

Jo M. Solet, Ph.D.
Testimony June 18, 2002
Health and Environment and Public Safety Committees

While I am here in my capacity as a private citizen, I am also a Historical Commissioner in Cambridge and a member of the Behavioral Medicine Faculty of the Cambridge Health Alliance, the program that specifically deals with health and stress. Questions of noise in the city bring together concerns related to both of these roles.

It was not so many years ago that it was considered preposterous to limit the freedom of smokers for the purpose of protecting the health of others. Now we recognize the rights of individuals to breathe smoke-free air when they choose. Noise is the new frontier: a problem of growing concern which is damaging the quality of life of citizens of this city.

New technologies hailed as "time saving" or "efficient" produce noise interference which disturbs the safety, health, concentration, sleep, and communication of those who live and work under noise pressure.

Noise has been implicated not only in direct hearing loss, but in delayed reading acquisition in school children, in decreased work efficiency, lowered moods, declines in helping behavior and even increases in violence.

A growing body of data implicates noise in circulatory and cardiac problems including hypertension (elevated blood pressure), angina, and increased heart rate.

While not viewed as a direct cause of mental illness, noise stress may intensify and accelerate existing mental health problems.

There are several mechanisms through which these health effects may occur. For example:

1. Sleep interference, including delayed falling asleep, lighter sleep, less sleep, and too short periods of deep restful sleep.
2. Interference with complex activities, especially when mastery requires attention to multiple tasks and a large working memory. Inhibited mastery both reduces self-esteem, and leads to work errors and accidents.

3. Simultaneous noise renders speech partially inextractable, making interpretation difficult and nuances of communication unavailable, thereby increasing misunderstanding and altering relationships.

Even moderate risks become important when the population density in exposed areas is large, such as the neighborhoods of Cambridge. Citizens in areas of mixed use (industrial or institutional with residential) may suffer the most.

The characteristics of noise which constitute important variables include not just volume, but frequencies, familiarity, predictability, number and time distribution, controllability and perceived meaning of the source. Fire engine sirens may be tolerated as necessary whereas hours of leaf blower operation may feel intolerable.

Does the noise increase we are experiencing constitute progress?

Leaf blowers take the place of raking which expends no fossil fuel and spares the hearing of workers. These workers are often non-English speakers who are unable to assert their rights or concerns and who because of additive hearing loss may never learn English. No progress for them.

Grass clippings can easily be collected in an attached bag or basket. Leaves can be raked onto strategically placed tarps and carried to trucks or bagged for pick-up. There have been beautiful gardens for centuries without the dust, fuel waste, hearing damage and interference we are tolerating now. No, this is not progress.

Among the other new technological scourges are vacuum trucks. These huge vacuum engines sit running in the street or parking lots while workers snake hoses into buildings to clean. In a large condo such as the one behind my home, this vacuuming can go on for hours, moving from unit to unit. The alternative, to bring a vacuum into the unit, has worked for decades, saves fuel and spares the serenity of all but those actually benefiting from the service. No, this is not progress.

One of the most common citizen noise complaints relates to the mushrooming presence of outdoor AC units. Putting aside the fact that there frequently are only 8-10 truly hot days during many summers in Cambridge, the indiscriminate placement, poor unit choice, and lack of buffering of these units destroys the outdoors for those who do not share a "fortress mentality" and instead wish to enjoy their yards, take a stroll, or sleep with their windows open. Even in the middle of cool summer nights the machines keep chugging. There is always a background din.

No, this is not progress.

I ask you to spend five days in the country and watch yourself come back alive. Recognize how shut-down you are forced to be in this city, how much noise you must screen out, what armor you must wear to live and work here. You may say, "Well, it is your choice to live in the city." To that I say, " Make this city livable, make it a model of concern for the quality of life, yours and mine."

Thank you.

Addendum:

Dust raised by lawn blowers may also increase lead exposure. Many Cambridge yards have decades of lead paint dust accumulated in the soil.

ATTB

June 27, 2002

TO: William King, Chairman
Commission Members
Charles Sullivan, Executive Director

FROM: Lloyd M. Aiello, MD
2-1/2 Berkeley Street
Cambridge, MA 02138

SUBJ: Cambridge Historical Commission: Thursday, June 27, 2002 - 6:00 pm
Case #: 1180 EDS HVAC

Introduction: Noise Disturbance

Chapter 8/16 Noise Control: 8.16.030 #16:

“Noise disturbance means any sound which (a) causes temporary or permanent hearing loss in persons exposed; or (b) is injurious to the public health; (c) causes a nuisance which is prohibited by law; or (d) is defined as a noise disturbance pursuant to the provisions of this chapter.”

