



Clean Air Facts

Motor Vehicle Emissions and Air Quality in the U.S.

Overview

Although emissions from automobiles have decreased significantly since 1970, the increase in the number of vehicles on the road and vehicle miles traveled (VMT) in the future will continue to make highway vehicles one of the primary sources of air pollution.

Improving Air Quality

The Progress

- In December 1999, EPA announced its Tier 2 program which established more stringent light-duty vehicle emission standards starting in 2004 for all passenger vehicles, including sport-utility vehicles (SUVs), minivans, vans, and pick-up trucks. By 2009, automobiles sold in the U.S. will be 99 percent less polluting than vehicles sold in the 1960s.
- Since 1970, CO and volatile organic compound (VOC) emissions from on-road vehicles have declined by almost 43 percent and 59 percent, respectively.
- Lead emissions from on-road vehicles account for less than 0.5 percent of total national lead emissions, down from almost 82 percent in 1980.

The Challenge

- Despite the enormous progress that has been made in reducing motor vehicle emissions, highway vehicles continue to be one of the primary contributors to air pollution in the U.S. (see *Table 1*). In many cities, motor vehicles often are the biggest contributors to urban smog.

Table 1.
Highway Vehicles' Contribution to Total Emissions in the United States (2000)
(Thousands of Short Tons)

	<u>Highway</u>	<u>Total</u>	<u>Percent</u>
CO	48,469	109,343	44.3%
VOCs	5,035	20,384	24.7%
NOx	8,150	24,899	32.7%

Source: U.S. EPA, *National Air Pollutant Emission Trends, 2003 Special Studies Edition*

Emissions and Growing Vehicle Use

The Progress

- Between 1970 and 2002, the U.S. population increased 38 percent, VMT increased 155 percent and gross domestic product increased 164 percent. At the same time, total emissions of the six

principal pollutants (CO, lead, NOx, ozone, particulate matter, and sulfur dioxide) decreased 31 percent.

- As a result of automotive emissions control program, CO emissions have decreased 41 percent in the past 20 years (1983 to 2002) and 21 percent in the past 10 years (1993 to 2002) despite a 155 percent increase in VMT since 1970.

The Challenge

- To prevent air pollution from increasing, reductions in total vehicle emissions need to keep up with increases in total vehicle miles driven. Achieving healthful air quality requires even greater reductions.
- Despite the progress being made, about 160 million tons of pollution is emitted into the air each year in the U.S.
- The vast majority of areas that experienced unhealthy air did so due to one or both of two pollution—ozone and particulate matter (PM).

Attaining Clean Air

The Progress

- Since the Clean Air Act was enacted in 1970, aggregate emissions of the six principal pollutants have been cut 48 percent, even as our population and economy have continued to grow.
- Recent EPA actions to address emissions of toxic air pollutants from motor vehicles as well as stringent standards of heavy-duty trucks, buses, and diesel fuel will eliminate 95 percent of diesel PM emission.

The Challenge

- According to EPA, approximately 146 million people live in counties where monitored air in 2002 was unhealthy at times due to high levels of at least one of the six principal air pollutants.
- Scientists are learning that today's air quality standards may not be stringent enough to protect public health.
 - In July 1997, EPA set tighter ambient air quality standards for ozone and particulate matter. EPA estimates that the new ozone standard would reduce cases of significant breathing problems by 1.5 million per year and that the new PM₁₀ standard would save thousands of premature deaths each year. In 2001, the U.S. Supreme Court upheld the standards.
 - On September 8, 2005, EPA proposed requirements that state and local governments have to meet as they implement the national ambient air quality standards for PM_{2.5}. The proposed rule provides implementation framework and requirements for developing the implementation plan. This proposed rule is the next step toward improving particle pollution air quality for millions of Americans.

For more information:

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