



Item No. 21 Town of Atherton

CITY COUNCIL STAFF REPORT – REGULAR AGENDA

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: GEORGE RODERICKS, CITY MANAGER

DATE: FEBRUARY 20, 2019

**SUBJECT: DISCUSSION AND DIRECTION REGARDING LEAF BLOWERS
AND POSSIBLE RESTRICTIONS ON THEIR USE IN TOWN**

RECOMMENDATION

Review and discuss the report and provide direction to staff regarding leaf blowers and possible restrictions on their use in Town.

BACKGROUND

A member of the Council has asked that the Town consider its ordinances surrounding the use of leaf blowers in light of recent actions by neighboring jurisdictions. Before staff moves forward with any significant staff time or resources on the issue, staff is seeking Council direction on the topic.

Attached is a recent *Almanac Newspaper* article regarding recent action by the Town of Portola Valley. The Town recently enacted a ban on gas-powered leaf blowers – to become effective in two years. The two-year delay was agreed to in order to allow gardeners and homeowners to replace their equipment. The Town allows Town Hall to use gas-powered leaf blowers in the case of emergencies and is considering allowing them for homeowners that live along creeks. The Town’s ordinance also bans the use of electricity-powered blowers on soil and other “softscapes.”

With the decision, Portola Valley joins 19 other communities in California including Berkeley, Los Altos, Palo Alto, Carmel, Mill Valley and Malibu. Five of those communities ban *all blowers*, including those powered by electricity. Fifty-nine (59) communities restrict the use of blowers to particular times of day. Atherton is one of the 59 communities that restrict the use, based on noise.

In Atherton, Chapter 8.16.050 (B) of the Town’s Noise Control Ordinance states:

B. Power Garden Equipment.

Discussion and Direction Regarding the use of Leaf Blowers

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1. Power garden equipment including but not limited to, leaf-blowers, vacuums, power mowers, rototillers, and other similar equipment are exempt from the basic noise regulation between the hours of eight a.m. and six p.m. Monday through Friday, ten a.m. and five p.m. on Saturday and ten a.m. and three p.m. on Sunday.

As part of Portola Valley's effort ([here is a link to their January 9, 2019 Staff Report with backup](#)), a survey was conducted in 2017. (<http://www.portolavalley.net/Home/ShowDocument?id=12391>) The Leaf Blower item is Item No. 3, beginning on page 20 of the PDF.

The results of the survey are attached as an excerpt from the above linked report. Also attached is a short list from a recent survey of surrounding jurisdictions.

POLICY FOCUS

The Council discussion should focus on issues related to banning or restricting leaf blowers, clean air policies, and other environmental issues associated with the use of gas-powered leaf blowers.

This item has not been reviewed by any of the Town's subcommittees. It may be appropriate for the Council to task the Environmental Programs Committee with studying the issue and gathering public input.

FINANCIAL IMPACTS

None.

PUBLIC NOTICE

Public notification was achieved by posting the agenda, with this agenda item being listed, at least 72 hours prior to the meeting in print and electronically. Information about the project is also disseminated via the Town's electronic News Flash and Atherton Online. There are approximately 1,200 subscribers to the Town's electronic News Flash publications. Subscribers include residents as well as stakeholders – to include, but be not limited to, media outlets, school districts, Menlo Park Fire District, service providers (water, power, and sewer), and regional elected officials.

ATTACHMENTS

- A - Almanac Article – Gas Powered Leaf Blowers Banned in Portola Valley
- B - Excerpt from Portola Valley Staff Report
- C – Recent Survey of Surrounding Communities

Gas-powered leaf blowers banned in Portola Valley

Town Council action includes a two-year delay to phase in new regulations.

Town Hall in Portola Valley owns a gasoline-powered leaf blower for use in emergencies, such as when a tree falls across a road and spreads debris all over the place. But for ordinary leaf-blowing chores, staffers use an electricity-powered blower – and in two years, so will just about everyone who wants to blow leaves in town and not run afoul of the law.

