

Pennsylvania Department of Transportation

April 10, 2008

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In 1970 the United States created the Clean Air Act to regulate five pollutants in ambient air. These pollutants are carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, and particulate matter. It is particulate matter that is the topic of today's hearing. The Clean Air Act requires that these pollutants be regulated at a level that protects public health with an adequate margin of safety and without regard to economic cost.

In 1997 EPA established the national ambient air quality standard for PM2.5. PM2.5 is the particulate matter fraction that is 2.5 microns in size or about 1/20 the diameter of a human hair. It is often referred to as fine particulate pollution. This particle size is thought to be most harmful to humans because it readily penetrates the lung.

In 2005 EPA designated Cumberland County as a non-attainment area for PM2.5. Two years later, in 2007, Cumberland County was designated as the seventeenth most polluted county in the United States. The air we breathe is not clean.

According to EPA the median annual PM2.5 concentration in urban areas of the United States is 13 mcg/m³. The median concentration for non-urban areas, like Carlisle, is

8 mcg/m³. Cumberland County's annual average is greater than 15 mcg/m³, almost twice that of other non-urban communities. Again I say, the air we breathe is not clean.

A significant source of harmful particulates in Cumberland County is diesel exhaust from idling trucks.

Diesel exhaust is one of the most toxic substances known to man. The scientific evidence that it is harmful is overwhelming. Literally hundreds of scientific studies document this fact. I have provided you with a sampling of the published evidence.

Diesel exhaust is a mixture of particulate matter, harmful gases, and chemical compounds containing 40 known toxic substances. As we breathe harmful particulates penetrate our lungs where it causes a variety of heart and lung diseases. Particulate-related illness occurs in all age groups running the gamut from newborn to the elderly with pre-existing heart and lung disease.

In children exposure to particulate matter is associated with neonatal death, i.e. crib death, abnormal lung development in children, and increased morbidity from asthma. Children are especially vulnerable to the harmful effects of diesel particulates. The lungs of children are immature at birth and continue to develop until age 18. Exposure to harmful particulate matter causes developmental lung defects that are permanent.

In adults it is associated with exacerbation of lung disease and precipitation of heart attacks. It is a known cause of lung cancer and is associated with an increased risk of premature death. According the Clean Air Task Force exposure to PM2.5 is responsible for 21,000 premature deaths each year in our country, five times the number of tragic deaths that occur in Iraq. The harmful effects of PM2.5 in our Commonwealth rank Pennsylvania as the third most negatively impacted state in our country.

I have practiced pulmonary medicine in Carlisle for 27 years. In August 2006 I wrote an open letter entitled "The Air We Breathe" outlining the harmful effects of diesel particulates in Cumberland County. The letter was cosigned by 100 physicians from Cumberland County and was published in both The Sentinel and The Patriot.

My experience in Cumberland County parallels that of national observations. I have witnessed an increased frequency and severity of asthma and other lung-related illnesses in the past ten years. I also have concerns regarding the increased number of lung cancers I have diagnosed in nonsmokers, especially young women. My pediatric colleagues also struggle with an increase in childhood respiratory illness. Elementary schools in Carlisle report increased numbers of students with asthma and increased use of inhalers. In the past the Pennsylvania Department of Health has reported that mortality from asthma in Cumberland County is higher than the state average.

In addition to the physicians who cosigned my open letter, my position is supported by the Cumberland County Medical Society, the Dauphin County Medical Society, and the Pennsylvania Medical Society.

The Pennsylvania Constitution guarantees each citizen of the Commonwealth the right to breathe clean air. A statewide anti-idling regulation is not the sole answer to this environmental crisis. It is however, a reasonable first step that is long overdue. It is one we can all live with.

Remember, as stated by the American Lung Association, "when you can't breathe, nothing else really matters!"

Thank you for your attention.

Health Impacts of PM2.5*

	<u>USA</u>	<u>PA</u>	<u>Cumb Co.</u>	<u>C-H Metro</u>
Premature Deaths	21,000	1170	15	39
Heart Attacks	27,000	1660	25	61
Asthma Attacks	410,000	19,021	283	750
Lost Work Days	2,400,000	110,404	1700	4000

* Clean Air Task Force

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THE AIR WE BREATHE

In 1970, Congress passed the Clean Air Act that required each state to achieve air quality standards as set by the Environmental Protection Agency (EPA) by 1977. Although improvement has been achieved nationwide with respect to air quality, Cumberland County does not comply with current standards for ozone and fine particulate matter.

The American Lung Association (ALA) ranks Cumberland County's atmosphere as the 24th most polluted area in the United States, comparable to New York City.*

Due to the concentration of truck traffic in Cumberland County, fine particle pollution from diesel exhaust is much higher than in most places and is astronomical along the "Miracle Mile" in Middlesex Township.

Diesel exhaust is a mixture of particulate matter, gases and chemical compounds containing 40 known environmental contaminants. Fine particulate matter (PM2.5) consists largely of carbon (soot) to which other chemical substances bind. As we breathe, these tiny particles carrying toxic substances enter our lungs and are deposited in the deepest recesses of our lung tissue. Some of these toxic substances can cause cancer or other adverse health effects.

Breathing diesel emissions containing these fine particles can result in exacerbation of lung disease, i.e. asthma and emphysema, and can precipitate heart attacks. Populations at particular risk include infants, children and the elderly with pre-existing heart and lung disease. In addition, diesel exhaust is known to contain three carcinogens that cause lung and bladder cancer. According to ALA reports, scientists estimate that 50,000 to 100,000 people die each year as a result of air pollution. Studies have shown that children exposed to diesel exhaust exhibit abnormal lung development which appears to be permanent.

The construction of additional distribution parks will undoubtedly bring more diesel trucks into the area and will have public health implications. Carlisle already is a "hot spot" of diesel pollution.

We acknowledge that the trucking industry is vital to our way of life and to the economy. We have benefited from it as much as anyone and do not advocate eliminating the trucking industry. However, we also believe that proper and insightful environmental planning is essential for our community's future and its health and well-being.

As the American Lung Association slogan states:

"When you can't breathe, nothing else really matters!"

*Based on 24-hour PM 2.5 measurements.

The foregoing is authored by Dr. Phil Carey and agreed to by

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