

**April 22, 2021**

**SCARSDALE FORUM INC.**

**Report of the Sustainability, Municipal Services,  
and Climate Resilience Committees**

**On**

**Gas Leaf Blowers, Leaf Vacuuming, and Leaf Mulching  
in the Village of Scarsdale**



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Cover Images: Left, Darlene LeFrancois Haber, MD, Chair, Sustainability (Nov 7, 2020, fall leaf piles in street, Rodney Road near Edgewood Elementary School); Right, Madelaine Eppenstein, Chair, Municipal Services (April 14, 2021, spring trout lilies among village center woodland leaves, Woodland Place)

April 22, 2021

**THIS REPORT HAS BEEN PREPARED UNDER EXPEDITIOUS TREATMENT PROCEDURE OF THE SCARSDALE FORUM INC. BY THE COMMITTEES WHOSE MEMBERS' NAMES APPEAR BELOW. IT HAS BEEN APPROVED BY THE BOARD OF DIRECTORS (EXECUTIVE COMMITTEE) OF THE FORUM AND AUTHORIZED FOR RELEASE TO THE PUBLIC, BUT IT HAS NOT YET BEEN SUBMITTED TO THE FORUM MEMBERS FOR THEIR APPROVAL.**

**SCARSDALE FORUM INC.**

**Report of the Sustainability, Municipal Services, and Climate Resilience Committees  
On Gas Leaf Blowers, Leaf Vacuuming, and Leaf Mulching  
in the Village of Scarsdale**

The Sustainability, Municipal Services, and Climate Resilience Committees of Scarsdale Forum Inc. (the Forum) propose the following Resolution for adoption by the Forum:

**RESOLVED**, that the Report of the Sustainability, Climate Resilience and Municipal Services Committees (the Committees), on Gas Leaf Blowers, Leaf Vacuuming, and Leaf Mulching in the Village of Scarsdale, be approved.

**MAJOR CONCLUSIONS AND RECOMMENDATIONS**

Based on the available scientific, public health, and environmental literature related to gas leaf blowers (GLBs), and informed by the experience in neighboring communities that have expanded regulations on the use of GLBs, as well as those that have eliminated the municipal leaf collection practice of leaf vacuuming, the Committees conclude that further regulation by the Village of Scarsdale is both warranted and within the public's interest to preserve public health, mitigate pollution, and promote environmental sustainability goals, and commend the Village Board of Trustees for recently enacting amendments to the Village Code accordingly.

The Committees recommend that the Village of Scarsdale take the following steps:

1. Amend the Village Code to prohibit the use of all gas powered leaf blowers and gas 2-stroke vacuums in the Village of Scarsdale, effective on a date certain not to exceed two years from January 1, 2021, including use on all Village and residential properties;

2. Enforce the March 23, 2021 Village Code amendments to Chapter 205<sup>1</sup> effective immediately, and until such time as the total prohibition of GLBs and gas 2-stroke vacuums is effective;
3. Amend the Village Code to prohibit the use of push-behind GLBs and the use of more than one GLB on properties smaller than one-half acre, effective immediately, and until such time as the total prohibition of GLBs and gas 2-stroke vacuums is effective;
4. Amend the Village Code to (a) eliminate fall leaf vacuuming practices conducted by the Village, (b) require that leaves and grass clippings left for Village pickup be bagged or otherwise containerized all year long, and (c) promote leaf mulch mowing and grasscycling in place,<sup>2</sup> all effective immediately;
5. Amend the Village Code to limit noise specifically related to landscape maintenance equipment, and update the definition of a noise disturbance to include leaf blowers that measure 65 decibels or more (at 50 feet), effective immediately;
6. Promulgate and enforce these regulations immediately, institute a public education campaign, continue Village street sweeping operations, and enlist the cooperation of the public, all consistent with these recommendations.<sup>3</sup>

### **EXECUTIVE SUMMARY**

The principal recommendation of the Committees is for the Village of Scarsdale to make strict regulation of harmful, polluting landscape equipment a top priority, to ban the use of GLBs by a date certain, and to end the wasteful, polluting, and expensive activity of vacuuming fall leaves from the streets, all for the purpose of protecting the health, safety, welfare, and quality of life of Scarsdale residents and protecting the environment.

The Committees consider this a matter of urgency. This is a moment of peril from the public health hazards of GLBs, but also a moment of opportunity given recent actions by the Village Board that may be built upon to achieve a result that more fully protects our residents and the sustainability of our community.

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<sup>1</sup> See Meeting Notice, “Proposed Local Law Amending Chapter 205 of the Village Code Entitled Noise” (proposed amendments), accessed at <https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/03232021-871>, PDF pages 32-37.

<sup>2</sup> “Grasscycling is simply leaving grass clippings on the lawn to decompose. Grass clippings are mostly water. When grass is mowed regularly, clippings quickly decompose and release nutrients to fertilize the lawn. Research shows that when grass clippings are left on the lawn, one-third less fertilizer is needed to achieve the same color and grass density found on lawns where the clippings are removed.” Irvington Green Policy Task Force, accessed at <https://www.irvingtonny.gov/385/Yard-Waste-Management>.

<sup>3</sup> The reference in this report to the term GLB and other 2-stroke gas powered landscape maintenance equipment includes, but is not limited to, the following: residential and commercial handheld, backpack, wheeled push, or pull model 2-stroke gas powered leaf blowers; 2-stroke engine devices with combination blower/vacuum features; and gas powered leaf vacuums with or without mulching capabilities, whether backpack, wheeled push or pull models. See, e.g., P. Hope, “Do You Really Need a Leaf Blower Vacuum?” (Consumer Reports, Oct 7, 2020), accessed at <https://www.consumerreports.org/leaf-blowers/do-you-need-a-leaf-blower-vacuum/>.

The results of a large multilocation study in 398 cities over 45 years has just been published, the same week in March 2021 that the Village voted on restricting use of GLBs to the last three months of every year (October through December), beginning in 2022. The study concluded that mitigating daily air pollution, much of it caused by fuel combustion, is a public health imperative. The study found:

“robust evidence for the independent and linear associations of short term exposure to NO<sub>2</sub> with increased risk of total, cardiovascular, and respiratory mortality, although the total mortality burden might be underestimated as the study locations did not fully reach global coverage. The associations remained positive and statistically significant after adjusting for co-pollutants. The concentration-response curves were linear without discernible thresholds, suggesting a need to revise and tighten the current air quality guidelines of NO<sub>2</sub> for greater public health benefit, and to consider a regulation limit for daily mean NO<sub>2</sub> concentration. These findings contribute to a better understanding of how to optimise public health actions and strategies to mitigate air pollution.”

This study offers clear evidence that there are no safe limits to the emissions produced by “fuel combustion and traffic,” and exposure can quickly result in mortality. With this more precise and accurate data showing a definitive association between even short term exposure to the high level of fuel combustion emissions such as are produced by two-stroke GLBs, the Committee believes the Village must enact a total prohibition on their use as soon as possible.<sup>4</sup>

The Village enacted a partial “summer” GLB ban in 1994, and established a Resolution encouraging landscapers and residents to mulch mow leaves a decade ago. In the intervening years, no positive change had been pursued against the polluting landscaping dynamic in Scarsdale until the Village Board finally made significant progress this year. Following a well-attended Public Hearing on March 23, 2021, the Board voted unanimously to enact a Code amendment that further restricts the use of GLBs.<sup>5</sup>

Meanwhile, many neighboring villages have successfully transitioned to requiring leaf bagging, ending municipal fall leaf vacuuming, encouraging leaf mulch mowing, and restricting or even eliminating residential blowing. Many have stricter noise regulations which

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<sup>4</sup> X. Meng, et al., “Short term associations of ambient nitrogen dioxide with daily total, cardiovascular and respiratory mortality: multilocation analysis in 398 cities” (British Medical Journal, March 24, 2021) (“Nitrogen dioxide (NO<sub>2</sub>) is a common air pollutant that has adverse effects on population health, is a precursor to ground level ozone with its own harmful effects on health, and is involved in the secondary formation of fine particulate matter. Most ambient NO<sub>2</sub> has an anthropogenic origin, such as fuel combustion and traffic. Many studies have reported the effects of short term exposure to NO<sub>2</sub> on human mortality or morbidity, but these are disputed. The Integrated Science Assessment conducted by the United States Environmental Protection Agency reviewed the existing evidence linking NO<sub>2</sub> exposure with health outcomes in 2008 and 2016, and concluded that there is a causal relation between short term exposure to NO<sub>2</sub> and respiratory effects. The review highlighted important gaps in knowledge, resulting in different limits for NO<sub>2</sub> in air quality guidelines being adopted by various governmental and intergovernmental institutions.”), accessed at <https://www.bmj.com/content/372/bmj.n534>.

<sup>5</sup> Amendment approved by unanimous vote of the Village Board on March 23, 2021, Public Hearing on Proposed Local Law Amending Chapter 205 of the Scarsdale Village Code Entitled Noise Pertaining to Gas-Powered Blowers and Public Comment, accessed at <https://scarsdaleny.swagit.com/play/03232021-930>, PDF pages 35-37.

effectively curtail the use of GLBs and the significant air and noise pollution harms they yield. Some neighboring municipalities have legislated full bans on GLB use.

This Report is a follow up to the recommendations made in the Village Resolution in 2011, the Report of the CAC in 2014, the Report of the Scarsdale Forum Sustainability Committee in 2014, and the Report of the CAC in 2020.<sup>6</sup> The Committees commend the Village Board's vote on March 23, 2021 but recommend that the Village make further progress on these issues.

Despite the positive direction of the recent amendments, the Village Code still does not provide the necessary comprehensive restrictions on the use of GLBs that would prevent the serious health impacts of GLB related air and noise pollution. Because the Village's welcome amendment to Village Code Chapter 205 continues to permit the use of GLBs from October 1 through December 31, Tuesday through Fridays in 2022 and thereafter, it does not go far enough in eliminating this source of harmful noise and emissions.<sup>7</sup> Landscape workers continue to use GLBs instead of safer, quieter and readily available alternatives such as electric or battery operated equipment in combination with mulch mowing. The Village also continues its inherently polluting and expensive program of vacuuming leaves that have been blown and piled onto Village streets by landscaping firms using GLBs, whose activities are minimally regulated, and for whom fines for Code violations are not consistently enforced.

The Committees' recommendations, building on the new amendment, represent a long overdue green overhaul of the existing Code in terms of landscape practices. The key amendments the Committees advocate will provide for a phased prohibition of GLBs and a continued mechanism for pick-up of excess leaves and other bagged and/or containerized yard waste all year long. At the same time, meaningful noise and air pollution regulation and improved public health and ecologically and environmentally sustainable practices will be effected by a full ban on GLBs, the elimination of the practice of vacuuming leaves by the Village for eventual hauling upstate by the County, and by the promotion of mulch mowing. This Report is a call to action for the Village to effect additional, transformative, and critically important policy changes without further delay.

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<sup>6</sup> See CAC, "Review of Leaf Management Options" (May 2014) ("CAC Review of Leaf Management Options"), re "Discontinue Residential Leaf Vacuuming, Status in Southern Westchester," page 16 (municipal bagging of fall leaf collection as of May 2014), and "Board of Trustees 2011 Leaf Mulching Resolution," Appendix at pages 23-25, accessed at <https://www.scarsdale.com/DocumentCenter/View/668/CAC-Leaf-Collection-Mitigation---Final-PDF>. See also Scarsdale Forum, "Report of the Sustainability Committee on Village of Scarsdale Leaf Collection Policy" (May 15, 2014), (Exhibits available on request), accessed at <https://www.scarsdaleforum.com/Reports/Download/494>.

<sup>7</sup> accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_03232021-871](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_03232021-871), PDF pages 35-37.

## **BACKGROUND**

This Report focuses on the scientific literature surrounding GLBs and alternative lawn care practices. The Report outlines how other municipalities have responded to the respiratory, cardiovascular, auditory, other health impacts, and environmental harms of GLBs by restricting or completely banning GLBs and in some localities by also curtailing leaf vacuuming practices.

The Committees were prompted to act now based on recent action taken by the Village Board and its Conservation Advisory Council (CAC). The CAC had been tasked by the Village, in response to resident feedback requesting further restrictions on GLB use, to examine the issues surrounding GLBs and to make recommendations on the advisability and potential timeline for a shift to electric, including battery operated, landscape equipment in order to protect the environment, limit health risks and regulate emission and noise pollution. Based on the CAC's recommendations<sup>8</sup> published in December 2020, the Village Board, at its Work Session on March 11, 2021,<sup>9</sup> informally voted to approve the below proposed amendment, colloquially referred to as "Option 3 + 1", based on the combination of proposals originally made by the Village CAC. The following is the final version of the amendment to Section 205-2.B. of the Village Code approved by the Village Board's unanimous vote following the public hearing on March 23, 2021:

- "B. (1) For calendar year 2021, it shall be unlawful for any person, firm, corporation, or other entity to operate a gasoline-powered blower in the Village during the period from May 1, 2021 through September 30, 2021. The use of gasoline powered blowers shall be permitted in the Village from October 1, 2021 through December 31, 2021, which includes the Village Fall Leaf Collection Program season. The use of gasoline powered blowers from October 1, 2021 through December 31, 2021 is limited to Monday through Friday but not on Federal legal holidays. Electric or battery powered blowers are not subject to these restrictions.
- (2) Commencing in 2022, and in each calendar year thereafter, it shall be unlawful For any person, firm, corporation, or other entity to operate a gasoline-powered blower in the Village during the period from January 1 through September 30. The use of gasoline powered blowers shall be permitted in the Village from October 1 through December 31, which includes the Village Fall Leaf Collection Program season but only Tuesday through Friday, but not on Federal legal holidays. Electric or battery powered blowers are not subject to these restrictions."<sup>10</sup>

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<sup>8</sup> CAC Report, "Mitigating the Health, Environmental, and Quality of Life Impacts of Gas Leaf Blowers" (Dec 2020), accessed at <https://www.scarsdale.com/DocumentCenter/View/6644/Gas-Leaf-Report-to-Village-Board---Dec-2020>

<sup>9</sup> March 11, 2021 Scarsdale Village Board Work Session, Live Streaming accessed at <https://scarsdaleny.swagit.com/play/03112021-823> . See Revised Meeting Notice, "Proposed Local Law Amending Chapter 205 of the Village Code Entitled Noise" (proposed amendments), accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_03112021-858](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_03112021-858) .

<sup>10</sup> Id. (The final amendment does not include section D relating to golf courses).



While the Committees fully support the Village’s efforts to mitigate the adverse impacts of gas leaf blower use, this Report seeks further progress.

Electric corded, battery electric, and gas blowers all function by forcing air through a nozzle in order to move leaves, grass cuttings, and landscape debris. While particulate matter aerosolized dispersions are problematic from all blowers (and vacuums), owing to the use of a highly inefficient two-stroke internal combustion engine fueled by gasoline and oil, GLBs have more pronounced and negative health and environmental impacts than electric equipment.

While battery operated blowers produce zero emissions, GLBs produce noxious air pollutants. In addition, due to a different and lower frequency sound signature, the deafening noise produced by GLBs is far greater than that produced by electric blowers, and also a source of profound human and other environmental harms. The cumulative negative health and wellness impacts of GLBs are particularly pronounced in vulnerable populations including children, the elderly, those with specific preexisting conditions, and the landscape workers operating this equipment.

The scientific evidence documenting the contribution to air pollution and climate change by human activity is irrefutable and has yielded a trend toward green municipal policies, landscaper practices, and consumer choices.<sup>11</sup> The contribution of gas-powered landscape equipment to our carbon footprint, ozone formation, and particulate matter production is substantial and well documented. Fortunately, landscaping tasks can now be carried out with available zero emission tools and techniques that provide comparable levels of efficiency and cost.

