



Highlights of [GAO-03-252](#), a report to the Chairman, Subcommittee on Aviation, House Committee on Transportation and Infrastructure

Why GAO Did This Study

Although noise has long been a problem around airports, the anticipated growth in demand for air travel has also raised questions about the effect of airport operations on air quality. Aviation-related emissions of nitrogen oxides, which contribute to the formation of ozone, have been of particular concern to many airport operators. A federal study at 19 airports estimated that, by 2010, aircraft emissions have the potential to significantly contribute to air pollution in the areas around these airports.

GAO agreed to review efforts in the United States and other countries to reduce emissions at airports and the effect of improvements in aircraft and engine design on emissions.

What GAO Recommends

GAO recommends that the Federal Aviation Administration (FAA) develop a strategic framework that addresses the need for information on the extent and impact of emissions, identifies reduction options, establishes goals and time frames for achieving needed reductions, and defines the roles of government and industry in developing and implementing reduction programs.

www.gao.gov/cgi-bin/getrpt?GAO-03-252.

To view the full report, including the scope and methodology, click on the link above. For more information, contact Gerald L. Dillingham at (202) 512-3650 or DillinghamG@gao.gov.

AVIATION AND THE ENVIRONMENT

Strategic Framework Needed to Address Challenges Posed by Aircraft Emissions

What GAO Found

Many airports have taken measures to reduce emissions, such as converting airport ground vehicles from diesel or gasoline to cleaner alternative fuels. While the actual impact of these measures is unknown, some measures (such as shifting to cleaner alternative fuels) have the potential to significantly reduce emissions, such as nitrogen oxides. In some cases—such as at Los Angeles and Dallas/Fort Worth airports—the emission reduction measures have been imposed by federal or state agencies to bring severely polluted areas into attainment with the Clean Air Act's air quality standards or to offset expected increases in emissions from airport expansion projects. Many industry and government officials that GAO contacted said that new, stricter federal air quality standards that will go into effect in 2003, combined with a boost in emissions due to an expected increase in air travel, could cause airports to be subject to more federal emission control requirements. In 1998, a group of government and industry stakeholders was established to develop a voluntary nationwide program to reduce aviation-related emissions; however, thus far, the group has not agreed to specific objectives or elements of a program.

Other countries use many of the same measures as the United States to reduce emissions at airports. Two countries have imposed landing fees based on the amount of emissions produced by aircraft. However, U.S. officials question the effectiveness of these fees.

Research and development efforts by the federal government and the aircraft industry have improved fuel efficiency and reduced many emissions from aircraft, including hydrocarbons and carbon monoxide, but have increased emissions of nitrogen oxides, which are a precursor to ozone formation. As a result, many new aircraft are emitting more nitrogen oxides than the older aircraft they are replacing. For example, GAO's analysis of aircraft emission data shows that the engines employed on the newest models of a widely used jet aircraft, while meeting current standards for nitrogen oxides emissions, average over 40 percent more nitrogen oxides during landings and takeoffs than the engines used on the older models. Technologies are available to limit nitrogen oxides emissions from some other newer aircraft models. Many state and federal officials GAO contacted said that, in the long term, nitrogen oxides emissions from aircraft will need to be reduced as part of broader emission reduction efforts in order for some areas to meet federal ozone standards.

Aircraft line up to take off



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