As you probably know, A-weighting and C-weighting frequency curves have different impacts. While A-weighting frequency characteristics range from 500-10,000 Hz, the human ear is sensitive from 32 to 20,000 Hz. Music sound levels are characteristically measured by C-weighting in which frequencies measured are from 32 to 10,000 Hz. Many people such as musicians and pilots are very sensitive to the lower frequencies of 32 to 500 Hz and to higher frequencies of 10,000 to 20,000 Hz. Measuring the A-curve only, does not qualitatively impact on noise levels effectively. Additionally, the collectivity of multiple HVAC frequencies may at times be “in phase” and thus additive. All of these characteristics especially when they include the low and high frequencies may create a chronic ambient noise that is not only very disturbing but may result in permanent hearing loss, circulatory and cardiac problems. mood and learning alterations.

Those affected by the EDS very high volume AC (Case #1180) include

(1) Neighbors who experience effectively an auditory and vibratory Chinese Water Torture: 2 musicians, 4 professors, and those EDS spiritual students, faculty and guests who use the outdoor garden adjacent to the HVAC for contemplation

(2) the Public:

- The fully sensed passerby must cover ears and use sign language.
- The deaf tense from the vibration
- The blind recoil from the broad frequency range to which they are uniquely sensitive as their guide dog quickens the pace.

The present treated HVAC does not meet ordinance at 60 dB in daytime nor 50 dB at night for location #1 or for Washburn Hall lot line. Ambient noise at night in this neighborhood is 50 dB.

“Real property boundary” means an imaginary line along the ground surface, and its vertical extension, which separates the real property owned by one person from that owned by another person, “...” or the public way. – See a Superior Court judge recent ruling.

Solution to these problems for Historic Cambridge includes at least in part:

- Clear interpretation of the ordinances
- Enforcement of the ordinances
- Revisions of the ordinances
- Upgrade in design and function of the hardware (R&D) or ban it

Specifically:

To respond to the needs of the public, the neighbors, and the folks of EDS, it appears that the action that would be truly effective and beneficial to all is to relocate this EDS HVAC as discussed at the site visit by the Historical Commission members.

Comment

- (1) Over the years, we have been privileged by treasured friendships of our EDS “garden” neighbors. Together, we have kept the spirit and letter of Historic Cambridge. This EDS HVAC situation clearly threatens this integrity.
- (2) This Historical Commission is an essential ingredient of our democracy, our revolutionary exercise ensuring that the taxpayers remain free – and free to preserve our historical heritage – all of it in harmony of community and nature. This Historical Commission has done this since the beginning – always unwavering in pursuing its Charter in fact and in spirit.
- (3) **The EDS may come close to HVAC compliance with the ordinances of the City of Cambridge, while overlooking the essential needs of this Historic community, their own community, the property owners in Cambridge who recently experienced up to a 30% increase in their taxes, and the public – all of whom contribute to the spiritual and economic health of this important tax free institution.**
- (4) We wish to thank the Commission for their efforts in assisting in finding a solution favorable to all.



City of Cambridge

O-13.

IN CITY COUNCIL

February 10, 2003

VICE MAYOR DAVIS
COUNCILLOR DECKER
COUNCILLOR GALLUCCIO
COUNCILLOR MAHER
COUNCILLOR MURPHY
COUNCILLOR REEVES
COUNCILLOR SIMMONS
MAYOR SULLIVAN
COUNCILLOR TOOMEY

ORDERED: That the City Manager be and hereby is requested to instruct the Assistant City Manager for Community Development to forward to the Rooftop Mechanicals Task Force for their information the health testimony contained in the this report as ATTACHMENT A and B.

In City Council February 10, 2003.

Adopted by the affirmative vote of nine members.

Attest:- D. Margaret Drury, City Clerk.

A true copy; *D. Margaret Drury*

ATTEST:-

D. Margaret Drury
City Clerk

CM-36

ORDER # 13

City Manager to request the Assistant City Manager for Community Development to forward to the Rooftop Mechanicals Task Force for their information the health testimony contained in the attached report regarding health effects of noise.
Vice Mayor Davis and entire membership

In City Council February 10, 2003

ORDER ADOPTED.