Smaller residential property sizes have increased population density and lesser distances between residences, yielding less dampening of noise and greater dispersion of concentrated air pollutants and particulates between neighbors when GLBs are in use. Push-behind GLBs and simultaneous use of multiple blowers on small properties compound the noise and pollution harms to landscapers and residents on and adjacent to these properties. Even on days when air quality health advisories are in effect in Scarsdale, multiple landscapers can be observed operating both a push blower and a backpack gas blower at the same time on the same property, all while an idling gas lawn mower simultaneously spews its emissions, as

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<sup>11</sup> K. D’Costa, “American Obsession with Lawns” (Scientific American, May 3, 2017) (“Lawns are American. But they’re also an anomaly. And they may no longer fit the realities of the world we live in.”), accessed at <https://blogs.scientificamerican.com/anthropology-in-practice/the-american-obsession-with-lawns/>.



shown in the above image. Scarsdale regulates idling passenger vehicles, but not the idling of polluting landscape equipment.<sup>12</sup>

As the efficiency of electric equipment has improved and our climate crisis has grown, some local landscapers have transitioned to more ecologically sustainable practices and machinery. They work either exclusively or on request by their residential customers with zero-emission, quieter battery operated blowers, and have integrated mulch mowing and grass recycling practices. But the prohibition by the Village of GLB use is necessary to mitigate GLB hazards and harms. With the technological advancements in landscape equipment made over the last few decades, and since Scarsdale last enacted its GLB “summer ban” in 1994,<sup>13</sup> battery operated blowers can now readily handle “spring cleanup” even on larger properties, given their powerful cubic feet of air volume per minute (CFM), as has been demonstrated by the landscapers quoted below. When battery operated blowers are used in combination with mulch mowing,<sup>14</sup> there are additional benefits to lawns and ecosystems beyond just avoiding the noise and noxious fumes and particulate matter pollution of GLBs, while achieving an aesthetically comparable landscape.<sup>15</sup> These sustainable landscaping best practices should not be viewed as a compromise position, but a better way for the Scarsdale community to become responsible stewards of our health and our environment.<sup>16</sup>

Scarsdale has lagged behind several other Westchester municipalities that have strictly curtailed or banned the use of gas blowers entirely and/or eliminated leaf vacuuming practices.<sup>17</sup> Despite resolutions and reports in the last decade from the Village CAC and from the Scarsdale Forum, which have articulated support for implementing specific changes in

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<sup>12</sup> See, e.g., image, Darlene LeFrancois Haber, MD, Chair, Scarsdale Forum Sustainability Committee (Nov 7, 2020, Richelieu Road). <https://www.scarsdale.com/454/Fall-Leaf-Collection> . See Scarsdale Village Code, Air Pollution Control, §106-1 Idling of engines restricted: **“No person shall cause or permit the engine of a motor vehicle, other than a legally authorized emergency motor vehicle, to idle for longer than three minutes while parking. . . .”** Accessed at <https://ecode360.com/6437752>.

<sup>13</sup> 205-2 Outdoor power tools and construction Activity.

[Amended 1-8-1985 by L.L. No. 1-1985; 6-26-1990 by L.L. No. 3-1990; **6-14-1994 by L.L. No. 4-1994**; 1-14-2003 by L.L. No. 3-2003]

\* \* \*

“B. No person, firm, corporation or other entity shall use a gasoline-powered blower in the Village during the period from June 1 through September 30 of each year.” Accessed March 2021 at <https://ecode360.com/6438751> .

<sup>14</sup> Love 'Em And Leave 'Em: An initiative of Westchester County to reduce organic yard waste, accessed February 4, 2021 at <http://www.leleny.org/> . See Larchmont-Mamaroneck Healthy Yards Project, accessed at <https://www.townofmamaroneckny.org/522/LM-Healthy-Yards/> ; and <http://www.leaveleavesalone.org/> .

<sup>15</sup> See, e.g., Village of Bedford “Leave the Leaves” campaign brochure, accessed at <https://www.bedfordny.gov/wp-content/uploads/2017/10/leaf-blower-brochure.3.pdf> .

<sup>16</sup> For a go-to, comprehensive resource on the dangers of GLBs, see Quiet Clean PDX, accessed at <https://www.quietcleanpdx.org/resources-leaf-blowers-information/>.

<sup>17</sup> See Westchester County Leaf Blower Legislation, Chart, accessed at <https://www.healthyyards.org/westchesterleafblowers/#single/0> .

Scarsdale’s leaf collection paradigm,<sup>18</sup> little to no progress has been made. Specifically, though Scarsdale launched an aggressive “Leave the Leaves” public education campaign a decade ago (2011), designed to educate residents regarding the multiple environmental and health benefits of mulch mowing over institutionalized blowing and leaf vacuuming practices, the campaign did not result in significant change in public attitudes or harmful landscaper residential practices. Similarly, the CAC and Scarsdale Forum in 2014 recommended reduced frequency and elimination of leaf vacuuming, charging a fee for leaf vacuuming services, and requiring containerizing and/or mulching leaves and grass clippings. However, these recommendations were not implemented. Furthermore, local landscapers have failed to transition to safe best practices and, anecdotally, some provide misinformation to residents about the process and costs.

The Village continues to maintain educational material on its website, such as video instructions on mulch mowing, a “tool kit” and a video of a panel discussion sponsored by the Village that includes a representative of the Irvington Green Policy Task Force, a representative of the Greenburgh Nature Center, and three landscapers who operate locally and promote “green” landscape practices.<sup>19</sup> While the Village repeatedly advises residents regarding best practices – “If you want to avoid the cost and hassle of preparing leaves for pick-up, try mulch-mowing! It’s not only easier, but also benefits the health of your lawn and the broader environment!”<sup>20</sup> – education alone has been proven to be insufficient.<sup>21</sup>

This is not an academic question. Leaf vacuuming is environmentally counterproductive and costly. GLBs are so harmful to human health and the environment that the Village Board should immediately take action for further curtailment of their use. Significantly higher risk of Covid-19 mortality has been linked to small increases in the type of air pollution GLBs and

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<sup>18</sup> See CAC, “Review of Leaf Management Options” (May 2014) (“CAC Review of Leaf Management Options”), re “Discontinue Residential Leaf Vacuuming, Status in Southern Westchester,” page 16 (municipal bagging of fall leaf collection as of May 2014), and “Board of Trustees 2011 Leaf Mulching Resolution,” Appendix at pages 23-25, accessed at

<https://www.scarsdale.com/DocumentCenter/View/668/CAC-Leaf-Collection-Mitigation---Final-PDF>. See also Scarsdale Forum, “Report of the Sustainability Committee on Village of Scarsdale Leaf Collection Policy” (May 15, 2014), (Exhibits available on request), accessed at <https://www.scarsdaleforum.com/Reports/Download/494>.

<sup>19</sup> See Village of Scarsdale website, “On-Site Leaf Mulching Training,” accessed at <https://www.scarsdale.com/427/Leaf-Mulching-Video>. See also related article, C. Ortega, “Removal of leaves loses ground to mulching” (The Rivertowns Enterprise, March 11, 2011), accessed at <https://www.scarsdale.com/documentcenter/view/818>

<sup>20</sup> Scarsdale Village, Department of Public Works, [Fall Leaf Collection](https://www.scarsdale.com/454/Fall-Leaf-Collection), accessed at <https://www.scarsdale.com/454/Fall-Leaf-Collection>. See Scarsdale Forum, “Report of the Sustainability Committee on Village of Scarsdale Leaf Collection Policy” (May 15, 2014), (Exhibits available on request), accessed at <https://www.scarsdaleforum.com/Reports/Download/494>.

<sup>21</sup> K. Arlinghaus and C. Johnston, “Advocating for Behavior Change with Education” (Am. J. Lifestyle Medicine, 2018) (“Knowledge is not enough to change behavior. If it was, no one would smoke or overeat to the point of becoming obese, and everyone would wear seatbelts and exercise. However, knowledge is important. It is critical to explain to patients why behavioral changes need to be made. For example, understanding the health risks associated with smoking is essential in order to make a decision about quitting.”), accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6124997/>.

vacuuming produce, leading various surrounding municipalities to place a temporary moratorium on GLB use. It is time for the Village to address landscape management, curtail the use of GLBs, and eliminate leaf vacuuming. These are the necessary “steps to transition the industry to less polluting, cleaner, quieter, equipment and practices through appropriate policies and regulation.”<sup>22</sup> Besides protecting the health of residents, the Village will reap environmental, health and safety, and economic benefits.

## DISCUSSION

### The Case for Immediate Action

The Village has adopted a modified version of the CAC’s recommendations that will limit the use of GLBs by outside landscapers to the three month period of the Village fall leaf collection program, from October 1 through December 31 and a phase in of “quiet days” in October-December during 2021 of Saturday-Sunday, and Saturday-Monday beginning in 2022.

Although this is some progress, it is obviously insufficient to match the moment and truly tackle the extensively documented public health hazards discussed in this Report. The new code continues to permit the use of GLBs for three full months of the year indefinitely. It does not end the costly Village practice of vacuuming leaf piles left in the streets by landscapers, does not require bagging or containerizing fall leaves for Village pickup, nor does it encourage landscapers to mulch mow fall leaves and grass clippings to mitigate the approximately 4,100 tons of volume left for Village collection and hauling to Goshen, New York every fall. Moreover, without adequate enforcement of a GLB ban from January to through September, the scourge of toxic emissions and noise is likely to continue during that time. A total ban would be easier to enforce. Prohibiting landscaper use of GLBs these nine months of the year is an acknowledgment that non-gas equipment, such as electric/battery operated blowers, is adequate to handle the same tasks, and an implicit nod to the scientifically established spectrum of harms caused by the use of GLBs to human health, the environment, climate, and quality of life.

There is an abundance of strong scientific evidence regarding the health and environmental hazards of GLBs, and a corresponding response in the form of medical society, state, and municipal action that supports curbing or eliminating entirely the use of GLBs through legislation and regulation. Government agencies are urged to impose bans and promote the use of available, alternative landscape equipment, or failing that, to change

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<sup>22</sup> Quiet Communities, Inc., “COVID-19 and Gas-Powered Leaf Blowers: A Lethal Combination” (Memorandum, May 2020) (“The new and serious threats posed by the COVID-19 pandemic highlight the dangers posed by GLBs and require immediate intervention. The pollution and noise discharged by these machines are hazardous to the health of workers, the public, and the environment. **Policy makers need to take immediate action to stop their use during the pandemic and also take steps to transition the industry to cleaner, quieter, healthier equipment and practices through appropriate policies and regulation.**”) (emphasis added), accessed at <https://quietcommunities.org/portfolio-items/quiet-outdoors/>; comprehensive information accessed at <https://quietcommunities.org/land-care/>.

policies and enact regulations that require the transition to healthier, quieter, zero emission practices. As noted by advocates, neither the industry nor the community will act on their own without Village leadership.<sup>23</sup>

### *State Medical Societies and New York State Senate*

New York's leading medical group, the Medical Society of the State of New York (MSSNY), has been proactive in its attempt to promote alternatives to GLBs, noting that optimally there would be a statewide ban on their use given the significant health threats they pose:

“Studies show that gasoline leaf blowers (GLBs) pose significant threats to human health. MSSNY should develop policy and regulation that would increase public awareness as to the detrimental health and environment hazards that arise when GLBs are utilized, and work with the appropriate state, county and other pertinent governmental agencies in an effort to promote the use of non-polluting alternatives to GLBs. MSSNY should also seek legislation/regulation that would impose a statewide ban on their use, and, failing to secure an outright ban on their use, MSSNY should submit a resolution calling upon the AMA to work with the EPA and GLB manufacturers to develop parameters and guidelines that would dramatically reduce the toxic emissions and noise levels of GLBs to more appropriate and acceptable non-hazardous levels.”<sup>24</sup>

In 2016, the MSSNY implemented policy on GLBs, calling for guidelines to reduce toxic emissions and charging all governmental agencies to promote non-polluting alternatives to the toxic emissions and noise of GLBs:

“RESOLVED, that the Medical Society of the State of New York call upon the New York State Department of Environmental Conservation and the manufacturers of the gas leaf blowers to develop guidelines that would dramatically reduce the toxic emissions and noise level of gas leaf blowers; and be it further

RESOLVED, that the Medical Society of the State of New York also encourage that New York State and other governmental entities promote the use of non-polluting alternatives to gas leaf blowers; and be it further

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<sup>23</sup> J. Fallows, “Supplemental Submission to the Record of the Committee of the Whole, regarding the Leaf Blower Regulation Amendment Act of 2017” (District of Columbia, July 19, 2018) (“The main message to underscore here: quiet, clean battery-powered models are already practical, and will become dramatically more affordable and effective in the next few years. The companies can switch to them as soon as the rules change, but will be very slow to do so on their own.”), accessed at <http://www.quietcleandc.com/testimony/fallows> .

<sup>24</sup> Medical Society of the State of New York, “Banning the Use of Gasoline Powered Leaf Blowers,” page 19 (News of New York, April 2016), accessed at [https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj3ueqQxszuAhWjEVkFHR5vCNcQFjABegQIAhAC&url=http%3A%2F%2Fwww.mssny.org%2FDocuments%2F2016%2FPublications%2FMSSNY\\_April2016\\_3-24-low\\_Credits.pdf&usg=AOvVaw1KCTlWIw60HI\\_uzA9OIQ5c](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj3ueqQxszuAhWjEVkFHR5vCNcQFjABegQIAhAC&url=http%3A%2F%2Fwww.mssny.org%2FDocuments%2F2016%2FPublications%2FMSSNY_April2016_3-24-low_Credits.pdf&usg=AOvVaw1KCTlWIw60HI_uzA9OIQ5c).

RESOLVED, that a copy of this resolution be transmitted to the American Medical Association for consideration at its House of Delegates.”<sup>25</sup>

Following the lead of the MSSNY and the American Medical Association, the Massachusetts Medical Society (MMS), Committee on Environmental and Occupational Health acknowledged the adverse health risks to workers and general public from GLBs in 2017:

1. “That the MMS adopt the following adapted from American Medical Association policies:

The MMS recognizes noise pollution as a public health hazard, with respect to hearing loss, and supports initiatives to increase awareness of the health risks of loud noise exposure. The MMS urges the maximum feasible reduction of all forms of air pollution, including particulates, gases, toxicants, irritants, smog formers, and other biologically and chemically active pollutants.

2. That the MMS acknowledges the increased risk of adverse health consequences to workers and general public from gas-powered leaf blowers including hearing loss and cardiopulmonary disease.”<sup>26</sup>

A Bill was pending as of April 2021 in both the New York State Senate and Assembly seeking to restrict GLBs statewide, which would mirror Scarsdale’s now amended, partial restriction in effect during the 27 years since the summer ban in Village Code section 205 was enacted in 1994.<sup>27</sup>

### **Medical Specialty Societies**

Medical specialty societies have published their own scientific reports and recommendations addressing the harms from particulate matter. This is extremely important because a single commercial GLB emits tens of millions of micrograms of fine particulate per hour at ground level, where it is easily inhaled.<sup>28</sup> And these particles may

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<sup>25</sup> See Medical Society of the State of New York (MSSNY), “Resolution 152 - Banning the Use of Gasoline Powered Leaf Blowers,” page 4 (2016), accessed at <https://www.mssny.org/Documents/HOD/2016%20HOD/ref%20com%20reports/2016%20Public%20Health%20Education.pdf>

<sup>26</sup> MMS House of Delegates, Public Health, Item #7 Gasoline-Powered Leaf Blowers, accessed at <http://www.massmed.org/Governance-and-Leadership/House-of-Delegates/Annual-Meeting/Final-Report---All-Reference-Committees/>.

<sup>27</sup> NYS Assembly Bill 5375, co-sponsored by Scarsdale’s Assemblyperson Amy Paulin, “AN ACT to amend the public health law, in relation to prohibiting the use of gas-powered leaf and lawn blowers during certain months” (Feb 16, 2021) (NYS Senate Version S1113) (“§ 1300-D. GAS-POWERED LEAF AND LAWN BLOWERS. NO PERSON SHALL OPERATE A GAS-POWERED LEAF AND LAWN BLOWER FOR ANY PURPOSE BETWEEN MAY FIRST AND SEPTEMBER THIRTIETH. ANY PERSON WHO VIOLATES THE PROVISIONS OF THIS SECTION SHALL BE SUBJECT TO A CIVIL FINE OF NOT MORE THAN ONE HUNDRED DOLLARS.”), accessed at <https://www.nysenate.gov/legislation/bills/2021/A5375> .

<sup>28</sup> See J. Banks and R. McConnell, “National Emissions from Lawn and Garden Equipment,” PDF page 13 (2016) (“Conclusion: Communities and environmental, public health, and other government agencies should create policies and

stay suspended in the air for a week or longer. The American Lung Association explains what particulates are and how a wide range of people of all ages are seriously and negatively affected – in fact, short term exposure can be deadly:

“What Is Particle Pollution? Particle pollution refers to a mix of very tiny solid and liquid particles that are in the air we breathe. But nothing about particle pollution is simple. And it is so dangerous it can shorten your life. Size matters. Particles themselves are different sizes. Some are one-tenth the diameter of a strand of hair. Many are even tinier; some are so small they can only be seen with an electron micro-scope. Because of their size, you can’t see the individual particles. You can only see the haze that forms when millions of particles blur the spread of sunlight.

\* \* \*

Short-Term Exposure Can Be Deadly. First and foremost, short-term exposure to particle pollution can kill. Peaks or spikes in particle pollution can last for hours to days. Deaths can occur on the very day that particle levels are high, or within one to two months afterward. Particle pollution does not just make people die a few days earlier than they might otherwise—these are deaths that would not have occurred if the air were cleaner. Particle pollution also diminishes lung function, causes greater use of asthma medications and increased rates of school absenteeism, emergency room visits and hospital admissions. Other adverse effects can be coughing, wheezing, cardiac arrhythmias and heart attacks. According to the findings from some of the latest studies, short-term increases in particle pollution have been linked to: death from respiratory and cardiovascular causes, including strokes; increased mortality in infants and young children; increased numbers of heart attacks, especially among the elderly and in people with heart conditions; inflammation of lung tissue in young, healthy adults; increased hospitalization for cardiovascular disease, including strokes and congestive heart failure; increased emergency room visits for patients suffering from acute respiratory ailments; increased hospitalization for asthma among children; and increased severity of asthma attacks in children.”<sup>29</sup>

The American Heart Association similarly published an updated statement in 2010 regarding the strong causal correlation of particulate matter, air pollution and cardiovascular death and disease:

“On the basis of the findings of this review, several new conclusions were reached, including the following: Exposure to PM <2.5 µm in diameter (PM<sub>2.5</sub>) over a few hours to weeks can trigger cardiovascular disease–related mortality and nonfatal events; longer-term exposure (e.g., a few years) increases the risk for cardiovascular mortality to an even greater extent than exposures over a few days and reduces life expectancy within more highly exposed segments of the population by several months to a few years; reductions in PM levels are associated with decreases in cardiovascular mortality within a time frame as short as a few years; and many credible pathological mechanisms have been elucidated that lend biological plausibility to these

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programs to protect the public from GLGE air pollutants and promote non-polluting alternatives.”), accessed at <https://www.epa.gov/sites/production/files/2015-09/documents/banks.pdf>.

