



INFORMATION PACKET MEMORANDUM

To: Mayor and Members of Council

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Date: September 15, 2022

Subject: Addressing Impacts of Landscaping Equipment Project Update

EXECUTIVE SUMMARY

The purpose of this Information Packet is to provide City Council and the community an update on the Addressing Impacts of Landscaping Equipment Project (Project). The Project was launched in 2022 and will run through 2023.

IMPACT

For much of the year, commercial landscaping companies provide a variety of lawn and plant care services to residents and commercial businesses. While these services are an important part of the local economy, they are also a source of routine concern among community members. Certain types of landscaping equipment present a variety of environmental and health concerns. These include noise, air pollution and greenhouse gas (GHG) emissions. Two-stroke engines, such as those commonly found in leaf blowers, are the most cited area of concern.

In addition to the noise concern, landscaping equipment presents a significant air-emission concern for both the operator and for the surrounding community. EPA studies¹ have shown that this class of small engines result in disproportionately higher amounts of volatile organic chemical (VOC) and particulate matter (PM) emissions as compared to other types of gasoline engines, with two-cycle motors among the worst due to entrainment of lubricating oils within the exhaust. Both VOC and PM emissions are known sources of severe respiratory and other health-related issues. They also contribute to front-range ground-level ozone pollution. Landscaping equipment

¹ <https://www.epa.gov/sites/production/files/2015-09/documents/banks.pdf>

is also a source of GHG emissions that must be addressed to achieve the community's climate goals.

While Boulder, like most municipalities, does not have the authority to regulate air emissions – that authority vests at the state and federal level only – Boulder can regulate noise pollution. [Title 5, Chapter 9, of the Boulder Revised Code](#) governs noise and is the source of existing local regulation addressing landscaping equipment. Under this code, normally operating landscaping equipment is generally allowed throughout the city limits during daytime hours. Many communities throughout the U.S. have modified their respective noise ordinances to address leaf blower and other two-cycle motor use. Tactics range from creation of quiet zones where leaf blower use is prohibited completely to seasonal and full-time city-wide bans on gas-powered blowers (with allowance for electric alternatives). Strategies to successfully implement these restrictions include incentive programs to offset the cost to transition, gradual implementation to align with equipment replacement cycles, and extensive outreach.

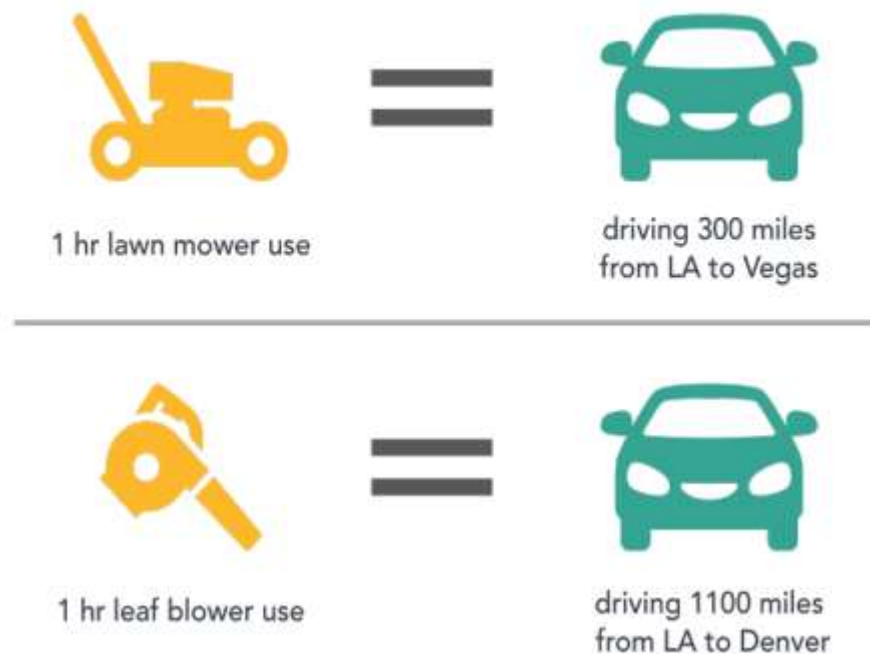
To advance the community's climate, environmental, racial and health equity goals and to address the growing concern within the community, staff launched the Project in early 2022 to explore options that might be suitable for the city to pursue to mitigate the impacts of landscaping equipment. This includes better understanding where other communities have been successful or run into challenges, and assessing the potential local and regional impacts adopting a more restrictive code might present to Boulder residents, businesses, and to service providers and their workforce in the event such a strategy were to be pursued.