At its meeting Wednesday, Jan. 9, the Town Council voted 4-0, with Councilman Jeff Aalfs absent, to amend an existing noise ordinance to ban the use of gasoline-powered blowers. The council agreed to a two-year delay before the regulations go into effect to allow gardeners and homeowners to replace their equipment.

The Bay Area Gardeners Association could not immediately be reached for comment.

The use of gas-powered blowers may be authorized by Town Hall in the case of emergencies, and staff is reviewing the idea of allowing them for homeowners who live along creeks and have responsibilities to prevent flooding. Debris problems along creeks can be unusually difficult, according to accounts from residents who live near creeks and who spoke against the ban at the council meeting.

The switch to electric blowers can be costly. Whereas a typical gasoline-powered blower costs between \$400 and \$600, an electric blower with all its

associated equipment currently costs \$1,900, Public Works Director Howard Young told the council. Some jobs will require gardeners to carry a spare battery, available currently for another \$850, Young said.

The ordinance also bans use of electricity-powered blowers on soil and other "softscapes." Leaf blowers kick up fugitive dust – a term the California Air Resources Board defines as particulate matter that is not a side effect of fuel combustion. Vehicles create fugitive dust simply by moving down a road, either paved or unpaved, and if particulate matter is not already on the road, leaf blowers will move it there, the board says in a 2007 report.

Particulate matter, according to a town staff report and a 2012 report from the Bay Area Air Quality Management District, is "by far ... the greatest harm to public health in the Bay Area." The air resources board report notes that outdoor sources of particulate matter include wildfires and indoor sources include stoves, heaters, and fireplaces. Particles "can penetrate deep into the body to damage the lungs, heart, circulatory system, and even the DNA in cells," the report says.

The town notes that dust from a leaf blower travels at speeds comparable to hurricane-force winds; that blowers' two-stroke engines can generate greenhouse gas emissions, over one hour, equivalent to a car trip from Los Angeles to Denver; and that the engines can produce noise of up to 112 decibels, equivalent to a car horn heard at 3 feet away.

With this decision, Portola Valley joins 19 other communities in California, including Berkeley, Los Altos, Palo Alto, Carmel, Mill Valley and Malibu, according to a staff report. Five California communities ban all blowers, including those powered by electricity, and 59 restrict blower use to particular times of day, the report says.

Not a consensus

Town Hall received 43 messages from residents before the council meeting, with 16 opposed to the proposed ban and 17 in favor, Town Manager Jeremy Dennis told the council. Opinion among people who attended the meeting was also divided.

Resident Joe Coleman, who said he plays the piano at home, likened the noise of gas-powered blowers to the disharmony created when striking adjacent black keys on the piano at the same time.

Resident Belinda Brent asked the council to consider exceptions to the ban for people who live along creeks, as did resident Kathy Feldman.

Resident Danna Breen, a longtime advocate of a ban, complained of the potential of breathing in fecal matter from rats and ground squirrels that is made airborne by leaf blowers. As for the noise, she said it drives her to confine herself inside her home for hours at a time. "I don't want to live in a town where I have to wear a mask and earplugs," she said.

Resident David Beaver said he has no problem with the environmental motivations behind the ban, but he objects to people who are passionate about an issue and "know how to pull the levers of power ... and basically force the rest of the town to live our lives the way they think we should live our lives."

Town opinion is not at a consensus, he said, and the council should wait and see before approving a ban.

Resident Jon Silver, a former Portola Valley mayor and a former county planning commissioner who favors the ban, spoke twice, the first time to note how residents in the past managed to live enjoyable lives despite the fact that they didn't have the benefit of leaf blowers.

Silver returned to the microphone to respond to Beaver. "One has a right to influence one's government by winning elections, especially when it's done through democratic process without the effect of money or anything other than winning the argument," he said. "That's what we should care about, and I find it insulting (to allege) that our town is governed by anything else."

A climate crisis

Before voting to approve the ordinance, council members spoke favorably of the ban as a way to address noise impacts for people who work from home, as a way to slow soil damage since education efforts have not seemed to work, and as a way to address climate change.

"That one is huge," Councilman John Richards said in reference to eliminating the greenhouse gas emissions from gasoline-powered blowers. "I think we are absolutely in a crisis."