See also: Quiet Communities, Inc., “Leaf Blowers, Pollution, and COVID 19,” accessed at <https://quietcommunities.org/leaf-blowers-pollution-and-covid-19/>; and PDF accessed at [COVID-19 and Gas-Powered Leaf Blowers: A Lethal Combination, v 1.2](#) .

<sup>29</sup> American Lung Association, “State of The Air, Health Effects of Ozone and Particle Pollution 2015” (ALA, 2015), accessed at [https://www.stateoftheair.org/2015/assets/ALA\\_State\\_of\\_the\\_Air\\_2015.pdf](https://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf), pages 28-32 (“Who Is at Risk?” page 29; “What Can Particles Do to Your Health?” pages 29-30; and how even “Short-Term Exposure Can Be Deadly,” page 30).

findings. It is the opinion of the writing group that the overall evidence is consistent with a causal relationship between PM<sub>2.5</sub> exposure and cardiovascular morbidity and mortality. This body of evidence has grown and been strengthened substantially since the first American Heart Association scientific statement was published.”<sup>30</sup>

### **Air Pollutants, Particulate Matter: Studies of the Respiratory, Cardiac and Other Health Impacts**

Scientific studies of the health impact of two-stroke engines such as GLBs, primarily collected in relation to their use in motor vehicles, conclude that the air pollution they produce is a significant factor in disease and death globally.<sup>31</sup> The U.S. Department of Energy estimates that 1.2 billion gallons of gasoline are consumed annually to maintain our lawns and gardens. Hydrocarbons, oxides of nitrogen (NO<sub>x</sub>), carbon monoxide, and carcinogenic toxic contaminants like benzene and formaldehyde are in the fumes that gas blowers emit. Their highly inefficient two-stroke engines emit 23 times more noxious carbon monoxide and nearly 300 times more non-methane hydrocarbons than a Ford F-150 SVT Raptor can. Using a two-stroke gas blower for 30 minutes produces pollutants equal to those generated by [a] truck traveling 3,900 miles, or as far as from Texas to Alaska<sup>32</sup>: The amount of CO (carbon monoxide) emitted from a typical backpack leaf blower for just one hour is equal to CO coming from the tailpipe of a current year automobile operating for over 8 hours. For the other pollutants, the amounts are even greater.<sup>33</sup>

“Because two-stroke engines burn an oil–gasoline mixture, they emit more smoke, carbon monoxide, hydrocarbons, and particulate matter than the gas-only four-stroke engines.... The World Health Organization ranks urban outdoor air pollution as the thirteenth greatest contributor to disease burden and death worldwide. Air pollution raises the risk of respiratory illnesses; about two-thirds of the residents of Delhi and Calcutta suffer from respiratory symptoms such as common cold and dry and wet cough, which Twisha Lahiri, head of neuroendocrinology at India’s Chittaranjan National Cancer Institute, largely blames on two-stroke engine emissions.”<sup>34</sup>

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<sup>30</sup> R. Brook, “Particulate Matter Air Pollution and Cardiovascular Disease: An Update to the Scientific Statement From the American Heart Association” (Abstract, AHA, 2010), accessed at <https://www.ahajournals.org/doi/full/10.1161/CIR.0b013e3181d8e3e1>.

<sup>31</sup> See, e.g., J. Fallows, “The Two-Stroke Engine: A Remnant of Poor-Country Technology in Rich Countries” (The Atlantic, 2015), accessed at <https://www.theatlantic.com/notes/2015/11/the-two-stroke-engine-widespread-in-the-developing-world-and-with/414148/>.

<sup>32</sup> Edmunds, “Emissions Test: Car vs. Truck vs. Leaf Blower” (2011), accessed at <https://www.edmunds.com/car-reviews/features/emissions-test-car-vs-truck-vs-leaf-blower.html>.

<sup>33</sup> See NYS DEC quick summary of leaf blower harms and best alternative lawn care practices tip sheet, accessed at <https://www.dec.ny.gov/chemical/109428.html>, citing California Air Resources Board, “2012 California Survey of Residential Lawn and Garden Equipment Owners: Population and Activity” (2016), accessed at [http://www.arb.ca.gov/msei/2012\\_residential\\_lawn\\_and\\_garden\\_survey\\_v5\\_public.pdf](http://www.arb.ca.gov/msei/2012_residential_lawn_and_garden_survey_v5_public.pdf).

<sup>34</sup> See C. Potera, “Air Pollution: Asia’s Two-Stroke Engine Dilemma” (National Institutes of Health, 2004, accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1247506/>).

Gas blowers blast these harmful fumes up to 185 mph, dispersing 5 pounds of harmful, fine particulate matter per leaf blower per hour. These small bits of matter can be inhaled and are easily absorbed in our lungs as we breathe, potentially yielding adverse health effects. The suspended particulate matter may be comprised of soil, pathogens, fungi/mold, animal feces, the spectrum of pesticides (which include insecticides, herbicides and fertilizer), lead, other heavy metals, pollen and other contaminants and toxic substances. The forceful flow may blow away and compact soil, strip it of its nutrients and healthy microbes, and destroy habitat of beneficial species. Airborne particulates generally take many hours to settle, long after landscape workers and their equipment have departed.<sup>35</sup>

The relationship between air pollution and many respiratory diseases, such as chronic obstructive pulmonary disease, is well established. Childhood asthma also certainly has a strong positive association with outdoor air pollution.<sup>36</sup> The seriousness of adverse cardiovascular outcomes has become quite clear and cannot be overstated. There is an elevated short term mortality risk associated with air pollution and particulates, thereby supporting the strong medical society statements cited above, and evidenced by many studies including the recent multilocation, 398-city analysis of mortality association with nitrogen dioxide.<sup>37</sup> Additional studies like the following also demonstrate particularly severe adverse health impacts and mortality from fine particulates:

“Ambient air pollution (AAP) and particulate matters (PM) have been closely associated with adverse health effects such as respiratory disease and cardiovascular diseases. Previous studies have examined the adverse health effects associated with short- and long-term exposure to AAP and outdoor PM on respiratory disease. However, the effect of PM size (PM<sub>2.5</sub> and PM<sub>10</sub>) on cardiovascular disease has not been well studied. Thus, it remains unclear how the size of the inhalable particles (coarse, fine, or ultrafine) affects mortality and morbidity. Airborne PM concentrations are commonly used for ambient air quality management worldwide, owing to the known effects on cardiorespiratory health. In this article, we assess the relationship between cardiovascular diseases and PM, with a particular focus on PM size. We discuss the association of PM<sub>2.5</sub> and PM<sub>10</sub>, nitrogen dioxide (NO<sub>2</sub>), and elemental carbon with mortality and morbidity due to cardiovascular diseases, stroke, and altered blood pressure, based on epidemiological studies. In addition, we provide evidence that the adverse health effects of AAP and PM are more pronounced among the elderly, children, and people with preexisting cardiovascular and respiratory conditions.”<sup>38</sup>

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<sup>35</sup> See generally Quiet Clean, Gas Powered Leaf-Blower Noise and Emissions Factsheet, accessed at <https://www.quietcleanpdx.org/wp-content/uploads/2019/11/Gas-Powered-Leaf-Blower-Emissions-Factsheet-11.12.pdf>.

<sup>36</sup> A. Burbank, D. Peden, “Assessing the Impact of Air Pollution on Childhood Asthma Morbidity: How, When and What to Do” (National Institutes of Health, 2019) (“The link between air pollution and pediatric asthma morbidity is supported by the recent relevant literature. Continued efforts are needed to identify the most vulnerable populations and develop strategies to reduce exposures and improve air quality.”), accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6016370/>.

<sup>37</sup> X. Meng, et al., “Short term associations of ambient nitrogen dioxide with daily total, cardiovascular and respiratory mortality: multilocation analysis in 398 cities” (British Medical Journal, March 24, 2021), cited above, accessed at <https://www.bmj.com/content/372/bmj.n534>.

<sup>38</sup> B-J. Lee, Kim, K. Lee, “Air Pollution Exposure and Cardiovascular Disease” (NIH Toxicological Research, 2014), accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4112067/>.



The evidence that air pollution from unhealthy landscaper practices causes primary neurological diseases like dementia is based on ongoing scientific studies.<sup>39</sup> Additionally, Harvard School of Public Health researchers have linked Covid-19 mortality to higher community levels of fine particulate matter:

“[R]esearchers at the Harvard School of Public Health released the results of a study that specifically linked that type of pollution (i.e., fine particulate matter) to a higher risk of complications and death from Covid-19 infection. They found that a one-microgram increase in concentration of fine particulate matter is associated with an 8% increase in risk of death from Covid-19 infection.”<sup>40</sup>

All of these scientific studies strongly support banning a significant source of air pollution in our community from two-stroke GLBs as a necessary step if Scarsdale is to achieve the goal of lowering the level of pollutants and adverse health effects, as has been done successfully in other parts of the world:

“Vehicular air pollution is common in growing metropolitan areas throughout the world. Vehicular emissions of fine particles are particularly harmful because they occur near ground level, close to where people live and work. Two-stroke engines represented an important contribution to the motor vehicle emissions where they constitute approximately half of the total vehicle fleet in Dhaka city (Bangladesh)... Samples of fine and coarse fractions of airborne PM collected from 2000 to 2004 were studied. It has been found that the fine PM and black carbon concentrations decreased from the previous years because of the banning of two-stroke engine baby taxis.”<sup>41</sup>

### **Public Health Harms of Noise**

Loud noise causes hearing loss, and a host of other illnesses.<sup>42</sup> GLBs are identified as sources of harmful noise by the U.S. Centers for Disease Control (CDC) and the U.S. Environmental Protection Agency. According to the CDC:

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<sup>39</sup> See A. Ruben, “The Terrifying Truth About Air Pollution and Dementia, Scientists now suspect that a major cause of Alzheimer’s and Parkinson’s could be the air we breathe” (Mother Jones, June 25, 2015), accessed at <https://www.motherjones.com/environment/2015/06/air-pollution-dementia-alzheimers-brain/>, citing World Health Organization, “Ambient (Outdoor) Air Pollution” (2018), accessed at [https://www.who.int/en/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/en/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health), (additional citations to scientific journals and studies omitted here).

<sup>40</sup> X. Wu, et al., “Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis” (Harvard U., Science advances, 2020) (“A small increase in long-term exposure to PM2.5 leads to a large increase in the COVID-19 death rate. Despite inherent limitations of the ecological study design, our results underscore the importance of continuing to enforce existing air pollution regulations to protect human health both during and after the COVID-19 crisis.”), accessed at <https://projects.iq.harvard.edu/covid-pm>. See also 2020 US EPA, “What is Particle Pollution,” accessed at <https://www.epa.gov/pmcourse/what-particle-pollution>.

<sup>41</sup> B. Begum, S. Biswas, P. Hopke, “Impact of banning of two-stroke engines on airborne particulate matter concentrations in Dhaka, Bangladesh” (J Air Waste Manag Assoc, 2006), accessed at <https://pubmed.ncbi.nlm.nih.gov/16499150/>.

<sup>42</sup> CAC Report, pages 2-3, citing auditory study at <https://www.quietcleanpdx.org/wp-content/uploads/2019/07/ARUP-Leaf-Blower-Noise-Testing.pdf>. See, e.g., M. Basner, et al. “Auditory and non-auditory effects of noise on health.” (Lancet, 2014), accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3988259/>.

“Hearing loss is the third most common chronic health condition in the US. Almost twice as many people report hearing loss as report diabetes or cancer. Noise exposure away from your job can damage your hearing just as much as working in a noisy place. Being around too much loud noise—like using a leaf blower or going to loud concerts—can cause permanent hearing loss. And once it’s gone, you can’t get it back! You can have hearing loss before you even notice you’re having problems. Noise is measured in what are called decibels (dB). Over time, listening to loud sounds at high dB levels can cause hearing loss—or other hearing problems like a ringing sound in your ear that won’t go away. The louder a sound is, and the longer you are exposed to it, the more likely it will damage your hearing. The more often you are exposed to loud sounds over time, the more damage occurs.”<sup>43</sup>

This National Institutes of Health study should dispel any hesitation by the Village over taking decisive and adequate action to protect our community as soon as possible:

“More than 11 million gas powered leaf blowers (GLB) operate in the US. Most are powered by inefficient 2-stroke engines. The noise is intolerable to some and many communities have enacted ordinances restricting their use. . . .GLB sound components were evaluated at intervals out to 800 feet from point of operation (centroid). . . .At all distance intervals, . . . [w]ith the exception of the high frequency dB, all sound metrics emitted from this equipment were found to exceed WHO outdoor daytime standards (55 dB) up to 800 feet away from the centroid. . . .The loudness of GLB sound at point of operation is especially concerning for the auditory and non-auditory health of workers and others regularly exposed in close proximity. The ability of this sound - in particular its lower frequency components - to travel over long distances suggests that GLB sound has a wide ranging impact on surrounding communities and raises concerns over its adverse health impacts. . . .Adverse health effects from sound include auditory effects such as hearing loss and tinnitus, and non-auditory effects such as reduced cognitive performance and mental health, sleep disruption, ischemic heart disease, myocardial infarction, and hypertension. Low frequency sound components are considered to have more severe adverse health effects compared with higher frequency components. Adverse effects from sources of sound with low frequency components may occur at levels below 30 dB(A). . . .These factors in combination with the ability of low frequency sound to travel long distances and penetrate building walls, may explain the intolerability of this sound source to people in the community.”<sup>44</sup>

Aside from the typical illnesses cited,<sup>45</sup> loud noise has negative effects on quality of life, communication and social interaction, work productivity, and psychological well-being.<sup>46</sup> The Scarsdale Village Code indirectly acknowledged this dynamic prior to its recent amendment:

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<sup>43</sup> CDC, “Too Loud for Too Long!” (2021) (emphasis added), Tool Kit accessed at [https://www.cdc.gov/nceh/hearing\\_loss/toolkit/too\\_loud.html](https://www.cdc.gov/nceh/hearing_loss/toolkit/too_loud.html) .

<sup>44</sup> E. Walker, J. Banks, “Characteristics of Lawn and Garden Equipment Sound: A Community Pilot Study” (J Environ Toxicol Stud., December 2017) (citations omitted), accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6707732/>.

<sup>45</sup> T. Munzel, et al., “Cardiovascular effects of environmental noise exposure,” pages 829–836 (European Heart Journal, 2014), accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3971384/> .

<sup>46</sup> L. Ward, “The Science of Sound: How the Products You Use Every Day Are Engineered for Your Ears” (Consumer Reports, January 2019), accessed at <https://www.consumerreports.org/hearing-ear-care/the-science-of-sound-how-the-products-you-use-every-day-are-engineered-for-your-ears/> .

“It shall be unlawful for any person to make, continue or cause to be made or continued any of the following acts producing audible sound which are hereby declared to be loud, disturbing and unnecessary noise in violation of this chapter.

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G. Blowers: the operation of any noise-creating blower or power fan or any internal-combustion engine, the operation of which causes noise due to the detonation of operating gases or fluids or the expulsion of air, unless the noise from such blower or fan is muffled and such engine is equipped with a muffler, baffling device or effective noise-absorbent material sufficient to deaden such noise.”<sup>47</sup>

GLBs generally in use do not have any mufflers, baffling devices or other effective noise abatement mechanisms. GLBs are inherently more noisy than electric blowers,<sup>48</sup> because of a low frequency sound component in the GLB frequency band distribution (i.e., the device’s sound signature) that enables it to readily travel over long distances and more easily through doors and windows. Specific testing done by ARUP and presented to the D.C. Council’s Committee of the Whole on July 2, 2018 noted all GLBs tested were audible at an 800 foot distance while all the battery operated leaf blowers were not distinguishable above the ambient community sound levels at that distance.<sup>49</sup> Commercial GLBs produce extremely dangerous noise levels routinely exceeding 85 decibels at the ear of the operator, which exceeds safe occupational levels by an order of magnitude.

