



# Clean Air: An Act That Works

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## REDUCING URBAN SMOG

The Clean Air Act has significantly reduced levels of urban smog, the most widespread air pollution problem in the U.S. The greatest success has occurred since passage of the 1990 Clean Air Amendments. Since 1990, over half of the nonattainment areas in the U.S. have met the Act's health-based air quality standards for smog.

The Health Risk. Ground-level ozone pollution (commonly known as smog) harms the respiratory system. Ozone is a highly reactive gas that forms when emissions of volatile organic compounds (VOCs) and nitrogen oxides (NOx) combine in the presence of sunlight. Exposure to ozone can reduce lung function, cause chest pain and cough, and worsen the effects of bronchitis, emphysema, and asthma. High ozone levels are associated with increased hospital admissions for respiratory illnesses, particularly asthma.

25 Years Ago. Emissions from motor vehicles and industrial sources of VOCs and NOx were essentially uncontrolled. Virtually every major U.S. city exceeded the current ozone standard.

1990. Before 1990, success in meeting the federal health standard for ozone was limited. Although VOC emissions dropped in the 1970s due to new motor vehicle controls, further reductions in the 1980s were offset by increases in the number of miles driven. NOx emissions actually increased over 10% from 1970 to 1990. And hotter summer temperatures in the late 1980s produced record-breaking ozone levels in many areas. When Congress passed the 1990 Clean Air Amendments, there were 98 ozone nonattainment areas in the U.S., with a combined population of 140 million.

Today. Since passage of the 1990 Amendments, the nation has made significant progress in reducing ozone levels. Over half of the nonattainment areas (55 out of 98), with a combined population of over 40 million, now meet the ozone standard. Despite high temperatures, 1993 had some of the lowest ozone levels ever recorded.

This progress has been achieved at the same time that the U.S. has experienced considerable economic growth. Since 1970, VOC emissions have been cut 32%. At the same time, the U.S. population has increased 25%; the gross national product, 71%; and vehicles miles traveled, 106%. Experts estimate that without the Clean Air Act, VOC emissions today would be double 1970 levels.

Why the Clean Air Act Is Working. Emissions come from so many different sources that no single control measure can explain the success in reducing ozone levels. Federal motor vehicle standards have reduced VOC and NOx emissions from new motor vehicles by 97% and 90%, respectively. State and local controls on stationary sources have cut VOC emissions from large industrial sources by 80% since 1970. Of special importance since 1990, new federal requirements in the 1990 Amendments to clean-up fuels have reduced emissions from existing motor vehicles, the largest single source of VOC and NOx emissions in urban areas, by 20% in heavily polluted areas.

In the future, the largest and most inexpensive ozone reductions are likely to come from improved motor vehicle inspections, controls on small sources like paints and lawn mowers, and increased attention to reducing NOx emissions.