Councilman Craig Hughes called climate change "the biggest thing that is probably going to impact the most people. ... The more we can pick off low-hanging fruit, especially when there are viable alternatives, we should take every opportunity to do that. Fuel-shifting – transitioning to electric power from fossil fuel – is an easy way to do that."

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TOWN OF PORTOLA VALLEY STAFF REPORT

TO: Mayor and Members of the Town Council

FROM: Jeremy Dennis, Town Manager

DATE: September 13, 2017

RE: Study Session, Leaf Blowers

RECOMMENDATION

Staff recommends that the Town Council provide direction to staff on potential further regulation of leaf blowers in Portola Valley.

BACKGROUND

At the July 26th 2017 Council meeting, a resident requested that the Town further regulate the use of leaf blowers, citing noise, air quality, and other pollution issues. The Mayor and Vice Mayor requested that a study session be scheduled on the next available Council agenda to discuss these issues and provide direction to staff on potential next steps.

Regulation in Portola Valley

The Town currently regulates leaf blowers through the Noise Ordinance (Attachment 1). Regulation is achieved through specific noise standards, as well as the times “domestic garden tools” can be used by both commercial entities and residents. There is further regulation in a subsequent code section specifying dBa levels within 50 feet of the equipment while in use, the equipment’s model number and dBa rating and the use of mufflers and extension tubes

As show in the table below, non-transportation noise in residential districts cannot be higher than 65dBa during daylight hours:

Non-Transportation Generated Noise Standards

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard In Any Hour {dBa}		Interior Noise-Level Standard In Any Hour {dBa}	
		Day 7am-10pm	Night 10pm-7am	Day 7am-10pm	Night 10pm-7am
Residential	Leq	50	40	40	30
	Lmax	65	55	55	45
Medical, convalescent	Leq	55	45	45	35
	Lmax	70	60	55	45
Theater, auditorium	Leq			35	35
	Lmax			50	50
Religious facility, meeting hall	Leq	55		40	40
				55	55
Office Building	Leq			45	

9.10.040B. Domestic Garden Tools¹. Domestic garden tools may be used by commercial companies only Monday through Friday between 8:00 am and 5:30 pm and Saturday between 10:00 am and 5:00 pm; provided that chippers and chain saws may not be used on Saturday. Any resident may personally (including with the help of immediate family members) use domestic garden tools during the following hours: Monday through Friday between 8:00 am and 5:30 pm and Saturday and Sunday between 10:00 am and 5:00 pm. Domestic garden tools may be used by property owners only for the purpose of removing seasonal grasses and plant materials that pose a fire hazard on all days, except holidays, between 8:00 am and 8:00 pm from April 15 to June 15; however, this provision does not allow the use of chain saws and chippers on Sundays. The commercial and resident use of domestic garden tools is prohibited on holidays.

9.10.060H. Prohibited Sources of Noise. Leaf blowers. Leaf blowers shall not produce a sound that exceeds sixty-five dBA when measured from a distance of fifty feet utilizing American National Standard Institute methodology. No person shall operate any leaf blower which does not bear an affixed manufacturer's label indicating the model number of the leaf blower and designating a noise level not in excess of

¹ "Domestic garden tools" are defined in this ordinance as leaf blowers, weed whackers, lawn mowers, chippers, chain saws, or any other lawn or garden power tool.

sixty-five dBA. Any leaf blower that bears such a manufacturer's label shall be presumed to comply with any noise level limit of this chapter provided that it is operated with all mufflers and full extension tubes supplied by the manufacturer for that leaf blower. No person shall operate any leaf blower without attachment of all mufflers and full extension tubes supplied by the manufacturer for that leaf blower. This requirement becomes effective one year after the adoption of this revised chapter.

In the past 6 years, Town Staff has fielded six complaints related to gardening work – two were specific to leaf blower noise.

