memorandum provides: (1) an overview of the environmental and health impacts of leaf blowers; (2) additional background information on leaf blowers, including previous policy efforts, regulations, and an inventory of City-owned leaf blowers; (3) a brief summary of other jurisdictions that regulate the use of gas leaf blowers; (4) a description of RES 32064 and related considerations; and (5) next steps.

Environmental and health impacts

Gas-powered leaf blowers have long been recognized primarily as a noise nuisance. More recently, studies have found that this equipment may also cause adverse health impacts, primarily for landscape workers who operate leaf blowers on a regular basis. At the national level, landscape workers are disproportionately Latino or Hispanic (46 percent in landscape services versus 18 percent in the total workforce).¹

Noise

A 2018 [study](#) for Washington, D.C., compared noise levels and frequency of sound produced by two-stroke gas and electric blowers. Results showed that while gas and electric leaf blowers may be similarly loud (decibels, dB), they produce very different frequencies (hertz, Hz) of sound, with gas blowers producing higher levels of sound at lower frequencies. Lower frequency sound travels through building walls and longer distances, causing gas blowers to be perceived by the human ear as noisier and more disturbing than electric blowers. While the general public is unlikely to experience long-term health impacts caused by gas-powered leaf blower noise, landscape workers could be impacted by permanent hearing damage.

Emissions

Greenhouse gas (GHG) emissions associated with nonroad, mobile sources of emissions, which include equipment used for lawn maintenance, construction, agriculture, etc., are tracked at the county level. These emissions are a relatively minor source in King County, accounting for less than one percent of all transportation-related emissions in the most recent [Puget Sound Clear Air Agency GHG inventory](#) from 2018. As such, gas leaf blowers are not a significant source of GHG emissions in Seattle as compared to vehicles or buildings.

¹ U.S. Bureau of Labor Statistics, 2022.

Emissions from two-stroke gas leaf blowers and similar landscape maintenance equipment consist of hydrocarbons from both burned and unburned fuel that can combine with other gases in the atmosphere to form ozone; carbon monoxide; particulate matter; and other toxic air contaminants in the unburned fuel, including benzene, 1,3-butadiene, acetaldehyde, and formaldehyde. The California Air Resources Board reports that one hour of gas-powered leaf blower use produces roughly the same amount of smog-forming emissions as driving a 2017 Toyota Camry 1,100 miles.² Exposure to high levels of these emissions over time can cause a variety of health issues, including cancer, respiratory problems, and shorter-term symptoms, such as headaches, dizziness, and nausea.

Operating any type of leaf blower lifts particulate matter into the air, which can impact people's health, particularly those who are exposed to it regularly.³ Fine particulate matter (PM_{2.5}) has been found to cause negative cardiovascular and respiratory health effects that can lead to increased mortality. Long-term exposure to PM_{2.5} has also been linked to adverse birth outcomes and cancer.⁴

Previous policy efforts

In 2014, via [Statement of Legislative Intent \(SLI\) 70-1-A-1](#), the Council requested that the Department of Planning and Development (DPD, now the Seattle Department of Construction and Inspections (SDCI)) develop policy recommendations to reduce emissions and noise from gas-powered leaf blowers. DPD provided a [SLI response](#) in September 2014 that recognized the problems associated with gas leaf blowers and offered ideas to modify the City's procurement policies and improve communication between departments and the public. It did not recommend any regulatory changes because electric leaf blowers available at that time were relatively ineffective, and thus could not replace gas-powered models for commercial and institutional use. Further, DPD noted that restricting the use of gas leaf blowers would create potential enforcement and racial equity issues.

The Council followed up on the 2014 SLI response in the 2018 Adopted Budget with [Green Sheet 139-1-A-1](#), which added funding for an ongoing position in SDCI's Code Development team to support a variety of projects, including "completing one of the recommendations from the 2014 response to SLI 70-1-A-1: Leaf Blowers, to convene an inter-departmental team, which would identify and prepare materials to provide best practice information to the public, private landscape companies, manufacturers, and retailers." SDCI ultimately produced a leaf blower [best practices guide](#) to encourage more responsible, courteous use of leaf blowers in Seattle.