Community interest in addressing specific impacts have coincided with a few notable recent efforts related to this topic:

During the 2022 Colorado legislative session, Senator Chris Hansen proposed a plan to ban gas powered lawn equipment in areas with poor air quality in 2030, opting to relay on financial incentives to encourage the switch. The proposed bill would have banned the sale of gas-powered lawn equipment in areas that are not meeting federal ozone standards in 2030. Specifically in Denver, landscaping equipment are some of the largest sources of ozone. While there are numerous factors that contribute to the rise of harmful ground level ozone levels in Boulder, we do know that we are regularly seeing high levels of ozone that exceed EPA standards. This has a serious implication for public health and that of those working outdoors. While that legislation did not proceed in 2022, it is likely that this issue will be taken up by the General Assembly again in the near future.

Some cities and states have responded to the problem with strict regulations. Last year, California air regulators [voted to prohibit](#) the sale of new gas-powered leaf blowers and lawnmowers starting in 2024. The tools are [already illegal](#) in Washington, D.C. New York and Illinois are also considering statewide bans. The California law requires all newly sold small-motor equipment primarily used for landscaping to be zero-emission – essentially to be battery-operated or plug-in – and includes any engine that produces less than 25 gross horsepower, such as lawn mowers, weed trimmers, chain saws, golf carts, specialty vehicles, generators and pumps.

Today, operating a commercial lawn mower for one hour emits as much smog-forming pollution as driving a new light-duty passenger car about 300 miles – about the distance from Los Angeles to Las Vegas, more than four hours of drive time. For a commercial leaf blower, one hour of operation emits smog-forming pollution comparable to driving a new light-duty passenger car about 1,100 miles – about the distance from Los Angeles to Denver, over 15 hours of driving.



COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS

Some of the key challenges and opportunities that will be studied include:

Equity – The majority of landscaping businesses are small, individually/family owned with less than 10 employees. According to some studies, many are minority-owned and, locally, a high percentage of workers are Hispanic. According to the U.S. Bureau of Labor Statistics, the average worker earns just above minimum wage.² This workforce is disproportionately impacted by direct exposure to chronic and acute pollutants and noise. While transitioning away from gas-powered equipment can reduce exposure, these small businesses may not have the capacity to adapt to new requirements and the need to obtain new electric equipment. Further, workers may experience increased financial burden and safety risks due to the need to charge batteries overnight in their homes. Changes may lead to a higher cost of service, disproportionately impacting lower-income houses that rely on landscaping services, such as fixed-income seniors.

Aesthetic Impacts – Societal norming has led to a standard for what an appropriately manicured landscape is and should look like. Residents and businesses procuring the services

² <https://www.bls.gov/oes/current/oes370000.htm>

of landscaping companies have an expectation that the providers will deliver against this standard and landscapers are judged by how well they deliver. Whether it is removing debris from rock beds, clearing the crevices of the bricks on Pearl Street, or having an immaculate ball field for youth sporting events, the leaf blower has become a central tool. Establishing new norms can be challenging and does not happen overnight, nor without impact.

Technology Readiness – While the capabilities of electric landscaping equipment have improved substantially, there are still gaps in being able to achieve the same outcomes as commercial-grade gas options. Electric equipment often comes at a price premium. Further, battery duty cycle and charging needs create reliability and operability concerns, and the need for additional redundancy in terms of battery supply. Electric solutions may require less maintenance leading to long-term operational savings, and, while the power of battery powered options are generally equivalent to gas power options, they do not typically have the longevity.

