October 24, 2007

AVIATION AND THE ENVIRONMENT

Impact of Aviation Noise on Communities Presents Challenges for Airport Operations and Future Growth of the National Airspace System

GAO Accountability · Integrity · Reliability

Highlights

Highlights of GAO-08-216T, a testimony before the Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

To address projected increases in air traffic and current problems with aviation congestion and delays, the Joint Planning and Development Office (JPDO), an interagency organization within the Federal Aviation Administration (FAA), is working to plan and implement a new air traffic management system, known as the Next Generation Air Transportation System (NextGen). This effort involves implementing new technologies and air traffic control procedures, airspace redesign, and infrastructure developments, including new or expanded runways and airports. Community opposition is, however, a major challenge, largely because of concerns about aviation noise. As a result, according to JPDO, aviation noise will be a primary constraint on NextGen unless its effects can be managed and mitigated.

GAO's requested testimony addresses (1) the key factors that affect communities' level of exposure to aviation noise, (2) the status of efforts to address the impact of aviation noise, and (3) major challenges and next steps for reducing and mitigating the effects of aviation noise. The testimony is based on prior GAO work (including a 2000 survey of the nation's 50 largest airports), updated with reviews of recent literature, FAA data and forecasts, and interviews with officials from FAA and the National Aeronautics and Space Administration (NASA), industry and community representatives, and aviation experts.

To view the full product, including the scope and methodology, click on GAO-08-216T. For more information, contact Gerald L. Dillingham at (202) 512-2834 or dillinghamg@gao.gov.

What GAO Found

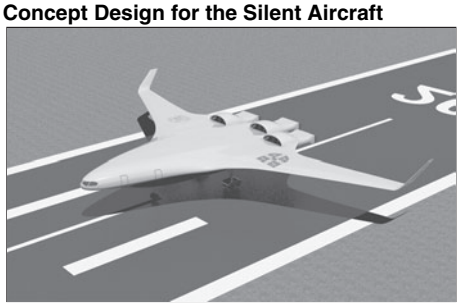
Key factors affecting the level of aviation noise that communities are exposed to include jet aircraft operations, land uses around airports, and aircraft flight paths. With more stringent regulatory standards for aviation noise, enabled by advances in technology, aircraft operations have become quieter, but aviation noise is still a problem when communities allow incompatible land uses, such as residences, schools, and hospitals, near airports. Aircraft flight paths also expose communities to aviation noise, and airspace redesign efforts, which are intended to improve aviation system safety and efficiency, may expose some previously unaffected communities to noise, raising concerns in those communities about higher noise levels.

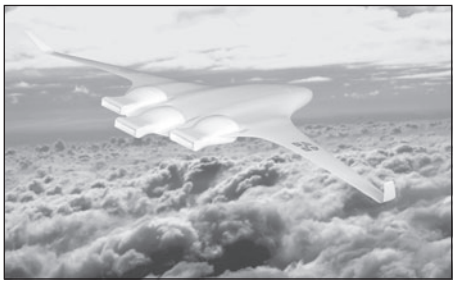
A number of efforts are underway or planned to address the impact of aviation noise on communities. More stringent noise standards for aircraft have been implemented, billions of federal dollars have been spent to soundproof buildings around airports, federal and private funding for research and development has advanced technologies to reduce aviation noise, NextGen technologies and procedures are being planned and will contribute to reducing communities' exposure to noise, some airports have imposed restrictions on the operation of certain aircraft, and airports are reaching out to communities to address their concerns about aviation noise and gain support for projects to increase airports' safety and efficiency.

Major challenges for reducing or mitigating the effects of aviation noise include continuing to make technological advances; obtaining substantial funding—from the federal government for NextGen in particular and from industry for equipping aircraft with new technologies—and cooperating on land-use issues. Next steps could include state and local actions to limit incompatible development, FAA's issuance of guidance related to the disposal of land acquired with federal funding for noise mitigation purposes, and the passage of legislative proposals that would address environmental issues, including the reduction of aviation noise.

FAA and NASA officials generally agreed with the information presented in this testimony and provided technical clarifications that GAO incorporated.

Concept Design for the Silent Aircraft





Source: Cambridge-MIT Institute.