Landscape contractors who outfit their workers with equipment that exceeds acceptable levels of noise are endangering the hearing of both residents and their

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<sup>47</sup> Scarsdale Village Code, §205-1.G. Unnecessary noise. [Amended 3-14-1989 by L.L. No. 6-1989; 11-26-2013 by L.L. No. 8-2013], (accessed at <https://ecode360.com/6438743> . See also regulation of generator noise, Scarsdale Village Code, §205-3.B. Special Equipment: “Permanent standby generators shall not exceed 70 decibels on the A scale as measured 23 feet from the unit, in maintenance operation as stated by the manufacturer’s specification, which shall be submitted with the building permit application, and as provided by § 310-7S, except that permanent standby generators placed in the side yard in the A3, A4, and A5 zoning districts shall not exceed 66 decibels on the A scale as measured 23 feet from the unit.”

<sup>48</sup> M. Yerman, “Leaf Blowers and Our Children's Health” (Mom's Clean Air Force, 2016) (“Changing to electric grounds maintenance equipment is an obvious solution. They are 40 to 70 percent quieter than gas machines. Electric has 90 percent efficiency. Eliminating use of fossil fuels machinery lowers the overall lawn care carbon footprint.”), accessed at <https://www.momscleanairforce.org/leaf-blowers-health/> . See also, C. Pollock, G. Sparks and J. Banks, “Lawn and Garden Equipment Sound: A Comparison of Gas and Battery Electric Equipment” (“Application of a measure of loudness as perceived by the human ear suggests that GLBs can often be heard up to several times louder than BLBs in outdoor and indoor settings. In actual settings, the routine use of multiple GLBs and other noisy equipment for hours a day exposes not only workers but large numbers of people in the community to harmful levels of noise and threatens not only work health, but public health, particularly of children, seniors, and other vulnerable populations. Policy makers and industry should adopt new technologies and good practices that place the health and well-being of workers and the public first.”) (Abstract, Journal of Environmental and Toxicological Studies, 2018), accessed at <https://www.sciforschenonline.org/journals/environmental-toxicological-studies/article-data/JETS-2-118/JETS-2-118.pdf> .

<sup>49</sup> Arup Report, section 3.2, page 8, accessed at <https://www.quietcleanpdx.org/wp-content/uploads/2019/07/ARUP-Leaf-Blower-Noise-Testing.pdf> . Full D.C. testimony from Chris Pollock, acoustic consultant for ARUP, accessed at <http://www.quietcleandc.com/testimony/july-2-pollock>

employees, with lasting debilitating effects.<sup>50</sup> For GLB operators, only 2 hours of exposure to an 85-90 decibel GLB can damage hearing, and a 100 decibel impact for only 15 minutes a day can result in permanent hearing loss.<sup>51</sup> While the U.S. Environmental Protection Agency (EPA) and the World Health Organization (WHO) recommend maintaining environmental noises below 70 dBA over 24-hours to prevent noise-induced hearing loss, ARUP's acoustic testing revealed GLBs at even 100 feet routinely produced sound pressure levels exceeding this 70 dBA level.<sup>52</sup>

One of the nation's leading experts on noise and health, Daniel Fink MD, outlined some additional health issues related to GLB noise in his widely disseminated Post-Hearing Statement to the Washington, D.C. City Council's Committee of the Whole Regarding the Leaf Blower Amendment Act of 2017 (Bill No. 22-234), July 2, 2018. The Executive Summary states:

“The vast majority of GLBs emit noise at dangerously high levels, loud enough to cause hearing loss and non-auditory health problems. In addition, these loud noise levels pose special risks for vulnerable populations..., are a disability rights issue for those with auditory disorders, and are loud enough to interfere with concentration and communication for those working from home. Animals evolved in quiet. Noise is stressful because historically it indicates danger. Only a few marine mammals can close their ears. The ear lacks protective mechanisms against loud noise, which causes hearing loss, tinnitus, and hyperacusis.” Involuntary physiological responses to noise include: 1) an autonomic nervous system response, leading to increases in heart rate and blood pressure; 2) a neuroendocrine response, leading to increases in stress hormone levels, in turn leading to abnormalities in blood glucose, blood lipids, blood viscosity, and clotting factors; and 3) an inflammatory response, causing vascular inflammation, also leading to cardiovascular disease and death.”<sup>53</sup>

The noise restrictions in place in neighboring municipalities, discussed in the *Blower Bans, Blower Restrictions* section below, range from total bans of blowers on properties under 1/2 acre to prohibitions based on the measurement of noise measured as frequency (in hertz) and level (in decibels).

Many Scarsdale residents cherish peace and quiet and feel harmed by the noise and pollution of GLBs. Many are particularly susceptible given they have already developed hearing problems over the course of their lifetimes, and hearing loss from noise is cumulative. Older adults may be disproportionately exposed even after Covid-19 restrictions

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<sup>50</sup> N. Sekhon, et al., “Prevalence of hearing loss among noise-exposed workers within the services sector, 2006–2015” (Abstract, International Journal of Audiology, 2020), accessed at <https://doi.org/10.1080/14992027.2020.1780485> .

<sup>51</sup> CDC, “What Noises Cause Hearing Loss, Table of Common Sources of Noise and Decibel Levels” (2021), [https://www.cdc.gov/nceh/hearing\\_loss/what\\_noises\\_cause\\_hearing\\_loss.html](https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html)

<sup>52</sup> Arup Report, figure 3, page 5, accessed at <https://www.quietcleanpdx.org/wp-content/uploads/2019/07/ARUP-Leaf-Blower-Noise-Testing.pdf>

<sup>53</sup> “Gas-powered Leaf Blower Noise is Hazardous to the Auditory and Non-Auditory Health of Residents of the District of Columbia,” accessed at <https://static1.squarespace.com/static/57e80a57414fb52bddd431f1/t/5b633ebdf950b75f5e143b47/1533230820766/Testimony+of+Daniel+Fink+Supplementary+Statement.pdf> .

are lifted, given that older Scarsdale residents may be retired and/or at home during the day and exposed to the assaultive noise and air pollution of GLBs.<sup>54</sup>

### **Health of Landscape Workers**

Those at highest risk of harm, whether on a small or large property, are the landscape workers themselves. Landscape crews and leaf blower operators are disproportionately subjected to higher levels of environmental risk. Catherine Plume, board member of the Sierra Club, notes: “The use of gas powered leaf blowers is as much as an environmental justice issue as it is an environmental issue.”<sup>55</sup> People with lower incomes and people who work or are active outdoors generally are most likely to suffer health problems related to polluting machinery such as GLBs.<sup>56</sup>

The magnitude of the risk to landscape workers using GLBs depends on whether they are provided and/or use protective equipment. Similar to other agriculture workers,<sup>57</sup> they are not represented by unions that negotiate protections for the workers. The membership of those who are union members in agriculture and related industries is extremely low (2.1%).<sup>58</sup> While landscape workers are most directly affected by the fumes, particulate matter, and noise of GLBs, little attention is paid to this problem.<sup>59</sup>

“More recent testing conducted by a consulting firm for FairWarning, involving six workers who were monitored while using 16 pieces of gas-powered equipment, detected even more dramatic

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<sup>54</sup> CDC, “Too Loud! for Too Long!” (2021) (“About 40 million US adults aged 20-69 have noise induced hearing loss.”), accessed at <https://www.cdc.gov/vitalsigns/hearingloss/index.html>; video accessed at <https://youtu.be/krqGja-pDcc>.

<sup>55</sup> D.C. Council Committee of the Whole Hearing, “Testimony of Catherine Plume, Sierra Club” (July 2, 2018), accessed at: <http://www.quietcleandc.com/testimony/july2-plume>.

<sup>56</sup> See American Lung Association State of the Air 2015, “Health Effects of Ozone and Particle Pollution” study, page 30, at [https://www.stateoftheair.org/2015/assets/ALA\\_State\\_of\\_the\\_Air\\_2015.pdf](https://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf).

<sup>57</sup> Am Thoracic Society, American Lung Assoc, “Respiratory Health Hazards in Agriculture” (1998) (“An agricultural worker was defined by the World Health Organization (WHO) in 1962 as any person engaged either permanently or temporarily, irrespective of legal status, in activities related to agriculture (4). Agriculture was in turn defined as embracing all forms of activity connected with growing, harvesting, and primary processing of all types of crops; with breeding, raising, and caring for animals; and with tending gardens and nurseries.”), PDF page 2, accessed at [https://www.atsjournals.org/doi/pdf/10.1164/ajrccm.158.supplement\\_1.rcm1585s1](https://www.atsjournals.org/doi/pdf/10.1164/ajrccm.158.supplement_1.rcm1585s1).

<sup>58</sup> See U.S. Bureau of Labor Statistics, Union Membership (Annual) News Release, “Table 3. Union affiliation of employed wage and salary workers by occupation and industry, 2017-2018 annual averages” (January 2019) (“The union membership rate -- the percent of wage and salary worker who were members of unions was 10.5 percent in 2018,” compared with 20.1 percent in 1983), accessed at [https://www.bls.gov/news.release/archives/union2\\_01182019.htm](https://www.bls.gov/news.release/archives/union2_01182019.htm). See also Sekhon, “Prevalence of hearing loss among noise-exposed workers within the services sector,” at <https://doi.org/10.1080/14992027.2020.1780485>.

<sup>59</sup> S. Artiga and E. Hinton, “Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity” (Kaiser Family Foundation), accessed at <https://www.kff.org/disparities-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>; B. Ostro, et al., “Fine Particulate Air Pollution and Mortality in Nine California Counties: Results from CALFINE” (Environ Health Perspect. 2005), accessed at <https://ehp.niehs.nih.gov/doi/10.1289/ehp.8335>; A. Zeka, et al., “Short term effects of particulate matter on cause specific mortality: effects of lags and modification by city characteristics” (Occup Environ Med. 2006), accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1740870/>.

surges of ultrafine particles. In one instance, ultrafine particle levels around an 11-year-old leaf blower were 50 times higher than at a nearby clogged intersection at rush hour. In the same round of tests, with a 2017 model leaf blower, the ultrafine particle level was more than 40 times higher than at the busy intersection.

Rima Habre, an environmental health expert at the University of Southern California medical school, said landscaping workers are particularly at risk because they commonly put in long days toiling very close to these sources of potentially dangerous emissions. In addition, because the workers physically exert themselves while they perform their jobs, they are likely to breathe harder and inhale more contaminated air deeper into the lungs. “All together, that means they get a much higher exposure and inhaled dose than the rest of us,” Habre said.”<sup>60</sup>

The American Lung Association’s 2015 “State of the Air” Report addressed these inequities in its review of the “disparities in the impact of air pollution,” and concluded that “socioeconomic position has been more consistently associated with greater harm from air pollution”:

“The burden of air pollution is not evenly shared. Poorer people and some racial and ethnic groups are among those who often face higher exposure to pollutants and who may experience greater responses to such pollution. Many studies have explored the differences in harm from air pollution to racial or ethnic groups and people who are in a low socioeconomic position, have less education, or live nearer to major sources . . . .Scientists have speculated that there are three broad reasons why disparities may exist. First, groups may face greater exposure to pollution because of factors ranging from racism to class bias to housing market dynamics and land costs. . . . Second, low social position may make some groups more susceptible to health threats because of factors related to their disadvantage. . . . Finally, existing health conditions, behaviors, or traits may predispose some groups to greater risk.”<sup>61</sup>

Landscape workers are disproportionately affected by harms associated with the use of GLBs due to all of the above social determinants of health. While the activities of landscapers and their crews, and the noise their equipment produces, are already subject to some regulation by the Village, additional measures are required. OSHA regulations, designed to conserve hearing when noise exposure is at or above 85 decibels, calls for a combination of engineering and administrative controls as well as provision of protective hearing devices by employers.<sup>62</sup> Even if protective equipment could be enforced, as the

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<sup>60</sup> S. Silverstein and A. Boiko-Weyrauch, “Noisy But That's Not All” (FairWarning, 2017), accessed at <https://www.fairwarning.org/2017/09/leaf-blower/>.

<sup>61</sup> American Lung Association, “State of The Air, Health Effects of Ozone and Particle Pollution 2015,” page 32, at [https://www.stateoftheair.org/2015/assets/ALA\\_State\\_of\\_the\\_Air\\_2015.pdf](https://www.stateoftheair.org/2015/assets/ALA_State_of_the_Air_2015.pdf). See American Lung Association, “Urban Air Pollution and Health Inequities: A Workshop Report,” pages 357-374 (NIH Environ Health Perspect, 2001)(suppl 3), accessed at <http://www.ncbi.nlm.nih.gov/pmc/articles/pmc1240553/>; M. O’Neill, et al., “Wealth, and Air Pollution: Advancing Theory and Methods” (Environ Health Perspect. 2003), PDF accessed at [https://www.researchgate.net/publication/8582472\\_Health\\_Wealth\\_and\\_Air\\_Pollution\\_Advancing\\_Theory\\_and\\_Methods](https://www.researchgate.net/publication/8582472_Health_Wealth_and_Air_Pollution_Advancing_Theory_and_Methods); M. Finkelstein, et al., “Relation Between Income, Air Pollution And Mortality: A Cohort Study” (CMAJ. 2003), accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC183288/>.

<sup>62</sup> See OSHA (U.S. Occupational Safety and Health Administration, at <https://www.osha.gov/noise> (“Exposure to loud noise kills the nerve endings in our inner ear. More exposure will result in more dead nerve endings. The result is permanent hearing loss that cannot be corrected through surgery or with

CDC/NIOSH pyramidal hierarchy of controls reveals, this is the least effective protective measure. Elimination of the occupational hazard is the most effective method of protecting the landscape worker, and can be achieved<sup>63</sup> with Village action.

### **The Case for Immediate Action: Climate Change**

The impact of emissions from GLBs and other engines on the quality of our air and climate, and the ramifications of inaction, also need to be addressed:

“[I]t is precisely the long-term nature of the problem that makes it so urgent for us to limit emissions as quickly and radically as possible. To have a decent chance of meeting the widely accepted international goal of keeping warming at or below 2 °C, emissions need to be cut substantially over the next few years. By 2050 they must be reduced by half or more from 2009 levels.”<sup>64</sup>

The catastrophic global impacts of climate change exist primarily as a consequence of human activity. Food and water insecurity, wildfires, normalized 100-year storms, flooding, global warming, drought, polar ice sheet melting<sup>65</sup> and rising sea levels, death of coral reefs, pollinator collapse, and extinction of species<sup>66</sup> are all implicated. We have a responsibility to ourselves, our children and future generations to act immediately, to curtail destructive human behaviors and to avert more damage to our environment.<sup>67</sup>

The dire consequences of climate change can no longer be ignored, as indicated in the research of the UN’s Intergovernmental Panel on Climate Change (IPCC).<sup>68</sup> In its “Summary

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medicine. Noise-induced hearing loss limits your ability to hear high frequency sounds and understand speech, which seriously impairs your ability to communicate. Hearing aids may help, but they do not restore your hearing to normal.”)

<sup>63</sup> Centers for Disease Control and Prevention, Workplace Safety & Health, Hierarchy of Controls (NIOSH) (“Controlling exposures to occupational hazards is the fundamental method of protecting workers. Traditionally, a hierarchy of controls has been used as a means of determining how to implement feasible and effective control solutions. . . . The idea behind this hierarchy is that the control methods at the top of graphic [‘Physically remove the hazard’] are potentially more effective and protective than those at the bottom. Following this hierarchy normally leads to the implementation of inherently safer systems, where the risk of illness or injury has been substantially reduced.”), accessed at <https://www.cdc.gov/niosh/topics/hierarchy/default.html> .

<sup>64</sup> D. Rotman, “Climate Change: The Moral Choices” (MIT Technology Review, 2013) (citations omitted here), accessed at <https://www.technologyreview.com/2013/04/11/16301/climate-change-the-moral-choices/> .

<sup>65</sup> J. Corbett, “Scientists: 4°C would unleash ‘unimaginable amounts of water’ as ice shelves collapse” (People’s World, April 12, 2021), accessed at <https://peoplesworld.org/article/scientists-4c-would-unleash-unimaginable-amounts-of-water-as-ice-shelves-collapse/>.

<sup>66</sup> See E. Kolbert, The Sixth Extinction, an Unnatural History (2014); E. O. Wilson, The Future of Life (2002).

<sup>67</sup> See J. Rosen, “The Science of Climate Change Explained: Facts, Evidence and Proof,” (The New York Times, Science Times Climate Issue, April 19, 2021) (“The science of climate change is more solid and widely agreed upon than you might think. But the scope of the topic, as well as rampant disinformation, can make it hard to separate fact from fiction. Here, we’ve done our best to present you with not only the most accurate scientific information, but also an explanation of how we know it”), accessed at <https://www.nytimes.com/article/climate-change-global-warming-faq.html>.

<sup>68</sup> Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate

for Policymakers,” the IPCC laid out the case for humanity’s need to take immediate steps to curb climate change, and the 1.5 degree Celsius threshold. Simply stated, literally “everything” is at stake: “Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.”<sup>69</sup>

The 2016 Paris Agreement, the international compact to reduce greenhouse gas emissions, made the goal clear:

“To achieve this long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century.”<sup>70</sup>

But the health implications of the pollutants that contribute to climate change are already posing an immediate threat now, not thirty years from now:

“The World Health Organization (WHO) estimates that air pollution is responsible for an estimated 7 million deaths per year worldwide. Although the link between respiratory illnesses and air pollution is well known, the majority of these deaths are attributed to cardiovascular disease.

