

LETTER SUPPORTING BAN OF COMMERCIAL WOODBURNING IN CAMBRIDGE DUE TO DELETERIOUS PUBLIC HEALTH IMPACTS

My name is Steedman Bass. In the fourteen years I have owned and lived at 6 Shepard Street, I have had no complaints about the living conditions in my neighborhood. That is, until sixteen months ago when a new restaurant opened on the corner and started using wood as a cooking fuel. Nothing about this plan was mentioned in the permit application, and no opportunity was given in advance to protest this polluting form of cooking.

I now find myself involuntarily exposed to significant air pollution from this nearby restaurant, night after night. This is not gentle wafting smoke from an EPA-certified woodburning stove heating a home. This is an open fire-pit, attached to the massive air-handling equipment. Please see a video here of the high-speed pollution of neighborhood air: <https://goo.gl/KdT419>.

Commercial levels of woodsmoke pollution and residential neighborhoods are fundamentally incompatible. Cambridge city must either enforce existing laws or create an ordinance to ban, or severely restrict, woodburning as a cooking fuel.

Among the many pollutants associated with woodburning (including benzene, dioxin, lead, and others), the most concerning for the immediate health of my neighborhood is particulate matter. Particulate air pollution has long been known to be associated with increased cardiopulmonary symptoms, asthma attacks, days lost from work due to respiratory disease, emergency room visits, hospitalization rates, and mortality. Regulatory schemes recognize two particulate size classes: PM10 and PM2.5, with the numeric value referring to the particle size in microns (a micron is one millionth of a meter). EPA's 24-hour and annual exposure standards for PM2.5 are 35 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and 15 $\mu\text{g}/\text{m}^3$. The EPA's most recent risk assessment for particulate matter acknowledges that the current standards are insufficiently protective and indicates that the agency will be lowering the National Ambient Air Quality Standards (NAAQS) for PM2.5. These tiny particles are lethal as they get lodged in the lungs, and the body has no way to get them out.

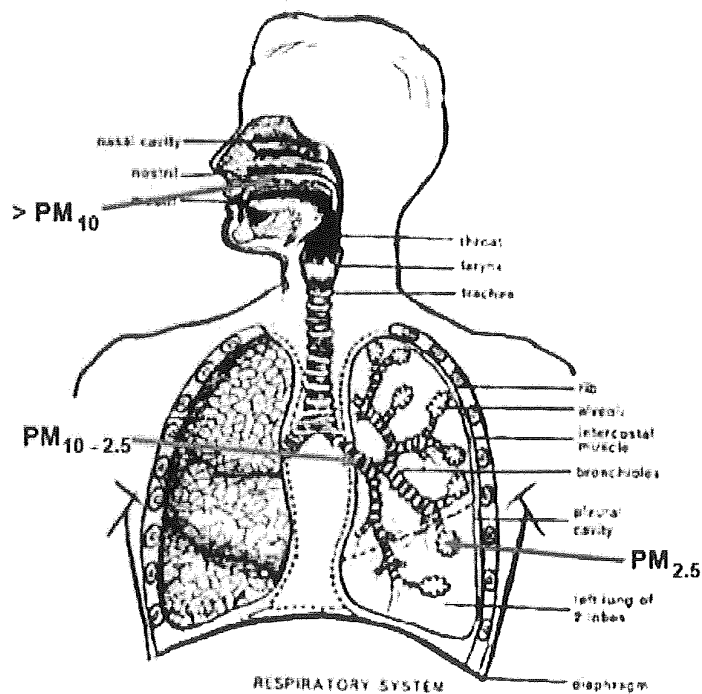
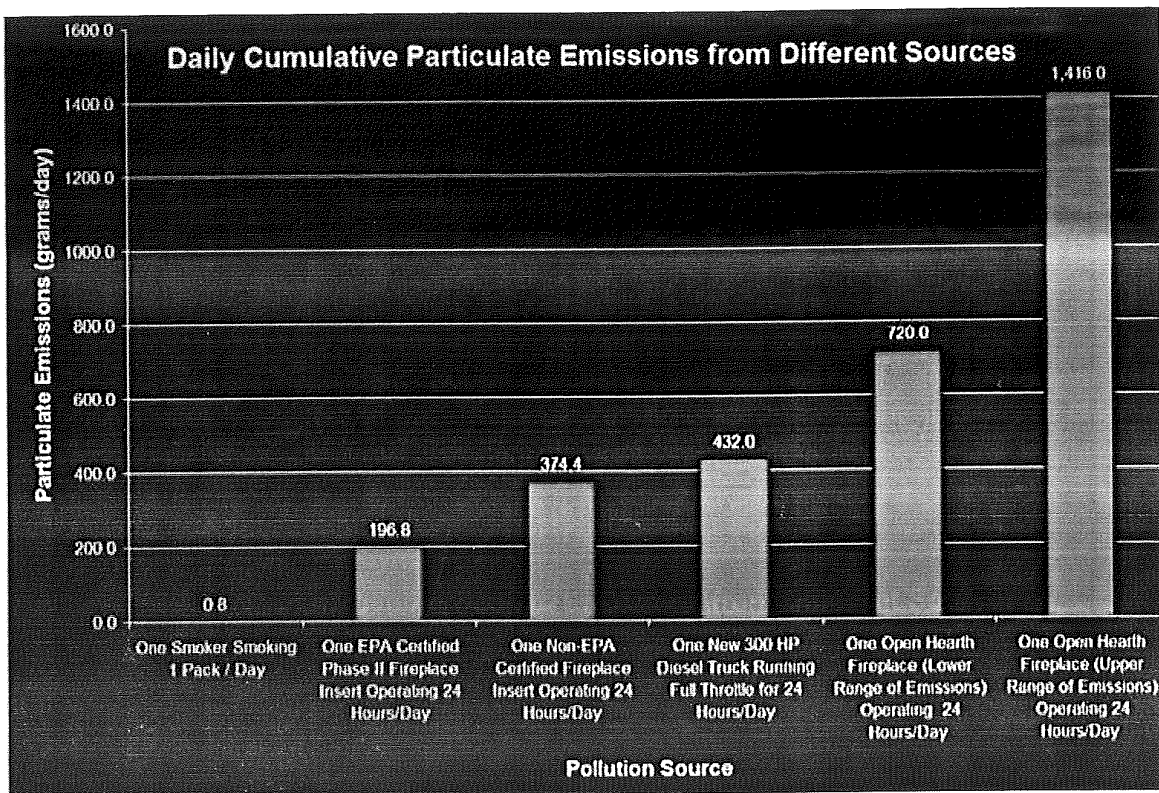


