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CHAPTER

Massachusetts Sierra Club
10 Milk Street, Suite 632
Boston MA 02103-4621
www.sierraclubmass.org
office@sierraclubmass.org
(617) 423-5775

July 29, 2013

Chairman John D. Keenan
Joint Committee on Public Health
State House, Boston, MA 02133

Chairman Jeffrey Sanchez
Joint Committee on Public Health
State House, Boston, MA 02133

**Re: Testimony in Support of H.2059,
An Act Relative to Reporting on Health Effects of Particulate Matter**

Dear Chairman Keenan, Chairman Sanchez, and Honorable Members of the Committee,

Thank you for providing this opportunity to offer our comments on H.2059, which calls for a comprehensive study of data on the health effects of particulate air pollution from surface transportation. The Sierra Club wishes to express our strong support for this legislation.

The Sierra Club is the oldest and largest non-profit, non-partisan environmental organization in the country. With over a forty year history in this chapter, the Massachusetts Sierra Club represents about 22,000 members throughout the state and over 1 million members and supporters nationwide. We fight for clean air, clean water, the preservation of the Commonwealth's most precious natural spaces, and healthy, vibrant communities.

Particulate matter is a chemically diverse mixture of extremely small airborne particles and water droplets that are approximately 10 micrometers in diameter or smaller. People readily inhale these particles as they breathe. The particles then enter people's lungs and potentially their bloodstreams. Particulate matter in elevated concentrations has negative health impacts.

Particulate matter has been shown to decrease lung function¹, cause chronic bronchitis², cause irregular heartbeats and heart attacks³, increase symptoms of already existing respiratory illnesses⁴, and bring about premature death in people with heart or lung disease⁵. Particulate matter from diesel combustion is also linked to cancer⁶. Children are particularly susceptible to negative impacts of particulate pollution because they inhale 50% more air per pound of body weight than adults and their lungs are still developing².

Particulate matter originates from multiple sources including fossil fuel combustion (e.g. vehicle exhaust, and home heating systems), burning organic materials (e.g. burning yard waste) and industrial processes. Some types of particulate pollution are directly released from these sources and while other types are formed indirectly as the byproducts of combustion react with other chemicals in the atmosphere. In the United States, particulate pollution standards are currently aimed at controlling regional (e.g. county-wide) pollution levels. However, available science has found that zooming in to local and near source scales uncovers locations within regions that suffer from much higher negative health impacts of particulate matter⁷.

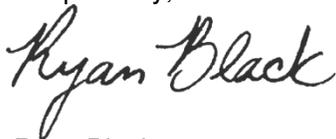
Particle levels adjacent to highways, major port facilities and diesel rails are especially problematic. Transportation related sources of particulate matter significantly contribute (up to 50% in urban areas) to particulate pollution. This includes fossil fuel combustion from cars, buses and trains (especially those that run on diesel⁸.) Additionally, vehicular traffic and road construction projects stir up dust on roads causing settled particles to reenter the atmosphere. Numerous studies in other regions of the country and world have shown that elevated particulate matter caused by nearby surface transportation corridors creates serious health risks⁹. However, the extent to which surface transportation in MA is threatening surrounding areas is poorly understood.

H.2059 will provide the funding to gather and analyze comprehensive data on the health impacts from particulate matter on populations that are located within 500 feet of any roadway with 50,000 or more motor vehicle trips per day or any rail line used regularly by diesel locomotives. The study shall include, but not be limited to, examining respiratory and cardiovascular disease and cancer incidence that may be affected by exposure to surface transportation-related particles.

A better understanding of the health effects of particulate air pollution from surface transportation will allow serious health problems in the state to be minimized by educating city planners and decision makers. This information could limit the building or expansion of facilities (such as schools, offices, parks or residential neighborhoods) in areas with high concentrations of dangerous particulate matter. This information will also be enormously helpful to citizens. Exercising increases particulate matter health risks because exercisers breathe more rapidly and therefore inhale more particulate matter than they would otherwise.

The Sierra Club fully supports this proposed legislation, H.2059, and hopes that this bill is reported favorably by the committee and is supported by all the members of the Senate and the House of Representatives. We strongly believe that this bill would have significant positive impacts on the health of Massachusetts residents.

Respectfully,



Ryan Black
Director
Massachusetts Sierra Club

Referenced: American Lung Association, Facts About Particle Pollution
http://www.lungusa2.org/sota/SOTA08_PMFacts.pdf

¹ Report On Particulate Matter, Health. US Environmental Protection Agency. Retrieved from www.epa.gov/pm/health.html August 10, 2011.

² *ibid*

³ *ibid*

⁴ *ibid*

⁵ *ibid*

⁶ Report On Particulate Matter, Mobile Source Emissions - Past, Present, and Future, US Environmental Protection Agency. Retrieved from www.epa.gov/oms/inventory/overview/pollutants/pm.htm August 30, 2011

⁷ *Particulate Matter from Regional Transportation is an Undisputed Local Health Problem*, Wig Zamore, *Testimony before the MA Joint Committee on Public Health, July 25, 2007*

⁸ Report on Diesel Exhaust in New England, US Environmental Protection Agency. Retrieved from <http://www.epa.gov/region1/eco/diesel/index.html> on Aug 30, 2011

⁹ Research & Development, Highway Study Sizes Up Pollution, US Environmental Protection Agency. Retrieved from www.epa.gov/ord/sciencenews/scinews_highway-study.html on Aug 30, 2011