Fossil fuel combustion, the predominant source of air pollution in the United States, releases a complex mixture of gaseous, liquid, and semisolid particles. The principle components of this mass include carbon dioxide (CO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC), and particulate matter (PM).”<sup>71</sup>

The premise of this Report is that the two-stroke GLB engine poses such an “environmental hazard” in our own backyards:

“The two-stroke engine has developed a reputation as an environmental hazard. Because the engine lacks an independent lubrication system, fuel has to be mixed with oil. More important, about 30 percent of the fuel the engine uses fails to undergo complete combustion; as a result, the engine emits a number of air pollutants. Carbon monoxide, nitrous oxides and hydrocarbons escape from the engine in large quantities. Everyone knows the acute effects of carbon monoxide, but the other gases are equally worrisome. Both nitrous oxides and hydrocarbons contribute to smog formation. Hydrocarbons can be carcinogenic, and nitrous oxides can cause acid rain.”<sup>72</sup>

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poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)] (In Press.2018), accessed at <https://www.ipcc.ch/sr15/>.

<sup>69</sup> Id., IPCC Special Report.

<sup>70</sup> Paris Agreement, at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>71</sup> C. Sack, “Air Pollution as a Cause of Cardiovascular Disease: Looking Beyond Traditional Risk Factors” (Society of General Internal Medicine Forum, 2017), accessed at [http://www.sгим.org/file%20library/sgim/resource%20library/forum/2017/sgimjan2017\\_05.pdf](http://www.sгим.org/file%20library/sgim/resource%20library/forum/2017/sgimjan2017_05.pdf).

<sup>72</sup> B. Palmer, “How Bad for the Environment are Gas-Powered Leaf Blowers” (Washington Post, 2013), accessed at [https://www.washingtonpost.com/national/health-science/how-bad-for-the-environment-are-gas-powered-leaf-blowers/2013/09/16/8eed7b9a-18bb-11e3-a628-7e6dde8f889d\\_story.html](https://www.washingtonpost.com/national/health-science/how-bad-for-the-environment-are-gas-powered-leaf-blowers/2013/09/16/8eed7b9a-18bb-11e3-a628-7e6dde8f889d_story.html).



Scarsdale should be concerned about its contribution to greenhouse gas emissions:

“The World Meteorological Organization said forecasts suggest there’s a 20% chance that global temperatures will be 1.5 degrees Celsius (2.7 Fahrenheit) higher than the pre-industrial average in at least one year between 2020 and 2024.

The 1.5 C mark is the level countries agreed to cap global warming at in the 2015 Paris accord. While a new annual high might be followed by several years with lower average temperatures, breaking that threshold would be seen as further evidence that international efforts to curb climate change aren’t working.”<sup>73</sup>

And it is important to recognize the correlation of lawn maintenance and GLB pollution as one of the contributing causes of climate change and the existential threat that poses:

“In America, over 40 million acres of land are covered by lawn, or, more specifically, turf grass. While lawns can function as “carbon sinks,” soaking up carbon dioxide from the atmosphere, this benefit is often outweighed by the heavy carbon cost associated with the maintenance of these lawns. Rather than alleviating climate change, lawns may be contributing to it. The main culprits are lawn equipment, specifically gas powered leaf blowers and lawn mowers, and synthetic fertilizers. Ultimately, Americans should consider alternatives for the technological and chemical ways they are treating their lawns, and even consider the potential of changing the structure of their lawn entirely.”<sup>74</sup>

In October 2019, the Forum’s Climate Resilience Committee, comprised of a broad demographic of the Scarsdale community, including invited Scarsdale High School students, recommended that the Village become a Climate Smart Community (CSC):

“Scarsdale and the wider local, national and international communities have already begun to experience extreme weather events corresponding to the scientific phenomenon known as climate change.

Expert projections of the scope and scale of the effects of climate change indicate that they will endanger our infrastructure, economy, agriculture and livelihoods; harm our plant life, soil, storm water infrastructure and ecological communities, including native fish and wildlife populations; spread invasive species and exotic diseases; reduce drinking water supplies and recreational opportunities; and pose health threats to life globally.

The need to respond to climate change, to compete with the fossil fuel habit, provides us with an unprecedented opportunity to build livable, energy-independent and secure communities, vibrant innovation economies, healthy, safe and innovative schools, and resilient and sustainable infrastructures. The enormous scale of greenhouse gas emission reductions required for climate stabilization will require sustained and substantial efforts. But even if emissions of greenhouse

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<sup>73</sup> N. Achoui-Lesage, F. Jordans, “UN: World could hit 1.5-degree warming threshold by 2024” (Washington Post, July 9, 2020), accessed at [https://www.washingtonpost.com/world/un-world-could-hit-1-5-degree-warming-threshold-in-5-years/2020/07/09/5297d6c8-c1c8-11ea-8908-68a2b9eae9e0\\_story.html](https://www.washingtonpost.com/world/un-world-could-hit-1-5-degree-warming-threshold-in-5-years/2020/07/09/5297d6c8-c1c8-11ea-8908-68a2b9eae9e0_story.html) .

<sup>74</sup> J. Son, “Lawn Maintenance and Climate Change” (Princeton Student Climate Initiative, 2021), accessed at <https://psci.princeton.edu/> .

gases were dramatically reduced today, communities such as Scarsdale would still be required to adapt to the effects of climate change for decades to come.”<sup>75</sup>

The Village took the CSC pledge in February 2020 to become a NYS registered Climate Smart Community,<sup>76</sup> having expressed its public commitment to taking action toward mitigating and adapting to the proven harmful effects of climate change, and passed a Resolution on February 23, 2021 to form a Climate Smart Communities Task Force.<sup>77</sup>

This Report urges the Village to consider implementation of comprehensive strategies to address climate change, rather than incremental action that would likely accelerate its foreseeable harm. The moral aspects of this task are in play:

“We have barely begun to grapple with the moral issues related to climate change. Indeed, few are even likely to accept the basic role that ethical issues should play in our policy decisions, and certainly our responsibilities to the distant future are seldom part of the public debate. But given the convincing evidence climate scientists have presented that our actions over the next several decades will have direct consequences for generations who will live many years from now, we must consider the moral dimensions of our response.”<sup>78</sup>

Within this context, it is imperative for Scarsdale to take concrete action to help mitigate greenhouse gas emissions by prohibiting GLB use and by ending leaf vacuuming practices. These actions are necessary to meet the challenges of this century and ensure the health and wellness of our community into the future.

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<sup>75</sup> Timothy Foley, Sustainability Committee, “President’s Statement on Climate Smart Communities and Sustainability Day” (Scarsdale Forum Inc., October 3, 2019), accessed at <https://www.scarsdaleforum.com/Reports/Download/927> . See also P. Greenberg and C. Safina, “We Don’t Need More Life-Crushing Steel and Concrete” (The New York Times, April 13, 2021) (“The thing is, nature has its own infrastructure. What nature needs is for us to get out of its way and let its systems function in the manner that billions of years of evolution enabled them to do.”), accessed at <https://www.nytimes.com/2021/04/13/opinion/infrastructure-biden-nature.html>.

<sup>76</sup> See New York State “Participating Communities” CSC list, accessed at [https://climatesmart.ny.gov/actions-certification/participating-communities/?tx\\_sjcert\\_applicant%5Baction%5D=index&tx\\_sjcert\\_applicant%5Bcontroller%5D=Applicant&cHash=07c5d196b493c0914a6398a9d74cc61b](https://climatesmart.ny.gov/actions-certification/participating-communities/?tx_sjcert_applicant%5Baction%5D=index&tx_sjcert_applicant%5Bcontroller%5D=Applicant&cHash=07c5d196b493c0914a6398a9d74cc61b)

<sup>77</sup> Scarsdale Village Board of Trustees, Resolution Re: Establishing The Climate Smart Communities Task Force, approved Feb. 23, 2021, PDF page 14-15, accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_03092021-866](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_03092021-866) ); and Resolution Re: Climate Smart Communities Pledge (Feb. 11, 2020), Agenda PDF pages 52-53, accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_02232021-861](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_02232021-861) . See also K. Bayrakdarian, “Residents use zero haste in making zero waste” (The Scarsdale Inquirer, Feb. 25, 2021) (“Continuing the village’s commitment to sustainability, the Scarsdale Board of Trustees passed a resolution Feb. 23 establishing a Climate Smart Communities Task Force as an advisory body to the village board. The task force is comprised of all members of the existing Conservation Advisory Council (CAC), with Scarsdale resident and CAC chair Michelle Sterling serving as the task force coordinator.”), accessed at [https://www.scarsdalenews.com/top\\_stories/residents-use-zero-haste-in-making-zero-waste/article\\_365cb7d6-778e-11eb-940b-2f2c5df48ccb.html](https://www.scarsdalenews.com/top_stories/residents-use-zero-haste-in-making-zero-waste/article_365cb7d6-778e-11eb-940b-2f2c5df48ccb.html).

<sup>78</sup> D. Rotman, “Climate Change: The Moral Choices,” cited above, accessed at <https://www.technologyreview.com/2013/04/11/16301/climate-change-the-moral-choices/> .

## **Scarsdale Policy in Relation to Eco-Friendly Westchester Communities**

Prior to the recent Code amendment, as mentioned above Scarsdale lagged behind the surrounding municipalities that had tightened seasonal restrictions on the use of GLBs, and those that had enacted or are about to impose outright bans. Many municipalities made progress by ending leaf vacuuming and requiring bagging.<sup>79</sup> Landscapers operating in Scarsdale, in contrast, have license to use multiple blowers simultaneously, to use push-behind blowers that eject toxic fumes and particulates at above multiples of hurricane wind speeds, and to create deafening noise for long periods of time, even while they are prohibited from doing the same in many of the nearby towns where they operate in southern Westchester.

Regulations range from total bans of blowers on properties under one-half acre, to prohibitions based on the calculation of noise measurements. Numerous municipalities in the county also limit the allowable noise created by landscape equipment more directly and comprehensively than Scarsdale.

### **Blower Bans, Blower Restrictions**

**Larchmont**, after previously imposing stronger limitations, and a moratorium on the use of blowers in response to the Covid-19 health crisis,<sup>80</sup> recently enacted a complete ban on GLBs effective January 1, 2022.<sup>81</sup> At a panel discussion Larchmont hosted in May 2020,<sup>82</sup> medical and other experts, including a pediatric pulmonologist, explored the urgent need and reasons for more rigorous control over the use of gas leaf blowers: health hazards, disruptions to quality of life, global scale impacts on climate change, and damage to local ecosystems.<sup>83</sup>

Larchmont's newly enacted gas leaf blower regulation "was passed in response to a review of scientific data establishing that leaf blowers, and the emissions, airborne particulates, loud noise and powerful air currents they generate, negatively impact public health, daily activities and environmental sustainability in [the Larchmont] community."<sup>84</sup> The purpose of these restrictions is straightforward: protection from harmful pollution and noise. The restrictions protect residents whose property of under one-half acre is so close to

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<sup>79</sup> Westchester County Leaf Blower Legislation, Chart, accessed at <https://www.healthyyards.org/westchesterleafblowers/#single/0> .

<sup>80</sup> Local State of Emergency Proclamation, Executive Order (Mayor L. Walsh, April 1, 2020) ("No leaf blower of any kind may be operated anywhere within the territorial limits of the Village of Larchmont."), accessed at <https://villageoflarchmont.org/wp-content/uploads/2020/04/Local-State-of-Emergency-Proclamation-1.pdf>.

<sup>81</sup> Larchmont Village Code, Chapter 180, accessed at <https://ecode360.com/36859359> ("§ 180-3 Prohibition on the operation of internal combustion leaf blowers. No internal combustion leaf blower shall be operated in the Village of Larchmont at any time after January 1, 2022. Until such date, no internal combustion leaf blower may be operated in the Village of Larchmont without a properly functioning muffler".)

<sup>82</sup> Village of Larchmont Environmental Committee Presentation on Leaf Blower Ban (May 18, 2020), accessed at <https://www.youtube.com/watch?v=d33zVCWoy4M&feature=youtu.be> .

<sup>83</sup> Id.

<sup>84</sup> Mayor L. Walsh, Leaf Blower Code, accessed at <https://villageoflarchmont.org/leaf-blower-code/>.

adjacent property that, if a landscaper were to use a GLB anywhere on one property, it would be well under 50 feet to the next door neighbor's bedroom window, backyard deck, or their garden. The vast majority of GLBs produce disruptive, harmful noise well over 65 decibels at a distance of 50 feet. Larchmont provided a brief phase-in period before the effective date of its total ban:

“The Village of Larchmont Board of Trustees has approved new code regulating leaf blowers. Effective January 1, 2022, gas-powered leaf blowers may not be used anywhere in the Village of Larchmont, and electric leaf blowers may only be used for spring clean-up in the month of April and fall clean-up between October 15 and December 15, with temporary allowances as determined by the Mayor for extreme weather events. . . .Please note that both the property owner as well as the person operating a leaf blower and the contracted service company are held responsible for violations and are subject to fines. Please review the new code and alternatives to leaf blowing with your service provider or client so everyone is ready to comply. . . .During 2021, before the full law goes into effect, both gas and electric leaf blowers may be used ONLY during the month of April, and from October 15 to December 15. All (gas) leaf blowers are banned during the rest of the year. . . .”<sup>85</sup>

**Irvington’s** complete ban on “using or operating, or permitting to be used or operated, any gas-powered leaf blower at any time” becomes effective on December 16, 2023.<sup>86</sup> They extended the months of their prior GLB restrictions until this complete ban takes effect. Croton and Pleasantville have also been considering enactment of a ban.<sup>87</sup>

Notwithstanding **Dobbs Ferry's** intriguing noise Code title, “Peace and Good Order,” it merely limits gas powered leaf blower use to 3.5 months per calendar year: March 15th to May 1st and September 15th to December 15th.<sup>88</sup> **New Rochelle** also permits the use of GLBs: “Gas-powered leaf blowers are permitted only from October 1 through May 31, Monday through Friday from 8:00 am to 5:00 pm and on Saturdays from 10:00 am to 5:00 pm. However, during the months of suspension June 1- September 30 the ban may be lifted in an emergency.”<sup>89</sup> Legislation was expected to be introduced in New Rochelle in April 2021 to extend its ban.

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<sup>85</sup>Village of Larchmont: “Leaf Blower Code” general information accessed at <https://villageoflarchmont.org/leaf-blower-code/>; <http://www.irvingtonny.gov/508/Leaf-Blower-Regulations>; and “Sustainable Maintenance” accessed at <https://villageoflarchmont.org/?s=leaf+blower&submit.x=0&submit.y=0> .

<sup>86</sup> Irvington Village Code, Local Law amendment markup, #8 of 2020 and Section 148-4.B(10), accessed at <http://www.irvingtonny.gov/DocumentCenter/View/9932/2020-08---Gas-powered-leaf-blowers?bidId=> . See also Town of Irvington FAQ page, accessed at <http://www.irvingtonny.gov/515/Leaf-Blowers>; <http://www.irvingtonny.gov/508/Leaf-Blower-Regulations>;

<sup>87</sup> For background on Croton-on-Hudson and Pleasantville initiatives, see The Examiner, “Croton-on-Hudson Considers Prohibition of Gas-Powered Leaf Blowers” (November 5, 2020), accessed at <https://www.theexaminernews.com/croton-on-hudson-considers-prohibition-of-gas-powered-leaf-blowers/> .

<sup>88</sup> Dobbs Ferry Code, § 234-26.I.(1)-(2), Unnecessary noise. Leaf blowers and outdoor power tools, accessed at [https://drive.google.com/file/d/1dr8bGMPzaYET\\_7keTNEpBDt6Dw0WiRqq/view](https://drive.google.com/file/d/1dr8bGMPzaYET_7keTNEpBDt6Dw0WiRqq/view) and <https://ecode360.com/10565083>; <https://www.dobbsferry.com/home/files/village-dobbs-ferry-leafblower-law>.

<sup>89</sup> New Rochelle Public Works, Fall Leaf Collection, Leaf Blowers, accessed at <https://www.newrochelleny.com/leaf>; New Rochelle Code, accessed at <https://ecode360.com/6735723>.

