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Zoning Board of Appeals
Town of Acton
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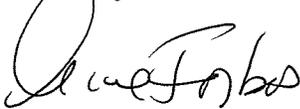
Members of the Board:

In anticipation of your upcoming review of the Next Generation childcare center plans, I would like to make sure that you have received notice from the Massachusetts Historical Commission (MHC) as to whether they have received a Project Notification Form and issued any findings of effect regarding the National Register-listed Hosmer House, which is located just across Route 2 from the proposed project, or whether the plans have undergone the state MEPA review process. To my knowledge, neither the Acton Historical Commission nor the owner of the Hosmer House, the Acton Historical Society, has received any notification that MHC has reviewed the project.

Under MGL Chapter 9, Sect.s 26-27C, undertakings that require funding, licenses, or permits from any state agency must be reviewed by MHC for their effect on historic properties. It is likely that at least the possible changes to Route 2 associated with this development fall into this category.

Please do not issue any decision on the Next Generation appeal until you have received information from MHC in this regard.

Sincerely,



Anne Forbes

Cc: Acton HC; Acton HDC; Acton Historical Society; Brona Simon, Mass. Historical
Commission

Proximal exposure of public schools and students to major roadways: a nationwide US survey

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This study addresses the effect of urban planning and road development on the health risk of students attending schools near major roadways. The proximity of public schools and students was quantified to Interstate, US and state highways in nine large Metropolitan Statistical Areas (MSA) of the USA. In total among the surveyed schools and students, over 30% fell within 400 m of a major roadway and over 10% were within 100 m. For some MSAs almost half of the student population attended schools near (≤ 400 m) major roadways, resulting in a potentially increased risk for asthma and other chronic respiratory problems, especially in schools representing the urban fringe locale. It was concluded that proximity of major roadways should be an important factor in considering sites for new schools and developing policies for reducing the exposure in existing schools. The findings provide an important reference point for coordinating future urban development, transportation and environmental policies.

Keywords: proximal exposure; traffic; major roadways; public schools; air pollutants

1. Introduction

Effective land use and road development patterns are necessary to protect the health of school-age children. Elevated levels of air pollutants from traffic exhaust, including nitrogen dioxide (NO₂), carbon monoxide (CO), volatile organic carbon (VOC) and particulate matter (PM), near major roadways are associated with adverse childhood health effects, such as respiratory allergies, decreased lung function, bronchitis and asthma exacerbation (Rutishauser *et al.* 1990, Edwards *et al.* 1994, Pershagen *et al.* 1995, van Vliet *et al.* 1997, Venn *et al.* 2001, Brauer *et al.* 2002, Nicolai *et al.* 2003, Kim *et al.* 2004, Gauderman *et al.* 2005, Ryan *et al.* 2005, McConnell *et al.* 2006). Children are especially susceptible as their lungs are growing until adulthood, they breathe with 50% more air per pound of body weight than adults and develop respiratory infections more often than adults (USEPA 2002, ALA 2004).

International studies have shown many health risks for children from traffic-related pollutants. Children exposed to high-traffic roadways had substantial deficits in 8-year lung development (Gauderman *et al.* 2007), and a higher prevalence of most respiratory

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Policy makers need effective strategies for (a) the building of new schools in relation to major roadways and (b) reducing the exposure to traffic-related air pollution in existing schools.

Local traffic emissions should be a factor in considering sites for new schools so that effective urban planning can parallel effective public health policy. Sports fields, playgrounds and other on-school sites for outdoor activities should be built farthest from major roadways. In California, for example, legislation has already been passed, prohibiting the building of new schools within 500 ft (168 m) of a busy road (California State Legislature 2003). Additionally, a Bill requiring highway entrance/exit ramps to be at least 1000 ft (305 m) from schools is currently moving through New Jersey's State Legislature, having been overwhelmingly passed in its Assembly (New Jersey State Legislature 2007). Although health risk mitigation through appropriate urban planning seems viable, it does not address the population exposed at schools *already* built near major roadways. To reduce health risks in those schools, adequate air filtration and ventilation systems should be installed and properly operated to reduce the penetration of ambient air pollutants (Morawska 2007).

Most critically, public policy should continue reducing and moderating traffic emissions, particularly DEP. Progressively stricter rules for gasoline and diesel fuel quality have helped reduce emissions in recent years (USEPA 2007). Although major roads play an important role in the US economy, the nationwide implications of the growing transportation infrastructure should be examined from the environmental health perspective, addressing the exposure of school students to air pollution from major roadways. This will help create and manage a better built environment in major metropolitan areas in the USA and other countries by promoting balance between economic and health considerations (Morawska *et al.* 1995, Frumkin 2005, Kjellstrom *et al.* 2007).