Landscaping Business Impacts – Businesses have substantial existing investment in their gas-powered equipment, and crews are very wedded to the equipment they use. Further, businesses provide services throughout the metropolitan area, not just the City of Boulder. Differing jurisdictional requirements and customer expectations could result in increased financial burden to businesses and can create confusion for workers. In a highly competitive market, green certification could be a positive differentiator. Lower decibel and healthier equipment could support worker retention.

Enforcement – The Police Department is responsible for responding to noise complaints. Increased call volume due to landscaping restrictions will impact capacity and response time. Noise complaints are difficult to enforce due to the time lag between when the violation occurs and when enforcement staff can arrive on scene to observe and subsequently enforce the violation. Jurisdictional differences between Boulder and surrounding communities can lead to unintentional violations. Property owner are ultimately accountable for the services they procure.

BACKGROUND

The city organization has been leading the transition away from gas-powered landscaping equipment for some time. Already, the Parks and Recreation department, who is responsible for the majority of the city-owned landscapes, has converted their lighter duty maintenance and tree trimming equipment to electric. The transition will continue as heavier duty equipment, such as deck mowers, make their way into the market.

The Project was formally launched as a 2022 city work plan item. Staff set up a new [web page](#) to help keep the community informed about the Project.

ANALYSIS

In March 2022, staff issued a Request for Proposals (RFP) seeking qualified vendors to support Project design and implementation. Following the application and review process, staff selected [American Green Zone Alliance \(AGZA\)](#). Based in Los Angeles, CA, AGZA brings extensive

experience in educating, training and supporting municipalities, landscaping service providers and property managers in the transition to low impact operations. AGZA will be supporting the following tasks:

Best Practices, Community and Business Assessments

An analysis of ordinances and programs adopted by other municipalities will be completed to identify potential strategies that would be appropriate for Boulder to consider. The assessment will reflect not just the policies that were ultimately adopted, but also the strategies employed, and lessons learned by those jurisdictions as they sought to develop, adopt and enforce the ordinance.

A baseline assessment of the current state of landscaping services within the city to include landscaping services conducted by the city organization itself, such as park and greenspace maintenance will be conducted to better identify the number and types of businesses serving the Boulder community. The review will also assess the different service models offered by providers, to include the degree to which businesses have already transitioned to lower-impact strategies.

Strategy Development

Based on the best practices, community and business assessments, a set of strategy options will be developed. These will include both voluntary and regulatory approaches. An estimate of the net benefits and impacts of each of the strategies in terms of noise and emissions reduction, disparate racial impacts for individuals utilizing equipment for their livelihood, and on health and air quality will be developed from both the customer and service provider perspective. This estimate will also include financial impacts in terms of cost of service, reductions in service, workforce and enforcement impacts. The analysis will utilize the city's [Racial Equity Plan](#) and associated tools and will address disproportionate impacts on different groups, both positive and negative.

Business Outreach, Education and Incentives

A series of workshops and vendor expos, both in-person and webinar format, will be held to connect with local landscaping service providers and to familiarize them with low environmental impact solutions. The staff and contractor team will also leverage social media and business networks to engage with businesses on strategies and solutions. Staff will explore funding opportunities for incentives to assist businesses with adoption of electric equipment.

Community Engagement

Throughout the project staff and consultants will offer multiple opportunities for the community to provide feedback on the state of the industry on the potential strategies that might be considered as part of the project. While specific details are still to be developed,

staff anticipates that this will include a hosted site on Be Heard Boulder, community outreach events and individual interviews.

NEXT STEPS

Quarter 3, 2022:

- Initiate business and community assessments

Quarter 4, 2022:

- Complete business and community assessment

Quarter 1, 2023

- Complete best practices review
- Develop strategy recommendations
- Begin cost/benefit and impacts analysis
- Workshop and Vendor Expo #1

Quarter 2, 2023

- Complete cost/benefit and impacts analysis
- City Council Study Session
- Complete program design
- Ordinance changes, as applicable

Quarter 3-4

- Workshops and Vendor Expo
- Launch incentive programs, as applicable

As outlined in the schedule, staff anticipate returning to council in Spring 2023 for a Study Session to review progress and get feedback on the strategy(ies) council wishes to pursue. Based on that feedback, staff would return to council with any proposed changes to ordinance and/or budget requests.