**Bedford** is an example of a municipality with specific “hamlet zone” rules that prohibit any gas blower use in the off-season and limit gas blowers to one blower per property on these smaller lots. The regulations also specifically prohibit the push-behind models in these zones during leaf season.<sup>90</sup>

Similarly, while Irvington has now enacted a complete ban on gas blowers except for snow removal, effective as of December 16, 2023, they had previously legislated a ban on push-behind blowers unless the property being cleared was larger than one-half acre, and they limited use to two handheld or backpack gas blowers operating simultaneously on properties less than that size.<sup>91</sup>

### **More Local Case Studies**

**Ardasley’s** limit is a one blower per property allowance and permits are required for GLBs, good for the lifetime of the blower.<sup>92</sup>

**Croton-on-Hudson** has interesting, quality of life centric definitions for noise disturbances in its code:

“Unreasonably Intrusive: Any sound which either annoys, disturbs, injures or endangers the comfort, repose, health, peace or safety of a reasonable person of normal sensitivities under the circumstances. . . . Methods Of Measurement: The measurement of any sound or noise shall be made with a sound-level meter using an A-scale decibel level. The measurement shall be conducted at or within ten (10) feet of the property line of the property on which such noise is generated.”<sup>93</sup>

**Hastings On Hudson** and **Sleepy Hollow** rely on “frequency noise levels and decibels. In **Hastings**, leaf blowers and other equipment must “conform to the decibel level restrictions. . . and to the steady state and impact vibrations restrictions . . . .” Significantly, at 125 hertz their code sets the limit at 63 decibels, and 125 hertz is where leaf blowers typically operate (low frequency).<sup>94</sup> **Sleepy Hollow** has the same noise level prohibition as **Hastings**.<sup>95</sup>

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<sup>90</sup> Also referred to as “walk-behind” blowers, typically three-wheeled motorized machines with blowers multiple times more powerful than hand-held or backpack blowers, measuring up to 1,000-2,600 CFM. See Town of Bedford Code: Leaf Blower. Limitations on Use. Section 77-3C. (“ . . . on any one parcel located in the Town Hamlet Zones, only one leaf blower may be used at a time, and no push-behind leaf blowers may be used at any time.”), accessed at <https://ecode360.com/33651315?highlight=hamlet&searchId=34803039695476#33651315> . See generally Healthy Yards, Westchester County Leaf Blower Legislation Chart, accessed at <https://www.healthyyards.org/westchesterleafblowers/#single/0>, cited above.

<sup>91</sup> See Larchmont Code, cited above. See also guidelines for courteous use of blowers generally, “Don’t Blow It! Be Courteous,” at <http://www.irvingtonny.gov/DocumentCenter/View/9673/leaf-blower-courtesy---Fall-2019?bidId=> .

<sup>92</sup> Ardsley Code, at <https://drive.google.com/file/d/1UWZ0bYMiGG1ZAvutT-MxjNtryh5BTfzk/view>.

<sup>93</sup> Croton Code, at <https://drive.google.com/file/d/1eSLWoC71A-YSEkarSgBhrTDDmBZ0zYh/view>.

<sup>94</sup> Hastings Code, at <https://ecode360.com/10990028#10990028> . See also ARUP (graphs)

<sup>95</sup> Sleepy Hollow Code, at <https://drive.google.com/file/d/1SlzU-aW06lU5ZvqjctUddzppHJ0OWEKi/view> Regarding enforcing noise bans, see Mendelson, Chairman, Council of the District of Columbia Committee of the Whole, Committee Report Draft (October 16, 2018), accessed at <http://chairmanmendelson.com/wp-content/uploads/2018/10/B22-234-Leaf-Blower-Regulation-Amendment-Act-of-2018-CIRCULATION-PACKET.pdf>

Sleepy Hollow also imposed a moratorium on the use of gas blowers in response to the pandemic, as did other municipalities.<sup>96</sup>

**Mamaroneck** does not appear to have a property line restriction but has fine escalations (\$125 - \$250 - \$500) for repeat offenders of their more restrictive leaf blower noise ordinance.<sup>97</sup> **Rye** has a one-blower rule, such that: “No leaf blower shall be operated simultaneously on the same lot with any other type of machine-powered lawn equipment,” and “Two or more leaf blowers shall not be operated simultaneously except in R-1 Residence Districts as indicated on the City of Rye Zoning Map.”<sup>98</sup>

**White Plains** has a small property restriction of one blower and a 70 decibel restriction on GLBs:

“Gasoline-powered leaf blowers that produce a sound level greater than 70 decibels are PROHIBITED. Gasoline-powered landscape maintenance equipment other than leaf blowers (lawn mowers, chain saws, trimmers, etc.) that produce a sound level greater than 85 decibels are prohibited. Simultaneously operating more than one gasoline-powered leaf blower on property measuring 5,000 square feet or less is prohibited. Penalty may be a fine up to \$250.00. Violations of this ordinance will be vigorously enforced. Violations may be reported to the Department of Public Safety at (914) 422-6111.”<sup>99</sup>

Scarsdale’s neighbors have enacted a range of regulations to help mitigate emissions and noise impacts. Landscapers operating in Scarsdale without mitigating emissions or using non-polluting electric equipment are most likely not adhering to Westchester County emissions regulations either:

“Landscapers are required by law to use low emission leaf blowers as of January 2009. Landscapers who purchase new leaf blowers should be sure to buy machines that meet the new requirements. . . . Landscapers who are found to be using non-compliant leaf blowers after Jan. 1, 2009 face a potential fine of \$1,000, as well as the denial or revocation of their license. The law does not apply to landscapers who only work on commercial properties or who work exclusively in Yonkers (which has a separate licensing procedure). Many municipalities in Westchester have ordinances regulating the noise level and hours of operation for leaf blowers.<sup>100</sup> The county law, which deals exclusively with emissions, does not pre-empt those local ordinances.”<sup>101</sup>

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<sup>96</sup> Larchmont, Croton-on Hudson and Tarrytown also imposed temporary bans. See N. Cutler, “The Nyacks: Pandemic puts leaf blowers, a bane of suburban tranquility, in the crosshairs” (Lohud, May 20, 2020) (“With kids taking class via Zoom and workers holed up at home, Larchmont, Croton-on-Hudson, Tarrytown, and Sleepy Hollow last month were among communities that instituted temporary daytime bans on the gas-powered machines.”), accessed at <https://www.lohud.com/story/news/coronavirus/2020/05/20/nyack-coronavirus-leaf-blower-bans/5220185002/>.

<sup>97</sup> Mamaroneck Code, at <https://drive.google.com/file/d/1pf24XVh5Nut5sCNiWkmlkWSUcqvtg7uE/view> .

<sup>98</sup> Rye Code, at [https://drive.google.com/file/d/1MwgNdzy64XU1sxGR8V6CZQ0Om\\_fV5Hb9/view](https://drive.google.com/file/d/1MwgNdzy64XU1sxGR8V6CZQ0Om_fV5Hb9/view) .

<sup>99</sup> White Plains Code, at [https://drive.google.com/file/d/1\\_apQkH6Wbmkxutx67yzYwiFNOvbyCS06/view](https://drive.google.com/file/d/1_apQkH6Wbmkxutx67yzYwiFNOvbyCS06/view)

<sup>100</sup> See Westchester County Leaf Blower Legislation, Chart, accessed at <https://www.healthyyards.org/westchesterleafblowers/#single/0> .

<sup>101</sup> Westchester County Leaf Blower Emissions Law, accessed at <https://consumer.westchestergov.com/leaf-blower-emissions-law> .

## Be the Change

### A Primer on Transition

With so much activity on the regulatory front in neighboring communities and across the country, one would have hoped the landscape industry's posture would have softened in view of growing public concerns over the health hazards to residents and landscape workers, and the polluting impact on the environment posed by landscaper practices. Instead, the industry's talking points steer clear of these issues while they continue to use GLBs and other gas powered equipment. Their objections to change moreover are uniform regardless of the community, exposing an official posture that does not seem to waver from coast to coast. Here is a short list of specious industry claims that expose the myths and weakness of their narrative:<sup>102</sup>

- Electric blowers are not as powerful, and thus cannot do the job adequately
- Only gas blowers can produce a “clean” lawn
- Electric blowers are more expensive
- Quiet days would cut down the number of days of work
- Using electric blowers will take workers more time to do their job
- Landscape workers do and/or will use gas blowers courteously and respectfully
- Workers effectively protect themselves from damaging high decibel levels and other harms.<sup>103</sup>

These same arguments continue to be used by the industry despite being discredited by the landscapers who have transitioned to electric powered equipment. Misinformation in turn makes it potentially more difficult for municipalities to enact the right regulations for the right reasons. Despite the typical industry narrative, landscaper implementation of best practices in many communities has proven to be much more positive and more easily accomplished. Many communities have comprehensively regulated the use of GLBs without causing an economic or aesthetic burden on landscaping activity and customers.

This is not mere conjecture based on those unfamiliar with the economics of the industry. Numerous landscaper testimonials fully support the transition to electric equipment,<sup>104</sup> while efforts to support the industry's business model that relies on GLBs continue to deflect attention away from the science underlying the harms. For example, it is not necessarily the case that increased costs, if any, are passed along to customers by landscapers utilizing only battery run blowers. The costs of these blowers are no more expensive, and the cost of back-up

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<sup>102</sup> See Oregon HB 3023, “A bill to prohibit the sale or use of gas-powered leaf blowers,” page 5 (effective Oct. 1, 2022), accessed at <https://files.constantcontact.com/3a61126a001/2a618ec4-6daa-4128-8e1e-a1f2e1debb0b.pdf>.

<sup>103</sup> Most of these claims were reported by T. Siefert, Assistant to Superintendent, Scarsdale Dept. Public Works, Village Board Work Session, video counter 20:20 (March 11, 2021), at <https://scarsdaleny.swagit.com/play/03112021-823>, based on information provided by the industry.

<sup>104</sup> See L. Dowdle, “Battery boon: Breaking down the benefits of battery-powered equipment” (Landscape Management, Dec. 18, 2017), accessed at <https://www.landscapemanagement.net/battery-boon-breaking-down-the-benefits-of-battery-powered-equipment/>.

batteries is offset by the maintenance requirements and fossil fuel consumption of two-stroke engine GLBs, which require mixing fuel and oil, fuel filters, spark plugs, and carburetors.<sup>105</sup>

It is self-evident that it saves their crews time when landscapers eliminate the blowing of leaves and removal of grass clippings, and instead mulch mow and grass cycle in place.<sup>106</sup> The statement by an industry representative predicting higher prices based on use of more sustainable, safer practices was flatly contradicted by landscapers who testified before the Scarsdale Village board about the advantages of electric equipment: higher return on investment, comparable efficacy, less noise, and no polluting emissions.<sup>107</sup>

At the Larchmont Environmental Committee hearing on Larchmont’s leaf blower ban, local landscapers testified at length regarding the success of their own carbon-neutral company practices. Dan Delventhal, founder of Fairfield Connecticut MowGreen, stated that the performance of current electric technology is comparable to gas equipment, and provides cleaner, safer, and equally effective alternatives across all tasks, from trimmers and mowers to blowers.<sup>108</sup>

Larchmont proposed the following steps it could take to encourage the transition to electric technology by landscapers and residents:

- Publicize green practices and their benefits
- Arrange demonstrations of electric blowers and alternatives
- Help develop financing options for new electric equipment
- Create checklist of green tasks and equipment
- Maintain a list of companies committed to green practices
- Profile and publicize successes<sup>109</sup>

The public hearings held in Washington D.C.<sup>110</sup> prior to enactment of its GLB ban could also offer Scarsdale a blueprint on how to proceed into the net zero-emission future. As Zachary “Zack” Kline of Air Lawn Care testified at the D.C. Hearing:

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<sup>105</sup> The Best Leaf Blowers, “Leaf Blower Repair: What to Do When Your Leaf Blower Breaks,” accessed at <https://thebestleafblowers.com/leaf-blower-repair-what-to-do-when-your-leaf-blower-breaks/>.

<sup>106</sup> Anecdotally, when Scarsdale Village switched to leaf mulch mowing its properties in 2012, contractor costs were lower; the savings in time also translates to lower residential landscaper charges. For landscaper guidance on the benefits and savings from mulch mowing, see “Things to Tell Your Clients about LELE” and “How LELE Benefits Your Business,” accessed at <http://www.leleny.org/p/landscapers.html>.

<sup>107</sup> Village Board Work Session, (March 11, 2021), at <https://scarsdaleny.swagit.com/play/03112021-823>

<sup>108</sup> Larchmont Hearing, Village of Larchmont Environmental Committee Presentation on Leaf Blower Ban (May 18, 2020), cited above, video counter 50:330 et seq. accessed at <https://www.youtube.com/watch?v=d33zVCWoy4M&feature=youtu.be>.

<sup>109</sup> Id., video counter 31:30, accessed at <https://www.youtube.com/watch?v=d33zVCWoy4M&feature=youtu.be>. See MowGreen green landscape tips, accessed at <https://www.mowgreen.com/mowgreen-guide-21-green-lawncare-topics/>.

<sup>110</sup> Testimony presented to the Washington D.C. City Council about its proposed phase-out of gas leaf blowers (date), accessed at <http://www.quietcleandc.com/testimony>; video of the hearing accessed at [http://dc.granicus.com/MediaPlayer.php?view\\_id=4&clip\\_id=4604](http://dc.granicus.com/MediaPlayer.php?view_id=4&clip_id=4604).



“I would not be here today if it were not viable to run a successful landscaping business using battery-powered equipment. The purchase and maintenance of battery-powered equipment, such as leaf blowers, allows me to be competitive in the rates that I charge my clients, and as a business. **Battery-powered equipment, although maybe somewhat more expensive to purchase up front, comes with a much lower cost of ownership and maintenance compared with gasoline-powered equipment.** We maintain a wide range of properties in the greater Washington, DC area, including low-end residential, high-end residential, and commercial properties—all requiring usual cleanup of debris from grass, shrubs, and leaves.

Many who oppose this bill will say that battery-powered leaf blowers are not always up to the job. However, **I have found that the outdoor power equipment industry has researched, developed, manufactured, distributed, and sold a new generation of battery-powered leaf blowers that are indeed up to the job.** And they are continuing to improve in this R&D. In the internet age, online information about battery-powered equipment is abundant and easily found. Also, many organizations exist to educate municipalities, professionals, and homeowners about the use of battery-powered equipment.”<sup>111</sup> (emphasis added)

Nancy Sainburg, owner of D.C. landscaping company Enchanted Garden, also testified about the advantages of eliminating GLBs:

“You may hear some testimony today that it is not possible for landscape professionals to do our job without gas-powered blowers. But I can tell you from my own experience that that is completely untrue. We've been using only battery-operated blowers for the past two years, and have had no trouble keeping up with the work in a timely manner. We've had no complaints from clients that our services are taking more time, and have heard nothing but compliments on low noise levels from the battery blowers.

My epiphany regarding the switch from gas blowers to battery blowers occurred two years ago. I was out walking my dog, and I heard a leaf blower. When I got closer to the noise, I realized that it was my own landscape crew, who were finishing up an installation in my neighborhood. I had heard it from over two blocks away. That was it for me. The noise pollution was just too much.

I went out the next week and bought a battery-operated blower to see how well it worked. The initial reaction from my crew was, “Okay, we’ll give this toy a try.” But pretty soon they were favoring the battery-powered blowers over the gas blowers. The following spring season, we switched to all battery-powered equipment. The crew asked if we could keep one gas blower for the fall leaf season, and I decided to see what would happen. Once the fall season came, no one even once mentioned using the gas blower. The people who worked with this equipment every day have said that they enjoy using it much more than the gas equipment. They're not subjected to high noise levels, and they don't have headaches at the end of the day, which was often a complaint.”<sup>112</sup>

Southampton, New York began the transition to battery operated landscape equipment in its parks and other municipal green spaces, and provided workshops to engage the industry:

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<sup>111</sup> D.C. Council Committee of the Whole Hearing, “Testimony of Zachary ‘Zack’ Kline, Air Lawn Care” (July 2, 2018), accessed at <http://www.quietcleandc.com/testimony/july2-kline> .

<sup>112</sup> Id., “Testimony of Nancy Sainburg,” accessed at <http://www.quietcleandc.com/testimony/july-2-sainburg> .

“Transitioning an industry to clean, quiet land maintenance practices is a multi-faceted effort. It requires making the health and environmental impacts visible, giving people the resources to create solutions, motivating them to persist with new approaches, rewarding those new approaches and behaviors, and working with leaders who want to set the example.... With Town support, businesses in the area are getting an opportunity to create a clean, quiet business sector.... several businesses, among them Jackson Dodds & Company, an area leader....now provides battery electric land care. Bill Fox, owner of Bill Fox Grounds Maintenance intends to do the same. His workers liked the simplicity of “just having to push a button rather than pulling a cord to start up the equipment. Converting our 2-stroke tools will be the first step for us....”<sup>113</sup>

For the summer months, landscapers who currently work in Scarsdale are supposed to be using battery powered blowers anyway, not GLBs. There are landscapers working in Scarsdale whose crews already use battery powered blowers exclusively, or when requested by their customers. The battery operated blowers available on the market today are quite powerful, at least 650 CFM, and battery durability continues to improve.<sup>114</sup>

Landscapers and their workers who have not yet abandoned GLBs will be able to adapt and successfully transition to mulch mowing and using battery operated equipment exclusively, just as many local, regional, and national landscaper operations have done.

### **From Leaf Vacuuming to Mulch Mowing**

In line with the promotion of mulch mowing, and in addition to prohibiting the use of GLBs, the Committees recommend that the Village cease the needlessly expensive, hazardous, and environmentally detrimental practice of vacuuming leaves, as many Westchester communities have successfully done.

Landscape workers routinely blow leaves into our streets. They then blow the leaves back to the edge of the curb, and leave them on the pavement instead of in the “area between the curb or pavement edge and one’s private property line,” as required by the Department of Public Works rules and the Village Code:<sup>115</sup>

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<sup>113</sup> Quiet Communities, “Southampton – Showing What It Takes,” accessed at <https://quietcommunities.org/southampton-showing-what-it-takes/> (2019); “Land Care” resources at <https://quietcommunities.org/land-care/>; and YouTube video at <https://www.youtube.com/watch?v=3lvKX7UIYWM&feature=youtu.be>.