Figure 20: Particulate matter diagram (Minnesota Pollution Control Agency)

In a recent Harvard School of Public Health study, covering a population of 2.4 million New Englanders, PM_{2.5} exposure was shown to increase risk of premature death 7% for every 10 microgram per cubic meter increase in ambient air over a year's exposure.¹

¹ <http://ehp.niehs.nih.gov/wp-content/uploads/advpub/2015/6/ehp.1409111.acco.pdf>



2

PARTICULATE POLLUTION FROM WOODBURNING

With completely still air, a single open hearth fireplace emitting 59 grams/hour of PM particulate pollution into the air surrounding a normal city block (16 houses) will cause the concentration of PM particulate matter in the 100 ft. high environmental envelope above that block to rise to over 4,500 micrograms per cubic meter. This is over 30 times the 24-hour Federal Standard for PM10 pollution of 150 micrograms per cubic meter and over ³131 times the 24-hour Federal Standard for PM2.5 pollution of 35 micrograms per cubic meter .

Particulate matter pollution was one of the primary reasons cigarette smoking was banned indoors. An open-hearth residential fire will emit between 30 – 59 grams of particulates per hour. Assuming that the fire pit of the restaurant in question is burning 12 logs at a time (4x a residential fire) for 7 hours a night, the particulate emissions alone are equal to 3000 -- 6000 cigarettes being smoked each night on the roof of that restaurant, even with the newly-installed wetscrubber operating at peak capacity.

² http://www.yolocleanair.org/woodsmoke_PF.htm

³ <http://www.yolocleanair.org/woodsmoke.htm>

Over the course of a year, the immediate neighbors of the restaurant will be exposed to the particulate pollution equivalent to a minimum of 1,000,000 -- 2,000,000 cigarettes. And that is only if the pollution controls are working perfectly.

This level of pollution, with 100% certainty, documented by the Harvard School of Public Health study, and many many others, is shortening the lifespan of every neighbor living in close proximity to the restaurant. It is most damaging to the children, the elderly, those with heart conditions, and those suffering asthma. Since there are at least 5 – 6 children living in close proximity to Shepard, one of whom suffers from asthma, and a number of elderly people in the neighborhood, this is an intolerable level of ongoing exposure, 365 days a year.

As a caretaker for my elderly father, I rely on my own good health to carry out a variety of duties on his behalf. As an athlete, I train year all year to compete in triathlons in the summer season, which puts my cardiovascular system to the test. Lastly I am a 4 season commuting cyclist. My health is paramount to me, from a financial standpoint, from a caretaking standpoint, and from a quality of life standpoint.

Having researched the issue, it appears that every time a restaurant with significant woodburning opens up, neighbors are forced to petition their government for relief. This happened at Marinos in North Cambridge. In Brookline, The Roadhouse, a BBQ restaurant, was asked by the city to close its huge smoker, due to numerous complaints by the neighbors.⁴ I find myself in this same condition. In my appeal, I ask you to please consider that if 3000 people somehow climbed to the roof of a neighborhood restaurant and started smoking cigarettes, there would be immediate public outcry and civic action. From a pollution standpoint, that's exactly what's going on night after night, week after week, month after month in our mid-Cambridge neighborhood. It is putting all our health at risk, forcing us to live inside closed-up, sealed-windowed houses, preventing people from accessing their outdoor living spaces, and forcing installation of expensive and otherwise unnecessary air purification systems.

⁴ <http://brookline.wickedlocal.com/x228087862/Brooklines-Roadhouse-restaurant-closes-new-venture-coming-in>