General Plan

The Sustainability Element of the General Plan calls on the “reduction of greenhouse gas emissions in the air” and a primary goal. Additionally, the Sustainability Element calls for “community education about sustainable principles and applications” (Attachment 2). The Noise Element of the General Plan addresses noise generated by yard maintenance activities and states a goal to “implement appropriate standard controls for yard maintenance activities carried out by commercial companies and homeowners” (Attachment 3).

From a greenhouse gas emissions standpoint, leaf blowers are considered part of the “off-road emissions” inventory, which accounted for 4.5% of the Town’s total 2010 GHG emissions. (Attachment 4)

DISCUSSION

Leaf Blower Design

The majority of leaf blowers purchased in the United States are two stroke model, which means that gas and oil are mixed together to fuel the device. Approximately 30% of the fuel does not completely combust; as a result, they are considered significant polluters. Certain types of two stroke engines have been banned in some areas, including Lake Tahoe, Lake Mead, and many California State Parks that contain lakes. Four stroke engines, similar to automobile engines, are much less common in leaf blowers and are much more environmentally friendly.

In 2000, the California Air Resources Board’s “Report to the California Legislature on the Potential Health and Environmental Impacts of Leaf Blowers” (Attachment 4) identified approximately 410,000 gasoline leaf blowers in California with 1.2% four stroke models. At the same time, there were approximately 600,000 electric leaf blowers in the State, the vast majority used occasionally by homeowners. At the time of the report, it was assumed that “virtually all professional gardeners use gas engine-powered blowers” (page 13).

Air Pollution and Dust

Although somewhat limited, there is a growing number of sources documenting the pollution impacts of leaf blowers.

The aforementioned 2000 California Air Resources Board (CARB) report cited above identified potential health impacts from noise, carbon and dust emissions. The health impacts from these hazards were “from mild to serious, but the appearance of those effects depends on the exposure, the dose, or how much of the hazard is received by a person, and the exposure time” (Page 55).

The CARB report found that leaf blowers generated 7.1 tons per day of hydrocarbons, and 16.6 tons per day of carbon monoxide; however, the report anticipated reductions by 2010 as a result of new leaf blowers standards implemented in 2000. A half-hour of leaf blower operation generated the same amount of hydrocarbon emissions as 7,700 miles of driving at 30 miles per hour; for carbon monoxide, half hour of use is equivalent to 440 miles of driving at 30 miles per hour.

Leaf blowers also impacted the spread of fugitive dust due to the hurricane-level speed of the wind generated (typically between 150 and 280 mph).

Other noteworthy studies/reports/news articles/programs include:

1. 2010 US EPA review of Maricopa County Arizona’s air quality plan – the EPA found that Maricopa County did not adequately inventory sources of coarse particulate matter, and that leaf blowers contributed to the amount of particulate matter in the air.
2. 2011 Edmunds report – the automobile review company Edmunds found that a Ryobi 4-stroke leaf blower contributes 7 times more oxides of nitrogen and 12.5 times more carbon monoxide than a 2011 Ford F-150 Raptor truck, and a 2 stroke Echo 2 leaf blower generated 23 times more carbon monoxide and nearly 300 times more non-methane hydrocarbons than the truck (Attachment 6)
3. 2016 Medical Society of the State of New York resolution – In May 2016, the MSSNY passed a first of its kind resolution calling on the New York State Department of Environmental Conservation and manufacturers of gas powered leaf blowers to develop guidelines to reduce emissions and noise, promote nonpolluting alternatives and ask the American Medical Association to do the same (Attachment 7)
4. 2017 California Air Resources Board rule proposal – the CARB has proposed lowering emissions from small gas off-road engines (including the gas powered engine that leaf blowers use) by 85 percent by the end of 2030 (Attachments 8 and 9).
5. Quiet Communities, a non-profit based in Massachusetts “dedicated to protecting our health, environment, and quality of life from the excessive use of industrial

outdoor maintenance equipment” published a brochure describing the impacts of leaf blowers (Attachment 10)

6. The Bay Area Air Quality Management District (BAAQMD) - Alameda and Contra Costa Counties - and the South Coast Air Quality Management District have a leaf blower exchange program that will replace old gas units with zero-emission equipment (Attachment 11)

Noise

The City of Palm Springs recently approved a ban of gas powered leaf blowers. In their July 19, 2017 report, staff compiled a list of commercially available leaf blowers and their dB noise levels (Attachment 12).