<sup>114</sup> March 11, 2021 Scarsdale Village Board Work Session (public testimony throughout), Live Streaming accessed at <https://scarsdaleny.swagit.com/play/03112021-823>. CFM, as mentioned above, is the volume of air measured in cubic feet that leaves the blower every minute. See, e.g, EGO handheld non-commercial leaf blower, with powerful 180 mph, 650 CFM, and 56 volt battery, accessed at [https://egopowerplus.com/blower-650cfm/?gclid=aw.ds&&gclid=Cj0KCCQIAj9iBBhCJARIsAE9qRtCz1jZGO-ONie33bhJSy5mwG6UzV1NIsiQbYMrBeNIw0WV47KXLWrQaAjduEALw\\_wcB&gclid=aw.ds](https://egopowerplus.com/blower-650cfm/?gclid=aw.ds&&gclid=Cj0KCCQIAj9iBBhCJARIsAE9qRtCz1jZGO-ONie33bhJSy5mwG6UzV1NIsiQbYMrBeNIw0WV47KXLWrQaAjduEALw_wcB&gclid=aw.ds)

<sup>115</sup> Chapter 196, §196.5 Depositing wastes in public places and watercourses. [Amended 9-12-1979 by L.L. No. 9-1979], accessed at <https://www.scarsdale.com/454/Fall-Leaf-Collection>. Image displaying airborne leaves being blown by landscape worker on property to the right of frame, M. Eppenstein, Chair, Scarsdale Forum Municipal Services Committee (Mar 23, 2021, Autenrieth Road).



“To maintain safe streets and help the Village to complete its work efficiently, the Village Code prohibits sweeping, blowing, or otherwise depositing leaves onto the roadway. All leaves must be raked to the area between the curb or pavement edge and one’s private property line for collection. Additionally, no leaves are to be deposited into any brook, stream, or open watercourse within the Village. . . .Importantly, violators are subject to enforcement and property owners are responsible for a violation(s) created by their lawn care provider.”<sup>116</sup>

The Village Code is consistently focused about maintaining the safety of its streets:

“No person shall sweep, blow or deposit into any gutter, street, sidewalk or other public place, brook, stream or watercourse within the village any litter or leaves or any refuse from any building or lot or from any public or private sidewalk or driveway. Persons owning or occupying property shall keep the sidewalk in front of their premises free of litter. For the purpose of this section, the term "street" shall include only the traveled roadway.”<sup>117</sup>

Leaf piles blown or raked into the streets and sidewalks pose a potential lethal danger to children playing in them,<sup>118</sup> and a hazard to adults with small children in strollers having to navigate the piles, other pedestrians and cyclists. Motorists must veer into the middle of the streets to avoid leaf piles, which often obstruct traffic flow and block line of sight visibility. In some locations, Heathcote Road being just one example, leaves are windrowed by landscapers on the roadway, along lengthy stretches of roadside curbing and onto adjacent sidewalks. Wet leaves on road surfaces can make stopping difficult, and piles of leaves can obscure potholes, black ice, curbs and street markings. Leaves create slippery conditions after it rains or snows. Storm water drains and street catch basins become blocked by leaves that impede the flow of water, causing back-ups and maintenance issues. Animal feces and litter are deposited in the leaf piles. Leaves also block access to fire hydrants. To add to these problems, leaf vacuuming trucks are noisy and disperse polluting and unhealthy emissions of chemicals and particulate

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<sup>116</sup> Scarsdale Department of Public Works, “To Avoid Receiving a Summons for Improper Leaf Disposal,” accessed at <https://www.scarsdale.com/454/Fall-Leaf-Collection> .

<sup>117</sup> Village Code, above, Chapter 196, Section 196.5 Depositing wastes in public places and watercourses.

<sup>118</sup> Childhood fatalities and serious injuries, have resulted. See, e.g., <https://www.smartsign.com/blog/leaf-piles-unassuming-safety-threat/>; <https://www.snopes.com/fact-check/fallen-like-leaves/>

matter as they slowly make their way down the streets while idling and vacuuming.<sup>119</sup> The tonnage of leaves hauled to Goshen, NY each fall is not an environmentally sound practice.

Leaf piles are an example of a “leaf litter accumulation” that creates optimal conditions for rapid fungi/mold growth, including highly pathogenic species of mold like *Aspergillus fumigatus* which will grow in massive and ubiquitous quantities in leaf piles.<sup>120</sup> Once the leaf season has begun, landscape workers often deposit grass clippings in with the leaf piles instead of grasscycling in place or bagging. The question is how much leaf and other landscape debris accumulation there is, how long it is left in place and then, once these accumulations are disturbed, how vigorously they are disturbed.

The ideal formula for mold growth is wet, dark, stagnant conditions. Large wet leaf piles that sit for periods of time, and then get blown or sucked with tornadic force during leaf vacuuming, is an ideal method for growth and aerosolization of mold and other harmful substances that we then inhale. While generally we inhale hundreds of mold spores every day, people with immunosuppressive conditions, asthma and other respiratory diseases, or who are on steroids like prednisone or other immunosuppressive medications, may suffer serious medical consequences from inhalation of some of the more pathogenic species of mold such as *A. fumigatus*. Those residents with mold allergies are well aware of the quality of life issues that mold dispersion and inhalation impose.

Aside from the harms associated with leaf piles and vacuuming, neighboring towns have cited other reasons in support of their “no piling and vacuuming” policy. Irvington is just one of them:

“Fall leaves are a valuable resource that most homeowners let go to waste by having them blown into piles on the street, or raked into brown landscaping bags stacked curb-side, left for eventual town pickup. Leaf collection, hauling, and disposal is a huge annual cost to every municipality in our tree-lovely county! Too often these curbside leaf piles spread out in the roadway, or the bags tip over, washing leaves into the street, clogging storm drains and making roads dangerous for driving. Additional cost is thus incurred because these storm drains must be cleared to avoid flooding. Worst (sic) than this, as leaves sit on our streets, excess nutrients (natural “compost fertilizer” with phosphates and nitrogen) run off the decaying piles into storm drains and thence into our rivers.”<sup>121</sup>

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<sup>119</sup> See National Transportation Health and Safety Administration, “4 Tips for Driving on Wet Leaves, How leaves pose a danger” (NTHSA), accessed at <https://nationalhighwaysafetyadministration.com/en/four-tips-for-driving-on-wet-leaves>.

<sup>120</sup> See, e.g., J. Kyung, et al., “*Aspergillus fumigatus*—What Makes the Species a Ubiquitous Human Fungal Pathogen?” (PlosPathogens, 2013), accessed at <https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1003743#ppat.1003743-KwonChung1> (“*Aspergillus fumigatus*, a major allergenic and the major cause of life-threatening invasive aspergillosis (IA), is a ubiquitous saprophytic fungus to which humans are exposed daily in most parts of the world. Piles of chipped leaves and branches may yield massive and almost pure cultures of *A. fumigatus*.”).

<sup>121</sup> <https://www.irvingtonny.gov/228/Your-Leaves-Love-Em-Leave-Em>.

## **Fiscal Impact of Maintaining the Status Quo**

The high cost of vacuuming and then hauling fall leaves is a critically important issue when there are alternatives. The current Budget Request for fall leaf collection in the 2021-22 Village budget is a whopping \$684,351, which includes \$120,000 in hauling Scarsdale's approximately 4,100 tons of fall leaves annually to an upstate New York composting facility over 55 miles away, another significant carbon footprint operation.<sup>122</sup> The Village has estimated that \$307,000 in potential savings would be achieved just for the elimination of vacuuming procedures.<sup>123</sup> Scarsdale's venerable newspaper of record recently weighed in unambiguously in favor of the elimination of leaf vacuuming, citing cost as an important factor:

“Leaf collection clearly doesn't make fiscal or environmental sense. It strips the earth of nourishment and robs creatures of places to live. So ask yourself, why are we subsidizing a poor environmental behavior that's also a costly behavior instead of promoting leaf mulching?...Let's do this in stages. First, ban all leaf blowers on weekends so we can better enjoy being outdoors in autumn. Then, like Greenburgh and New Rochelle have done, retire the leaf vacuum trucks and require leaves be placed curbside in bags instead. Then, follow Larchmont's example by totally banning gas-powered blowers. The ultimate goal should be to help residents transition their properties to mulching instead of sending leaves off to composting stations, because mulched leaves left to “age in place” can be a win-win for people, plants and animals, and can greatly reduce the seasonal buzz.”<sup>124</sup>

## **Sustainable Best Practices Earns Community Support**

There is a trend toward the elimination of fall leaf vacuuming. Greenburgh and New Rochelle, Scarsdale's next door neighbors, are examples.

The decisiveness in Greenburgh's elimination of vacuuming is evident in the clarity of its Code, in particular the strict prohibition of leaf piles in “the public right-of-way or any street or pedestrian walkway” down to the definition of “street. . .as it pertains to leaves”:

“C. No person shall throw, cast or lay or direct, suffer or permit any person to throw, cast or lay any solid waste or discarded matter of any type, including automobile parts and other machinery, and, with the exception described below, leaves, on any street, sidewalk or right-of-way within the Town. For the purposes of this subsection as it pertains to leaves, ‘street’ is defined as the

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<sup>122</sup> Scarsdale Village Budget Work Session, Part 2-3, counter 49:58, “Hauling Contract, Intermunicipal agreement with Westchester County for hauling and estimated 5,000 tons @ \$18.00/ton” (DPW departmental budget presentation, Jan. 28, 2021), accessed at <https://scarsdaleny.swagit.com/play/02042021-508> ; and “2021-2022 Budget Workpapers, First Pass of January 21, 2021”, accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_01252021-829](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_01252021-829), PDF pages, 80, 89.

<sup>123</sup> Id. Part 2-3, counter 43:30-48:38, “10% Decrease Analysis, Proposed 21/22 Budget, Require leaves to be bagged for Collection -- \$307k (requires up front capital of \$470k [for trucks to transport bagged leaves])”, accessed at <https://scarsdaleny.swagit.com/play/02042021-508> .

<sup>124</sup> Scarsdale Inquirer, “Leave the Leaves” (Editorial, October 30, 2020, accessed at [https://www.scarsdaleneews.com/opinion/editorials/leave-the-leaves/article\\_e6c0630a-1ab6-11eb-9b3b-f3f24b8d678e.html](https://www.scarsdaleneews.com/opinion/editorials/leave-the-leaves/article_e6c0630a-1ab6-11eb-9b3b-f3f24b8d678e.html) .

entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular traffic.

(1) During the period designated by the Commissioner of Public Works for leaf collection (generally October through December), leaves for pickup and collection must be placed in authorized bags or receptacles designated by the Commissioner of Public Works and may not be piled on the public right-of-way or any street or pedestrian walkway. **A leaf pile shall create a rebuttable presumption that the landowner, lessee, or management agent of the premises most closely abutting the leaf pile threw, cast, lay, directed, suffered or permitted the leaf pile to be placed in this location.**

(2) The placement of leaf piles in the public right-of-way, street or pedestrian walkway is prohibited.”<sup>125</sup> (emphasis added)

**New Rochelle**, another next door neighbor, does not vacuum leaves: “All leaves must be placed in biodegradable paper bags or open containers weighing no more than 75 lbs. for collection. LOOSE LEAVES WILL NOT BE PICKED UP.”<sup>126</sup> Other municipalities that have eliminated vacuuming are Irvington, Rye, and Yonkers.<sup>127</sup>

The volume of leaves that municipalities collect, regardless of the method, would be significantly diminished if mulch mowing leaves for use in on site gardening were employed. The equipment needed for the transition to mulch mowing is widely available, including lawn mowers and low cost mulching blades that are easily outfitted, even onto seated mowers. As mentioned above, due to the noise levels, health impacts, and particulate matter spewed by blowers, Larchmont recently enacted a total GLB ban phase-in, and strict limitations on the use of battery and electric plug-in blowers.<sup>128</sup> Ideal landscape management practices would rely more on mulch mowing instead of blowing.

“Leave the Leaves” and campaigns conducted in Scarsdale and other municipalities have promoted the advantages of mulch mowing over blowing and vacuuming.<sup>129</sup> Based on the current standard technology, the time differential for landscaping maintenance if the industry were to adopt mulch mowing would be negligible, and likely not measurable on smaller properties, with the added benefits that leaf mulch is good for the soil, the lawn, and pollinators and numerous other living creatures.<sup>130</sup>

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<sup>125</sup> Town of Greenburgh Code, Chapter 410 Sanitation, §410-4 Dumping; excessive accumulation; littering.

<sup>126</sup> New Rochelle Public Works: Fall Leaf Collection, accessed at <https://www.newrochelleny.com/leaf/>; Yard Waste Collection, accessed at <https://www.newrochelleny.com/753/Yard-Waste-Recycling>.

<sup>127</sup> CAC Review of Leaf Management Options, page 16, accessed at <https://www.scarsdale.com/DocumentCenter/View/668/CAC-Leaf-Collection-Mitigation---Final-PDF>.

<sup>128</sup> Larchmont Village Code, Chapter 180, §180-1 Purpose, accessed at <https://ecode360.com/36859359>

<sup>129</sup> See, e.g., Love 'Em And Leave 'Em: An initiative of Westchester County to reduce organic yard waste, accessed February 4, 2021, at <http://www.leleny.org/>; Larchmont-Mamaroneck Healthy Yards Project, at <https://www.townofmamaroneckny.org/522/LM-Healthy-Yards/>; Leave Leaves Alone, at <http://www.leaveleavesalone.org/>; and Village of Bedford “Leave the Leaves” campaign brochure, at <https://www.bedfordny.gov/wp-content/uploads/2017/10/leaf-blower-brochure.3.pdf>.

<sup>130</sup> See D. Mizejewski, “What to do with Fallen Leaves” (Nat'l Wildlife Federation, Nov 12, 2014) (“Many butterfly and moth species overwinter in leaf litter. . . Some overwinter as eggs, some as pupae and some as adults. If you rake up and throw away all of your leaves this fall, you’ll be getting rid of these beautiful and beneficial insects, many of which are

Scarsdale's transition to a more eco-friendly environmental approach of mulch mowing would be neither impulsive nor unexpected. In 1994, when the current Village Code provision on leaf vacuuming was enacted, technology was not as advanced as it is now, and electric blowers were in their infancy. In the intervening years, Scarsdale residents and the Village have looked to the future and adopted many green initiatives, from LED street lights, to recycling, to solar panels, and to mulch mowing at Village public parks and playing fields.

The Village of Scarsdale passed its Resolution in support of alternatives to vacuuming leaves in 2011, but it has been languishing in the archives with little action since that time. In the Scarsdale Forum's May 2014 Report advocating for a similar change in Scarsdale's leaf collection paradigm, and in the CAC's 2014 "Review of Leaf Management Options," there is ample support for the type of orderly process by which the Town of Greenburgh quickly and efficiently replaced its obsolete program of fall leaf vacuuming in 2012, which has been in effect and successfully operational since then.<sup>131</sup>

According to Greenburgh Town Supervisor Paul Feiner, contacted in connection with the preparation of this Report, that sprawling municipality's program has been highly successful:

"I haven't received many complaints since we stopped picking up leaves. Actually -more compliments have been received. The town never did a great job with leaf pickup --it took till December and there were large piles all over. Slippery conditions, drainage issues. Because we don't pick up leaves now - we're able to use the crews to address cleanup around town - helping reduce flooding."

(Feiner, Paul. Email received by Susan U. Douglass, 26 October 2020)

Greenburgh's Superintendent of Public Works, Richard Fon, also reported favorably on the town's leaf collection policy:

"The truth of the matter is there is no down side to the regulation other than the residents taking on the Task of bagging if they choose to do so. We have seen examples of aggressive mulching too. Some benefits;

- Cleaner streets
- reduced or eliminated overtime
- less material in the basins
- ability to continually sweep the streets
- safer streets"

(Fon, Richard. Email received by Susan U. Douglass, 3 November 2020)

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pollinators. Butterfly and moth caterpillars are also a critically important food source for birds in the spring when they are feeding their babies. If you remove all of your fallen leaves, there will be fewer of these insects in and around your yard and fewer birds too."), accessed at <https://blog.nwf.org/2014/11/what-to-do-with-fallen-leaves/>.

<sup>131</sup> See Scarsdale Forum, "Report of the Sustainability Committee on The Village of Scarsdale Leaf Collection Policy," accessed at <https://www.scarsdaleforum.com/Reports/Download/494>; CAC Review of Leaf Management Options, "Case Study Greenburgh" at page 14, accessed at

<https://www.scarsdale.com/DocumentCenter/View/668/CAC-Leaf-Collection-Mitigation---Final-PDF> .