² California Air Resources Board, Small Off-Road Engine Fact Sheet, retrieved from https://ww3.arb.ca.gov/msprog/offroad/sm_en_fs.pdf?_ga=2.250847430.1529378403.1617897063-1852722426.1612224140

³ There have been no studies to date on the impacts of emissions from lawn maintenance equipment on workers or the general public, though the National Institute for Occupational Safety and Health (within the Centers for Disease Control) is conducting a pilot study on workplace hazards experienced by landscapers, groundskeepers, hardscapers, and arborists that may reveal to what extent these emissions impact worker health.

⁴ U.S. Environmental Protection Agency, December 2009, Integrated Science Assessment for Particulate Matter, retrieved from <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=216546>

As part of 2022 Adopted Budget, the Council included [SLI OSE-003-B-001](#), sponsored by Councilmember Pedersen, requesting that the Office of Sustainability and Environment and Seattle Parks and Recreation (SPR) develop a plan to phase out the use of all gas-powered leaf blowers within the next two years. The SLI response is due on September 2, 2022.

Current Regulations and Enforcement Practices

The City regulates the use of leaf blowers through the [Noise Code](#), which is administered by SDCI. The regulations limit the hours during which noise caused by construction, landscape maintenance, and similar activities can occur.⁵ Currently, normal use of a leaf blower during allowed hours complies with the City's regulations; someone operating a leaf blower outside of these hours is likely to be in violation. Staff may investigate complaints against commercial landscaping companies, but do not engage in complaints between neighbors.

In the 2014 SLI response, DPD reported that they had received on average fewer than four leaf blower noise complaints per year since 2005. SDCI no longer tracks complaints it receives regarding the use of leaf blowers, though they have noted an increase in all types of noise complaints over the past two years, likely due to the fact that more people are at home because of the pandemic and are hearing more noises as a result.

Inventory of City-owned Leaf Blowers

The City currently owns about 418 gas-powered leaf blowers, an increase of 207 since 2014, and 70 electric leaf blowers, an increase of 49 since 2014 (see Table 1). SPR has the most leaf blowers, both gas and electric, which are used to maintain 485 parks and over 6,423 acres of land in SPR's ownership. City departments continue to rely on gas-powered leaf blowers primarily because available electric alternatives continue to be less powerful than gas blowers and have limited battery life (for cordless models).

SPR conducted a pilot project in 2019 to test the use of battery-powered electric blowers. Through this pilot, SPR learned that due to the improvement in technology over the years, these blowers are now powerful enough to work well in dry conditions on hard surfaces. However, the heavy, wet leaf litter in the fall continues to be beyond the capabilities of this equipment, necessitating the use of the more effective gas leaf blowers. SPR has committed to transition to more electric leaf blowers, with a goal of reaching 50 percent leaf blower electrification by 2026.

⁵ Generally, leaf blowers and other landscape maintenance equipment may be used between 7 AM and 7 PM on weekdays, and between 9 AM and 7 PM on weekends and legal holidays. Seattle Municipal Code (SMC) Chapter 25.08 establishes limits on exterior noise levels by zoning category (i.e., residential, commercial, and industrial).

Table 1. Inventory of gas and electric leaf blowers by City department (2014⁶ & 2022⁷)

Seattle City Department	Type	2014	2022	Change
Parks and Recreation	Gas	125	270	145
	Electric	0	30	30
Transportation	Gas	29	76	47
	Electric	0	1	1
City Light	Gas	13	34	21
	Electric	9	13	4
Seattle Center	Gas	12	12	0
	Electric	0	6	6
Fire Department	Gas	9	21	12
	Electric	7	10	3
Public Utilities	Gas	19	5	(14)
	Electric	0	3	3
Finance and Administrative Services	Gas	4	0	(4)
	Electric	5	7	2
Totals	Gas	211	418	207
	Electric	21	70	49

Jurisdictions that Regulate Leaf Blowers

A 2018 committee report to the Council of the District of Columbia stated that over 170 jurisdictions in 31 states have enacted some type of restriction on the use of gas leaf blowers.⁸ The majority of these jurisdictions have imposed other restrictions on time of use during the day/week (similar to Seattle) or seasonal uses of blowers. Over 40 have banned the use of gas leaf blowers as of December 2021.⁹ Most of the jurisdictions that have completely banned the use of gas leaf blowers have relatively dry conditions during the fall when leaf litter is prevalent that allows for the more successful use of the less powerful electric blowers as compared to Seattle's wet weather during this same time.