Their review of the noise levels of both gas and electric powered models found that electric units were between 50-68 dB while gas units were between 67-77dB. As a rule of thumb, when a sound increased by 10dB it is assumed that its loudness has doubled.

Other Municipalities

A number of cities in California have regulated the use of leaf blowers beyond general noise abatement or time of use. Below is a chart of some of these communities, with the type of regulations they have adopted; municipalities were chosen to both reflect the diversity of approaches in regulation, as well as some jurisdictions similar to Portola Valley:

Municipality	Date	Regulations ²
Belvedere	1987	No person in City limits may operate any portable machine powered with a gasoline engine used to blow leaves, dirt and other debris
Berkeley	1982	No portable machine with a gasoline engine used to blow leaves, dirt and other debris may be used in the City, including City employees
Beverly Hills	1978	No portable machine powered with a gasoline engine used to blow leaves, dirt and other debris
Carmel	1975	Gas powered leaf blowers prohibited
Dana Point	1990	<ul style="list-style-type: none"> • Residential use limited to 9am-5pm, Monday – Saturday • No leaf blower can exceed 65 dBa • Debris cannot be blown or deposited on any adjacent land • Commercially-operated leaf blowers shall have business name, address and telephone number attached

² Municipal use of gas powered leaf blowers in emergencies is typically exempted.

Foster City	Prior to 2000	Leaf blowers within 100 feet of a residential district limited to 8am-5pm Monday-Friday, 9am-5pm Saturday, at 100 dBa
Hillsborough	1998	No leaf blowers allowed on weekends
Laguna Beach	2009	All leaf blowers, gas and electric powered, banned
Los Altos	1991	<ul style="list-style-type: none"> • Gas powered blowers banned • Electric powered leaf blowers allowed 8am-8p M-F, 9am-6pm Sat, 10am-6pm Sunday
Los Angeles	1998	Gas powered leaf blowers banned within 500 feet of a residence; electric powered leaf blowers allowed
Menlo Park	1999	<ul style="list-style-type: none"> • “Certified” leaf blowers (rated at 65 dBa at 50 ft.) can be used 8am-5pm M-F, 11am-3pm Sat • Only electric powered allowed
Palo Alto	2005	<ul style="list-style-type: none"> • Gas powered leaf blowers prohibited in Residential Zones, electric powered can be used 9am-5pm M-F, 10am-4pm Saturday at 75 dBa • Non-residential Zones allow gas and electric powered leaf blowers, at same times at 95 dBa • Commercial leaf blower operators must display on device training certificate • Devices should retain all mufflers and full extension tubes
Piedmont	1990	<ul style="list-style-type: none"> • Gas powered leaf blowers prohibited • Exception for public agency work on publicly-owned or operated facilities
Sacramento	2002	<ul style="list-style-type: none"> • Gas powered leaf blowers banned on residential property or within 200 feet of residential property at 65dBa at 50 feet • Allowed between 10am-4pm M-Sat
Santa Barbara	1997	<ul style="list-style-type: none"> • Gas powered leaf blowers prohibited • New leaf blowers cannot be sold in City that exceed 65 dBa • City will inspect all leaf blowers and issue a certification sticker
Santa Monica	1996	All motorized leaf blowers prohibited
Tiburon	2010	<ul style="list-style-type: none"> • Gas powered leaf blowers and hedge trimmers prohibited in residential areas • Gas powered leaf blowers and hedge trimmers allowed in non-residential areas from 9am-4pm M-F

Enforcement

Although many jurisdictions in California have passed more stringent leaf blower regulations, enforcement is typically difficult. Simply having resources to respond to complaints can be challenging for any municipality; additionally, having evidence that a

violation has occurred when the violation may have already ended, with no evidence of said violation, may make it challenging to enforce.

