



Highlights of [GAO-05-333SP](#)

## Why GAO Convened This Panel

In 1981, the Federal Aviation Administration (FAA) began a program to modernize the national airspace system and a primary component, the air traffic control (ATC) system. The ATC component of this program, which is designed to replace aging equipment and accommodate predicted growth in air traffic, has had difficulty for more than two decades in meeting cost, schedule, and performance targets. The performance-based Air Traffic Organization (ATO) was created in February 2004 to improve the management of the modernization effort.

On October 7, 2004, GAO hosted a panel to discuss attempts to address the ATC modernization program's persistent problems. Participants discussed the factors that they believed have affected FAA's ability to acquire new ATC systems. Participants also identified steps that FAA's ATO could take in the short term to address these factors, as well as longer term steps that could be taken to improve the modernization program's chances of success and help the ATO achieve its mission.

The participants included domestic and foreign aviation experts from industry, government, private think tanks, and academia. They are recognized for their expertise in aviation safety, economics, and engineering; transportation research and policy; and government and private-sector management.

[www.gao.gov/cgi-bin/getrpt?GAO-05-333SP](http://www.gao.gov/cgi-bin/getrpt?GAO-05-333SP).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gerald Dillingham at (202) 512-2834 or [dillinghamg@gao.gov](mailto:dillinghamg@gao.gov).

## NATIONAL AIRSPACE SYSTEM

# Experts' Views on Improving the U.S. Air Traffic Control Modernization Program

## What Participants Said

Overall, the participants identified cultural, technical, and budgetary factors that, in their view, have affected the progress of ATC modernization. To address these factors, they proposed what one participant termed a "two-pronged" approach—simultaneously taking care of "the here and now" and building a "viable future" for the ATO.

### Cultural and Technical Factors Have Impeded ATC Modernization

According to participants, the key cultural factor impeding modernization has been resistance to change. Such resistance is a characteristic of FAA personnel at all levels, participants said, and management, in the experience of some, is more resistant than employees who may fear that new technologies will threaten their jobs. The key technical factor affecting modernization, participants said, has been a shortfall in the technical expertise needed to design, develop, or manage complex air traffic systems. Without the technical proficiency to "scrub" project proposals for potential problems early and to oversee the contractors who implement its modernization projects, they said, FAA has to rely on the contractors, whose interests differ from its own.

### Budgetary Factors Have Constrained ATC Modernization

The most immediate budgetary constraint, participants said, is the multibillion-dollar shortfall that FAA is projecting between available revenues and modernization needs over the next 4 years. Participants also identified features of the federal budget process as constraints, noting, for example, that the federal budget cycle is too long and inflexible to meet the needs of a dynamic ATC system that requires much more managerial freedom and short-term decision making. They further noted that the budget process is influenced by the political process, and that the funding for capital projects is sometimes spread out over so many years that technologies are out of date by the time they are deployed. Annual funding uncertainties discourage strategic and capital planning, they said, and the budget fails to show priorities and relationships among proposed investments.

### Short-term and Longer Term Changes Could Promote Success

Participants suggested that the ATO could facilitate cultural transformation by creating a vision and strategy that would unite stakeholders and by assembling project teams with different skills and interests whose members could forge common organizational interests by working together to solve common technology development problems. To help offset technical inadequacies, the participants suggested that the ATO could consult an advisory board, identify and consider purchasing needed technologies that other countries have developed, and hire more skilled engineers to provide in-house expertise. To address budgetary constraints, participants suggested, among other short-term steps, reducing spending to match revenues and developing strategies for presenting FAA's budget request more clearly to Congress. Longer term suggestions included giving the ATO the predictable funding and decision-making authority it needs to carry out a "sensible" capital investment plan.