The following are a few recent examples of jurisdictions that have taken action to prohibit the use of gas-powered leaf blowers. Washington, D.C.'s [Leaf Blower Regulation Amendment Act of 2018](#) went into effect on January 1, 2022. It bans the sale and use of gas-powered leaf blowers within the District of Columbia; violation of this law would result in a fine up to \$500 per occurrence. The Council of the District of Columbia passed the legislation in 2018 and set the later effective date to provide time for City departments, residents, and businesses to phase out use of gas leaf blowers.

⁶ Information included in 2014 Statement of Legislative Intent response.

⁷ Information provided by City Departments.

⁸ Chairman Phil Mendelson, 2018, October 16, Report on Bill 22-234, "Leaf Blower Regulation Amendment Act of 2018," retrieved from <http://chairmanmendelson.com/wp-content/uploads/2018/10/B22-234-Leaf-Blower-Regulation-Amendment-Act-of-2018-CIRCULATION-PACKET.pdf>

⁹ Multnomah County Resolution 2021-094.

The Multnomah County Commission, in partnership with the City of Portland, adopted [Resolution 2021-094](#) in December 2021 stating the County's intent to transition all County-owned leaf blowers to electric models by December 2024. It also commits the County to collaborating with the City of Portland to establish a workgroup that would develop a strategy to equitably phase out the use of all gas leaf blowers in the county. The California State Assembly passed (and the Governor signed into law) [Assembly Bill 1346](#) that will ban the sale of new gas-powered lawn and garden equipment beginning in 2024 and portable generators in 2028. However, it does not ban the use of existing gas-powered lawn and garden equipment. California has set aside \$30 million to support the transition to electric alternatives for landscaping businesses.

It should be noted that enforcement of prohibitions against the use of gas-powered leaf blowers can be difficult and resource-intensive due to the transient nature of leaf blower use. By the time enforcement staff responds to a complaint, the illegal activity may no longer be happening, making it difficult to ascertain if a violation has occurred. This could be addressed by allowing for the submittal of time-stamped photographic or video evidence, as is SDCL's current practice, but this approach would still require staff resources to verify that a violation has taken place. It is not clear to what extent jurisdictions that have leaf blower bans in place actively enforce these provisions.

Resolution 32064 and Related Considerations

RES 32064 is intended to elevate and reinforce the work requested by SLI OSE-003-B-001 by specifying actions departments should take to phase out the use of all gas-powered leaf blowers in Seattle and establishing the following goals:

- By January 2025, or later, if necessary, the City and its contractors will phase out the use of gas-powered leaf blowers; and
- By January 2027, or later, if necessary, institutions located in Seattle, businesses operating in Seattle, and Seattle residents will phase out the use of gas-powered leaf blowers.

To achieve these goals, the resolution requests that various departments take the following actions:

- Departments that use gas-powered leaf blowers are requested to:
 - Evaluate current practices related to the use of leaf blowers and explore options to reduce reliance on leaf blowers generally (e.g., allowing leaves to naturally decompose or using non-motorized methods to remove leaves); and
 - Develop and implement plans to ensure that City facilities and employees are adequately equipped to use electric leaf blowers (i.e., battery charging is available, and staff are properly trained).

- Other requested actions are for:
 - Seattle Public Utilities, SDCI, the Office of Labor Standards, and the Department of Neighborhoods to develop and implement a culturally- and linguistically-appropriate education and outreach strategy to inform City employees, businesses, and the general public about the negative health and environmental impacts of gas-powered leaf blowers and encourages residents to use less polluting and quieter alternatives; and
 - The Department of Finance and Administrative Services and SDCI to develop a proposal to phase out and eventually ban the use of gas-powered leaf blowers in Seattle, which should include consideration of a Racial Equity Toolkit analysis, financial incentives, regulatory changes, and a cost-benefit analysis.

Finally, the resolution includes a request that the Executive provide a proposed work program, timeline, and budget to the Council by December 2, 2022. The resolution also states that City departments could phase out the use of gas-powered leaf blowers at an earlier target date if desired.

Department staff have indicated that they have limited capacity to conduct the work requested by the resolution. Without additional resources, departments would either need to adjust their work plans to accommodate this additional workload, delaying progress on the development and implementation of other City priorities, or forgo working on the proposed phase out plan. The Council could consider adding funding to support this effort during its forthcoming budget deliberations. In the longer term, if the City develops a buyback program or other financial incentives to expedite the transition to electric leaf blowers, more resources will be required.

Next steps

If the Committee votes to recommend adoption of RES 32064, the City Council could consider it as early as September 6.

cc: Esther Handy, Central Staff Director
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