Cost of Electric Powered Equipment

A cursory review of pricing found that a typical, residential-use electric powered leaf blower costs between \$30-150, while a similar gas powered unit costs at least \$75. Commercial units, more appropriate for larger lots, costs \$175-\$600. Very large properties may be more appropriate for walk-behind leaf blowers, but there are fewer electric powered models on the market than gas powered models – cost ranges from \$150 up.

Town staff could develop a rebate/trade in program, similar to the BAAQMD's system, to provide incentives for the replacement of gas powered leaf blowers with electric units.

Council Direction

Staff seeks direction on the following questions:

1. Should the Town consider new regulations on leaf blowers? If yes:
 - a. What committees should be utilized to further research leaf blower issues?
 - b. Are there any parameters to the research the Council would like to consider before work starts?
2. Should the Town consider amending the Noise Ordinance to include penalties for leaf blower noise violations?
3. Should the Town consider a rebate program to encourage the replacement of gas powered leaf blowers with electric units?
4. Should the Town consider further regulations on other gas powered gardening or landscaping equipment, as defined as “domestic garden tools” in the Noise Ordinance?

FISCAL IMPACT

There is no fiscal impact resulting from this study session. Future actions on leaf blowers may result in direct costs to the Town related to equipment, and indirect costs to residents.

ATTACHMENTS

1. Portola Valley Noise Ordinance
2. Portola Valley Sustainability Element, page 5
3. Portola Valley Noise Element, page 13
4. 2010 Town GHG emissions report
5. 2000 CARB Report to State Legislature on Leaf Blowers
6. Edmunds Report
7. MSSNY Resolution
8. NPR Article, CARB

9. CARB Small Off Road Engines Fact Sheet
10. Quiet Communities Handout
11. Trade In Programs, Air Quality Management Districts
12. July 19, 2017 Palm Springs Leaf Blowers Noise Table

Approved by: Jeremy Dennis, Town Manager

A handwritten signature in black ink, appearing to read 'Jeremy Dennis', is positioned to the right of the approval text.

Municipality	Noise Levels	Hours of Operation	Limitations/Conditions	Violations	Link to Ordinance
Menlo Park	65 dBa or less measured at a distance of 50 feet.	Saturdays from 11am to 3pm. Prohibited on Sundays and federal holidays.	Any person using a leaf blower shall use a nozzle extension and ear plugs.	Infraction	http://leafblownoise.com/MENLO%20PARK%20MUNICIPAL%20CODE.pdf
San Mateo	Low speed to minimize noise	Monday through Friday from 8am to 5pm. Allowed from 9am to 5pm on Saturdays. Prohibited on Sundays and federal holidays.	Any person using a leaf blower shall use a nozzle extension and run blower at low speed to minimize noise. Only one leaf blower allowed per property at a time.	Violators will receive letter requesting compliance, second violation letter informs resident of possible citation, \$100 fine upon third violation.	http://gcode.us/codes/sanmateo/view.php?topic=10-10_80&frames=on
Hillsborough	70 dBa or less measured from a distance of 25 feet.	Monday through Friday from 9am to 5pm. Not allowed on weekends or holidays.	N/A	Infraction	https://library.municode.com/ca/hillsborough/codes/code_of_ordinances?nodeId=TIT8HESA_CH8.32NO
Burlingame	65 dBa or less measured at a distance of 50 feet, with label certifying for commercial	week to use leaf blower from 8am to 5pm. Residents can use their leaf blowers on Saturdays from 9am to 2pm and on Sundays from 10am to 2pm.	N/A	\$50 fine	https://www.burlingame.org/document_center/Police/Leaf%20Blower%20Ordinance.pdf
Palo Alto	65 dBa or less measured from a distance of 50 feet, include label certifying this	9am to 5pm Monday through Friday, 10am to 4pm on Saturdays. Not allowed on Sundays or holidays. Both electric and gas-powered leaf blowers may be used in non-residential zones from 8am to 6pm Monday through Friday and 10am to 4pm on Saturdays. Not allowed on Sundays or holidays.	Gas-powered leaf blowers are banned in all residential zones. Leaf blower must be equipped with muzzle and full extension tubes.	Citation	https://www.cityofpaloalto.org/civicax/feedback/documents/2312