Acknowledgements

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Thu Sep 20, 2007, 04:04 PM EDT

Concord - Many residents of Concord have called my office over the last few weeks to inquire about two specific pieces of legislation: the Healthy Breathing Act of 2007, House Bill 840 and An Act Relative to Reporting on Health Effects of Particle Matter, House 2227. Both supporters and opponents of building the playing fields at CCHS have voiced concern about the proposed legislation's impact on the construction of the fields.

First, let me state that neither bill will effect the construction. I voted in Town Meeting to build the fields at the CCHS location, and to my knowledge construction is moving forward as planned.

The proposed legislation, however, does address a very serious public safety concern that needs to be addressed.

House Bill 840 would limit construction of certain facilities such as schools, day care centers, residential developments, hospitals, long term care facilities, and public open spaces within 500 feet of a high-activity roadway or a train yard or train station unless a health risk assessment determines that short-term and long-term exposure at the site poses no significant health risk or can be mitigated.

House Bill 2227 requires the Department of Public Health to conduct a comprehensive study of the health effects of particulate air pollution from transportation sources, including respiratory, cardiovascular disease, and cancer. The study will focus on mapping the distribution and concentration of particle matter around high traffic roadways and rail lines, and evaluate the health risks for exposed populations.

The bills have prompted concerns about the air quality of Route 2 because of its proximity to the playing fields. Tailpipe exhaust from motor vehicles contains both gases and suspended particles. The particles, ranging in size from coarse to ultra-fine, are known as "particulate matter."

During a legislative hearing in April, Dr. Joel Schwartz of Harvard's School of Public Health and recipient of the McCarthy Genius Award for his work linking lead in gasoline to neurological and developmental impairments in children; Dr. Helen Suh, also of Harvard's School of Public Health; and Dr. Douglas Brugge of Tufts New England Medical Center briefed members of the Legislature on the dangers of particulate matter and its effects on public health. They provided slides showing that the particle matter actually enters the cells of those who have been exposed. The effects include a marked increase in cases of and deaths from respiratory disease, pulmonary disease, and cancer.

Suh has been extensively studying air quality at highway locations within the Route 495 area for the last two years. One of her studies shows the differences between a city that has no major highway nearby (Malden) to a suburban area (Bedford forest) that does — Route 128. The air quality of the forests in our neighboring town of Bedford is remarkably more polluted.

These findings are especially upsetting for policy makers and residents alike because of the endless numbers of private residents, hospitals, schools, companies, playing fields, etc. presently located on major highways throughout the commonwealth.

While concerns with the dangers of particulate matter are relatively new, danger from exposure to exhaust fumes is not. I had assumed studies of the air quality in that area were completed because of the extensive deliberations of the environmental impact of the playing fields. I was wrong.

Since I was informed at a meeting with Concord selectmen on Sept. 7 that there had been no studies, my office has been in contact with a number of state agencies inquiring about how to get the studies done. Air quality studies and monitoring along Route 2 are especially important now for several reasons. Concord Academy is considering the Arena Farm area for its new playing fields, and, hopefully, a major construction project redesigning of Crosby Corner should begin soon. The highway project will cause traffic back ups along that corridor for a considerable amount of time.

It appears that the solution for this problem has to come from the town itself.

Concord has wisely increased the height of the berms that act as a barricade between the playing fields and highway to mitigate the both air and noise pollution.

I believe it is incumbent upon all local and state officials to work together to ensure that air quality studies and on-going monitoring are done so residents can make informed risk assessments about the potential dangers of pollutants to their health and the health of their loved ones.

For anyone who lives or works on a major highway some simple precautions can be helpful. Keep the windows facing the highway shut at all times. Limit time outdoors to non-peak traffic times. Air conditioning also helps purify the air of harmful particulates.

A DVD of the presentation made by Dr. Joel Schwartz, Dr. Helen Suh and Douglas Brugge is available at the Concord Public Library.

Please feel free to contact me at 617-722-2013 or Rep.CoryAtkins@hou.state.ma.us.

State Rep. Cory Atkins, D-Concord, represents the 14th Middlesex, which includes Concord, Carlisle and parts of Acton and Chelmsford.

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