A Program of The Medical Foundation
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TESTIMONY OF JEAN ZOTTER, EXECUTIVE DIRECTOR
BOSTON URBAN ASTHMA COALITION
In favor of:
An Act Relative to Reporting on
Health Effects of Particulate Matter
HB 2227

Lead sponsors: Representative Denise Provost

July 25, 2007

Dear Chairwoman Fargo and Chairman Koutoujian,

Thank you for the opportunity to present panel testimony in support of the Act Relative to Reporting on Health Effects of Particulate Matter filed by Representative Denise Provost. I am Jean Zotter and I direct the Boston Urban Asthma Coalition and the Massachusetts Asthma Advocacy Partnership. I am also testifying for The Medical Foundation, our parent nonprofit organization. This bill is important because it addresses the high concentration of particulate matter in the air by conducting a comprehensive study of the health effects (asthma, cancer and cardiovascular diseases) of particulate air pollution from transportation sources. It will focus on mapping the distribution and concentration of particulate matter around high traffic roadways and rail lines, and evaluating the health risks for exposed populations.

Massachusetts needs to take bold steps to address asthma as our residents suffer from more asthma than residents in any other state. Massachusetts has some of the highest asthma rates in the country.[1] For lifetime prevalence, only two other states have higher adult asthma prevalence than Massachusetts where one out of seven adults has asthma. No other state has higher childhood asthma prevalence than Massachusetts where one out of five students in middle school and high school has asthma. The prevalence of those who suffer from current asthma symptoms in the state is well above the national average at a rate of 9.9%, or one in ten Massachusetts residents, compared to 7.7% nationwide.

There exist large racial and economic disparities in asthma prevalence and morbidity in the state. Children under 18 whose family income is less than $25,000 have twice the asthma rate than those whose family income is $75,000 or higher. While income seems

to determine asthma prevalence, race determines who suffers most from asthma. Blacks and Latinos have 3 – 4 times the rate of Whites for emergency room visits, hospitalization and observation stays. In addition, the five regions in the state that have asthma hospitalization rates significantly above the state average are: Brockton, Fall River, Springfield, New Bedford, and Boston. These cities comprise 45% of the state's Black and Latino population.

Asthma education and ensuring healthy environments are the two cornerstones of asthma care. Yet, we are failing on both counts. This bill is an attempt to correct the high concentration of particulate matter in the air which causes many respiratory diseases such as asthma. Particulate matter consists of tailpipe exhaust from motor vehicles containing both gases and suspended particles ranging in size from coarse to ultra-fine. Research from the California Children's Health Study shows that asthma for children is extremely prevalent in areas surrounding highways. In fact, this research shows that there is a 50% increase in prevalence of asthma for children living within 75 meters of a highway.[2] The California Children's Health Study also shows that there is a decrease in lung function at year 18 for those who grow up near highways, with nearly five times as many in the near highway group never reaching 80% of normal lung capacity. [3] Also in areas where good monitoring is done, high concentrates of particulates are found within 300 meters from heavily-traveled highways, both outdoors[4] and in the air in people's homes.[5]

The Act Relative to Reporting on Health Effects of Particulate Matter seeks to study the correlation between health effects of particulate air pollution from transportation sources, including respiratory and cardiovascular disease and cancer with a focus on mapping the distribution and concentration of particulate matter around high traffic roadways and rail lines, and evaluating the health risks for exposed populations. In addition, this bill will allocate $250,000 to fund this one-year study, which will be reported to the legislature with recommendations.

Available science recognizes that local and near source variations in particulate matter are associated with far higher levels of health impact than between region differences. Doing further research along these lines will provide further concrete proof to legislatures and community groups about the link between health and air pollution. Also, it will enable researchers, government agencies and community groups to make recommendations as to how to combat the damaging effects of particulate matter.

cc: Members of the Public Health Committee

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[2] McConnell, R., et al. Traffic, susceptibility, and childhood asthma. *Environmental Health Perspectives*, May 2006.

[3] Gauderman, W., et al. Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study. *The Lancet*, Jan. 26, 2007.

[4] Zhu, Y., et al. Concentration and size distribution of ultrafine particles near a major highway. *Journal of the Air and Waste Management Association*, Sept. 2002.

[5] Zhu, Y., et al. Penetration of freeway ultrafine particles into indoor environments. *Journal of Aerosol Science*, 2005.