The year after enactment of a stringent leaf bagging requirement and termination of vacuuming, in record time, both Mr. Feiner and Mr. Fon gave positive reviews of their program:<sup>132</sup>

“Greenburgh did the right thing. Our new policy enabled the town to save money and to use our resources more efficiently. Our employees are able to focus their attention on cleaning up debris and keeping drains clear and we had more resources available to remove obstructions after the hurricane [Sandy]. Our new policy also encourages people to mulch their leaves – which is good for the lawns and good for the environment. I'm very pleased with the decision we made last year. Paul Feiner, Town Supervisor”<sup>133</sup>

A subject of public concern in Scarsdale after passage of its 2011 leaf Resolution involved a perception that mulch mowing might support ticks.<sup>134</sup> Landscapers who employ green practices recommend organic solutions where ticks may be a concern.<sup>135</sup> Research from a Cornell Waste Management Institute study performed on Westchester residential and public properties offered reassurance that the practice of mulching fall leaves in place does not increase tick populations on lawns. While the data were not statistically significant due to the low numbers of ticks found, the results suggest that mulching in comparison to leaf removal may decrease the population of ticks: “Thirteen of the nineteen ticks were collected on plots where the leaves were removed, four on plots that have been mulch-mowed for 1-3 years, and two on plots that have been mulch-mowed for over 4 years.” This data is in line with what is known about ticks, which is that they prefer a damp, dark, covered environment, as found in areas with leaf litter accumulations.<sup>136</sup>

Scarsdale should emulate its neighbors to the east (New Rochelle), west (Greenburgh, including a majority of the towns and unincorporated areas<sup>137</sup>), south (Yonkers), and northeast

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<sup>132</sup> See CAC Review of Leaf Management Options, at page 14 (“A public hearing was held [by Greenburgh] in April 2012 to discuss changes to local law requiring that leaves be bagged for pickup. The law was passed later that month.”)

<sup>133</sup> *Id.*, page 14.

<sup>134</sup> C. Ferris, Leaf piles could hide additional tick dangers” (Scarsdale Inquirer, November 3, 2017), available on request.

<sup>135</sup> D. Delventhal, MowGreen Guide - 21 Ways to Clean & Serene, “Tip 21: Organic Tick, Mosquito and Grub Control” (April 26, 2020), accessed at

<https://www.mowgreen.com/mowgreen-guide-21-green-lawncare-topics/>.

<sup>136</sup> CWMI, “The Effects of Mulching Leaves in Place on Tick Populations in Lawns and Parks” PDF pages 2-3 (2015), accessed at <https://ecommons.cornell.edu/bitstream/handle/1813/44244/2015wickings-NYSIPM.pdf?sequence=1&isAllowed=y> (The study included one public passive park and one residential property in Scarsdale) (“Fourteen plots at twelve sites were selected . . . Two sites have two plots each. Eight sites are home lawns with the remaining four at public parks and range from 1/5 to 7 acres. Five plots have been mulch mowed for one to three years, four have been mulch-mowed for over four years, and five plots have had leaves removed.”). See generally Centers for Disease Control and Prevention, Tick Management Handbook (2004), accessed at <https://stacks.cdc.gov/view/cdc/11444->.

<sup>137</sup> Greenburgh is comprised of six villages (Ardsley, Dobbs Ferry, Elmsford, Hastings-on-Hudson, Irvington and Tarrytown) and Unincorporated Greenburgh (Edgemont, Fairview and Hartsdale). All appear to still require bagging and/or encourage mulching of fall leaves except for Tarrytown.



(Rye<sup>138</sup>), by enacting long overdue, comprehensive, fiscally responsible, and sensible solutions to the leaf collection dilemma.

### **Enforcement**

Scarsdale’s Department of Public Works website page is devoted to fall leaf piling and handling violations. These appear to be mostly ignored by landscapers, although they provide a steep fine for which property owners are responsible and probably unaware. As stated above, not only are landscapers subject to enforcement, but property owners are responsible for lawn care provider violations.”<sup>139</sup>

Both Village Manager Stephen Pappalardo and Police Chief Andrew Maturro have attested to the difficulty with enforcement of the current GLB regulations:

“In the last 10 years, the Scarsdale Police Department has averaged 70 tickets per year for leaf blower violations. Police Chief Andrew Maturro said the enforcement had been ‘ineffective’ in changing behavior. Village Manager Steve Pappalardo agreed and said enforcement on leaf blower code items had always been ‘problematic.’”<sup>140</sup>

Yet a substantial revenue stream could be achieved from enhanced enforcement coupled with higher, sliding scale fines for repeat Code violations.<sup>141</sup> Currently the penalty does not exceed \$250.<sup>142</sup> In step with amended regulations restricting the use of GLBs, it may be inevitable that market forces will yield a shift to battery operated blowers and decrease the current burden on enforcement. The need for better enforcement was cited by a number of residents at the public hearing on March 23, 2021,<sup>143</sup> and the Village has included \$30,000 for an enforcement officer in the 2021-22 budget.<sup>144</sup> The Village Board may wish to consider instructing the officer, whenever feasible to do so in the field, to advise workers not wearing PPE to use passive hearing protection ear muffs and particulate filtering face masks.

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<sup>138</sup> A. Gruen, "Exporting Leaves, Importing Compost (NY Times, Jan. 2, 2009) (“The agreement is very economical for us,” said George J. Mottarella, city engineer for the City of Rye. . . .Rye also saves money because bagged leaves are lighter than moisture-laden leaves picked up from the street. . . .”), accessed at <https://www.nytimes.com/2009/01/04/nyregion/westchester/04compostwe.html>.

<sup>139</sup> Scarsdale Department of Public Works, “To Avoid Receiving a Summons for Improper Leaf Disposal,” accessed at <https://www.scarsdale.com/454/Fall-Leaf-Collection> .

<sup>140</sup> N. Perrone, “Leaf blower proposals to get public hearing in Scarsdale” (Scarsdale Inquirer, Jan. 19, 2021), accessed at [https://www.scarsdalenews.com/news/scarsdale/leaf-blower-proposals-to-get-public-hearing-in-scarsdale/article\\_08857302-59a2-11eb-a62c-174d61f64682.html](https://www.scarsdalenews.com/news/scarsdale/leaf-blower-proposals-to-get-public-hearing-in-scarsdale/article_08857302-59a2-11eb-a62c-174d61f64682.html) .

<sup>141</sup> See January 12, 2021 Village Board of Trustees Work Session, “Conservation Advisory Council (CAC) Report on Mitigating the Health, Environmental, and Quality of Life Impacts of Gas Leaf “ (Village of Scarsdale Public TV) (Comment of Trustee Jonathan Lewis, on a more sustainable, potential revenue generating model of blower enforcement.), video counter at 40:21, accessed at <https://scarsdaleny.swagit.com/play/01122021-986> .

<sup>142</sup> Scarsdale Village Code, Chapter 179 Garbage, Rubbage and Refuse, §179-11, accessed at <https://ecode360.com/31257011> .

<sup>143</sup> Public Hearing, accessed at <https://scarsdaleny.swagit.com/play/03232021-930>

<sup>144</sup> See Village Treasurer Memorandum, PDF page 5 Item 3, presented at the March 15, 2021 budget work session, accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_03152021-867](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_03152021-867).

The hope is that once clarity is achieved by the ban on GLBs and discontinuance of fall vacuuming, there will no longer be any question or source of confusion about the responsibility of the public and the industry to comply with the new normal in landscape maintenance procedures, and enforcement, as other towns have experienced, can be expected to become more manageable.<sup>145</sup>

### **Where Do We Go From Here?**

The Scarsdale Village Board’s decision to amend the Village Code on the use of GLBs was an important, significant first step toward a more rational and safe future.<sup>146</sup>

Overwhelming support for the amendment was evidenced by the enormous public turnout and dozens of public comments made at the March 23 Public Hearing. Leading up to the Public Hearing, public support for the CAC’s various recommendations was robust, in letters to the editor in local media, in an endorsement by Friends of the Scarsdale Parks, Inc., in public comments at the Village Board Work Session on January 12, 2021,<sup>147</sup> and at an additional work session to discuss amendments to Chapter 205 of the Code on March 11, 2021.<sup>148</sup> Yet the new amendment to the Village Code regulating when gas blowers are permitted would continue the current, unfettered use of GLBs from October 1 through December 31 without meaningfully confronting the health, quality of life, and climate impacts,<sup>149</sup> nor addressing the detrimental practice of leaf piling and fall leaf vacuuming.

The Committees have proposed a strategy that will protect public health and mitigate the harmful environmental impacts of landscape practices in Scarsdale with the level of seriousness and urgency required in the current health and climate crises.

The United Nations’ 2021 report, “Making Peace with Nature,” states the case for the Committees’ recommendations:

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<sup>145</sup> See Village of Larchmont Work Session, May 18, 2020, accessed at <https://www.youtube.com/watch?v=d33zVCWoy4M>; Village of Larchmont, June 15, 2020 Board Meeting, Item 3: “Public Conversation - The proposal presented at the May 18, 2020 Board meeting by LEC to ban gas-powered leaf-blowers and limit the use of electric-powered leaf blowers,” accessed at <http://lmctvny.swagit.com/play/06172020-1289>.

<sup>146</sup> Amendment, accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_03232021-871](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_03232021-871), Final Draft, PDF pages 35-37.

<sup>147</sup> See Public Hearing, accessed at <https://scarsdaleny.swagit.com/play/03232021-930> ; Scarsdale Inquirer, Letters to the Editor: D. LeFrancois Haber, MD, January 8, 2021; Susan Douglass, January 8, 2021; A. Hintermeister, January 22, 2021; J. Bonnano, January 22, 2021. Friends of the Scarsdale Parks, Inc., Letter to Village Board, PDF pages 86-89 (December 31, 2020); Agenda, Public Comments, Scarsdale Board of Trustees (January 12, 2021), accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_01122021-843](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_01122021-843) ..

<sup>148</sup> See March 11, 2021 Scarsdale Village Board Work Session, Live Streaming accessed at <https://scarsdaleny.swagit.com/play/03112021-823> .

<sup>149</sup> See Amendment, accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_03232021-871](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_03232021-871), Final Draft, PDF pages 35-37.

***By transforming how we view nature, we can recognize its true value. By reflecting this value in policies, plans and economic systems, we can channel investments into activities that restore nature and are rewarded for it. By recognizing nature as an indispensable ally, we can unleash human ingenuity in the service of sustainability and secure our own health and well-being alongside that of the planet.***<sup>150</sup>

Requiring that leaves and grass clippings be bagged or containerized and terminating leaf vacuuming will eliminate hazardous, unhealthy, and unsightly leaf piles. It will encourage the safer, more environmentally sound practice of leaf mulch mowing and grasscycling rather than blowing, and other less costly and beneficial landscape care choices that conserve nutrients, build soil, and protect the ecosystems on which human life depends.<sup>151</sup> Those alternatives together would reduce the cost of weekly Village pick up and remove valuable organic material from the Village waste stream. Mulch mowing, by significantly reducing the amount of leaves, will aid the transition to electric leaf blowers as comparable, time efficient, and cost effective alternatives to gas blowers.

## **CONCLUSIONS AND RECOMMENDATIONS**

The experiences of other communities and landscapers who have followed a similar strategy as that which has been outlined in this Report have proven to be overwhelmingly positive. The certainty of a target date for a total GLB ban in Scarsdale will give landscapers adequate time to transition to electric equipment in yet another municipality in their customer base, to adapt to the requirement here in Scarsdale of an all-electric blower fleet for use all twelve months of the year, to create stability in adherence to the policy, to prevent backtracking, and to give assurances to the public that health, safety and quality of life are Village priorities.

Like the seatbelt analogy referred to by the Chair of the CAC, Michelle Sterling, at the Village Board Work Session on January 12, 2021, pushback by the public is foreseeable when behavioral change is required. Yet legislating the requirement to use seatbelts, for example, and penalizing those who did not, led to a significant change in public behavior that has positively impacted health and safety outcomes. The same happened when toxic paint was prohibited, and smoking cigarettes was banned in public places.<sup>152</sup>

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<sup>150</sup> A. Guterres, Secretary-General forward, “Making Peace with Nature, A Scientific blueprint to tackle the climate, biodiversity and pollution emergencies” (United Nations Environment Programme, 2021), accessed at <https://www.unep.org/resources/making-peace-nature> . See E. Kolbert, *White Sky: The Nature of the Future* (2021).

<sup>151</sup> D. Tallamy, *Nature’s Best Hope, A New Approach to Conservation That Starts in Your Yard*, pages 209-210 (2019) (“Finally, treasure your leaf litter. Many leaves that fall each autumn harbor small caterpillars within curled leaf margins, and dozens of caterpillar species eat fallen leaves. Replace store-bought mulch with natural leaf litter wherever you can. . . .”); J. Wheeler, “Leave the Leaves!” (Xerces Society, Oct 6, 2017) (“One of the most valuable things you can do to support pollinators and other invertebrates is to provide them with the winter cover they need.”), accessed at <https://xerces.org/blog/leave-the-leaves>. See also image of spring flowers emerging from winter leaves, page 1 herein.

<sup>152</sup> Scarsdale Village Board Work Session, video counter at 34:14-35:43 (January 12, 2021), accessed at <https://scarsdaleny.swagit.com/play/01122021-986>.

As stated above, public education alone is not sufficient.<sup>153</sup> When the Village acts, the landscape paradigm will change for the better.

For all the above reasons, the Committees recommend that the following steps be taken:

1. Amend the Village Code to prohibit the use of all gas powered leaf blowers and gas 2-stroke vacuums in the Village of Scarsdale, effective on a date certain not to exceed two years from January 1, 2021, including use on all Village and residential properties;
2. Enforce the March 23, 2021 Village Code amendments to Chapter 205<sup>154</sup> effective immediately, and until such time as the total prohibition of GLBs and gas 2-stroke vacuums is effective;
3. Amend the Village Code to prohibit the use of push-behind GLBs and the use of more than one GLB on properties smaller than one-half acre, effective immediately, and until such time as the total prohibition of GLBs and gas 2-stroke vacuums is effective;
4. Amend the Village Code to (a) eliminate fall leaf vacuuming practices conducted by the Village, (b) require that leaves and grass clippings left for Village pickup be bagged or otherwise containerized all year long, and (c) promote leaf mulch mowing and grasscycling in place, all effective immediately;
5. Amend the Village Code to limit noise specifically related to landscape maintenance equipment, and update the definition of a noise disturbance to include leaf blowers that measure 65 decibels or more (at 50 feet), effective immediately;
6. Promulgate and enforce these regulations immediately, institute a public education campaign, continue Village street sweeping operations, and enlist the cooperation of the public, all consistent with these recommendations.<sup>155</sup>

Respectfully submitted by the following members of these Scarsdale Forum Committees:

**Sustainability Committee**

Darlene LeFrancois Haber, Chair

Elizabeth Bush

Marianne Cantor

Richard Cantor

Susan Douglass

Kay Eisenman

Madelaine Eppenstein

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<sup>153</sup> See Arlinghaus and Johnston, at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6124997/> (“Knowledge is not enough to change behavior.”). See also Fallows, <http://www.quietcleandc.com/testimony/fallows>, accessed at <http://www.quietcleandc.com/s/JamesFallowsSubmissionCOWJuly16.pdf> (“The companies *can* switch to them as soon as the rules change, but will be very slow to do so on their own.”).

<sup>154</sup> See Meeting Notice, “Proposed Local Law Amending Chapter 205 of the Village Code Entitled Noise,” accessed at [https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/\\_03232021-871](https://www.scarsdale.com/AgendaCenter/ViewFile/Agenda/_03232021-871), PDF pages 32-37.

<sup>155</sup> See fn 3 for definition the term GLB and other 2-stroke gas powered landscape maintenance equipment.

Maggie Favretti  
Timothy Foley  
Judy Hamra  
Robert Harrison  
Terri Harrison  
Midori Im  
Amy Laartz  
Anil Lalwani  
Renu Lalwani  
Cynthia Roberts  
Greg Roberts  
Carol Silverman  
Michelle Sterling  
Bruce Wells

**Municipal Services Committee**

Madelaine Eppenstein, Chair  
Alan Bey  
Jordan Copeland  
Susan Douglass  
Kay Eisenman  
Darlene LeFrancois Haber  
Robert Harrison  
Terri Harrison  
Anne Hintermeister  
Eli Mattioli  
Michelle Sterling

**Climate Resilience Committee**

Timothy Foley and Darlene LeFrancois Haber, Co-Chairs  
Alan Bey  
Elizabeth Bush  
Marianne Cantor  
Richard Cantor  
Jordan Copeland  
Susan Douglass  
Kay Eisenman  
Madelaine Eppenstein  
Maggie Favretti  
Judy Hamra  
Robert Harrison  
Terri Harrison  
Midori Im  
Amy Laartz  
Anil Lalwani

Renu Lalwani  
Eli Mattioli  
\*Edward A. Morgan  
Harold Porosoff  
Cynthia Roberts  
Carol Silverman  
Michelle Sterling  
William Stern  
Ingrid Tamm  
Elaine Weir  
Bruce Wells

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\*Edward A. Morgan: I concur with the report, except suggest recommendations 4(a) and 4(b) be modified to include a reasonable transition period for both leaf vacuuming and fall pickup of bagged or otherwise containerized leaves and grass clippings, with at least an effective date of the later of January 1, 2022 or six months after enactment of the report recommendations.