

Oregon Thoracic Society Testimony- Decrease Diesel Exhaust and Traffic-related Air Pollution to Improve Health and Decrease Healthcare Expenditures

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Dear Oregon Legislators-

Thank you for the opportunity to submit testimony, and thank you all for your service to our State. The Oregon Thoracic Society is comprised of lung doctors, thoracic surgeons, and healthcare professionals who care for patients suffering from respiratory diseases. We witness the health toll of air pollution and diesel in our practices on a daily basis, as we frequently care for those who suffer from some of the many diseases caused by diesel and other air pollution. We are particularly concerned about the health burden of diesel on children, who frequently attend school by high traffic corridors around the state and ride diesel buses that negatively impact their health. This is not only a problem for urban children and adults, but for all children around the state attending schools near high-traffic roads and commuting to school in school buses or older diesel vehicles.

Damage from air pollution starts in the womb. Exposure of pregnant women to ambient air pollution causes premature and low birth weight children.¹ Traffic pollution causes asthma attacks in children, and likely causes asthma itself with impaired lung function.^{2,3} We can measure black carbon coughed up by children and see more lung damage with higher concentrations.⁴ Traffic-related air pollution further causes deficits in memory, cognitive function,⁵ and attention⁶ with a small study even showing MRI changes in children's brains.⁷ Children in high-emitting diesel school buses are particularly vulnerable, whether windows are open or closed. Low emitting school buses result in improved air quality for children.⁸

Diesel is a human carcinogen and causes lung cancer and likely other cancers.⁹ Air pollution from traffic decreases adult lung function and causes COPD.^{10,11} It also causes heart attacks and death.^{12,13} Air pollution not only increasing risk of dementia¹⁴ and stroke,¹⁵ but it also increases osteoporosis and bone fracture risk.¹⁶

Diesel exhaust is particularly toxic, a known human carcinogen, and children are especially vulnerable to the long-term and short-term health effects of exposure to it due to their higher respiratory rates, increased activity, and vulnerable developmental windows. The American Lung Association of Oregon (for whom we are the Oregon Medical Advisory Board), has already testified regarding this multiple times to this legislative body. People who work with diesel (eg truckers, miners, farmers, tollworkers, other industrial work) are also very vulnerable, as are those who spend a great deal of time commuting in traffic for other reasons or live by high traffic roads.

Fortunately, we can make it better. Decreasing air pollution improves lung function in children.¹⁷ Washington State, when cleaning up its diesel fleet, decreased the particulates to which children were exposed and also decreased missed school days, particularly in children with asthma.¹⁸

The lung diseases that are caused or worsened by air pollution are very expensive and common. Around 6% of Oregon residents surveyed in 2011 stated they had been told that they had COPD, but the number is likely higher.¹⁹ Cost for this care will fall disproportionately on taxpayers, as patients with COPD are more likely to be unable to work and have a household income less than \$25,000.⁸ Asthma is also a significant burden in our state, affecting 10% of adults and 7% of children totaling over 360,000 Oregonians²⁰ and responsible for over 2000 people hospitalized for asthma in 2012 alone. Healthcare costs will again fall disproportionately on taxpayers, since those affected by asthma often have lower income, and are more frequently enrolled in the Oregon Health Plan and CHIP. In addition to the toll on human health and direct healthcare spending, there are also costs in worker productivity. Over 25% of people in Oregon with asthma missed more than one day of work due to asthma,²¹ and children are also likely to miss school because of asthma, particularly if their school is located by high traffic area and exposure to air pollution is high (which it often is).

COPD and asthma cost more than \$100 billion per year, over \$50 billion for COPD in the US²² and \$56 billion for asthma in 2007,²³ likely more since that time, with estimates of asthma in Oregon alone at 3 billion (our state is one of the worst for asthma). Inhaler costs are skyrocketing.²⁴ These are likely low estimates since the increase in inhaler costs and medical costs in general have not been factored in adequately. List price for dual inhaler therapy for asthma and COPD is currently around \$11,000 per year, not including rescue medications, doctor visits, etc. Oregon has a significant budget shortfall currently - this will only worsen as more people move to the state, traffic congestion around the state worsens, and idling and air pollution by schools both urban and rural increases. For every dollar we invest in cleaner diesel, we will reap many multiples in health benefits.

The Oregon Thoracic Society endorsed SB1008 last year in its earliest version, which accelerated transition away from older diesel engines to ones built since 2007. Trucks built within the last decade are 95-99% cleaner and much less likely to contribute to the devastating and expensive diseases we treat. We endorse HB 4003, and sincerely appreciate the legislature's work on improving the health of Oregonians. We need a firm timeline to retire and retrofit older diesel engines. Specifically, we must prohibit the addition of any pre-2007 diesel engines to our Oregon fleet. We are at risk of this, since many old dirty diesel trucks are no longer allowed in California and Washington, and are being sold here. We must ensure that all diesel trucks and any vehicles operating in our state pass emissions tests that prevent damage to health. We must also allow local ordinances to prohibit idling in areas where sensitive populations breathe, especially our children.

Thank you for your consideration and your service to our State.

Sincerely,

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Pulmonary and Critical Care Medicine

Oregon Thoracic Society- President-Elect

References- *There is a large wealth of data on the health effects of air pollution and diesel. These are a representative few, several particularly chosen for strength and reputation of journal (eg New England Journal of Medicine, American Journal of Respiratory and Critical Care Medicine, Lancet) as well relevance to Oregon. Please contact OTS and ALA if you would like to discuss further.*

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