

GAO

Testimony

Before the Subcommittee on Aviation  
Operations, Safety and Security,  
Committee on Commerce, Science and  
Transportation, U.S. Senate

For Release on Delivery  
Expected at 9:30 a.m. EDT  
Thursday, March 22, 2007

# NEXT GENERATION AIR TRANSPORTATION SYSTEM

## Progress and Challenges in Planning and Implementing the Transformation of the National Airspace System

Statement of Susan Fleming, Acting Director  
Physical Infrastructure Issues



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**Highlights**

Highlights of [GAO-07-649T](#), a testimony before the Subcommittee on Aviation Operations, Safety and Security, Committee on Commerce, Science and Transportation, U.S. Senate

**Why GAO Did This Study**

The skies over America are becoming more crowded every day. The consensus of opinion is that the current aviation system cannot be expanded to meet this projected growth. Recognizing the need for system transformation, in 2003 Congress authorized the Joint Planning and Development Office (JPDO) and requires the office to operate in conjunction with multiple federal agencies, including the Departments of Transportation, Commerce, Defense, and Homeland Security; the Federal Aviation Administration (FAA); the National Aeronautics and Space Administration (NASA); and the White House Office of Science and Technology Policy. JPDO is responsible for coordinating the related efforts of these partner agencies to plan the transformation to the Next Generation Air Transportation System (NextGen): a fundamental redesign of the national airspace system. FAA will be largely responsible for implementing the policies and systems necessary for NextGen, while safely operating the current air traffic control system.

GAO’s testimony focuses on (1) the progress that JPDO has made in planning NextGen and some challenges it continues to face and (2) the challenges that FAA faces transitioning to NextGen. GAO’s statement is based on our recent reports as well as ongoing work, all of which has been conducted in accordance with generally accepted government auditing standards.

[www.gao.gov/cgi-bin/getrpt?GAO-07-649T](http://www.gao.gov/cgi-bin/getrpt?GAO-07-649T).

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

**NEXT GENERATION AIR TRANSPORTATION SYSTEM**

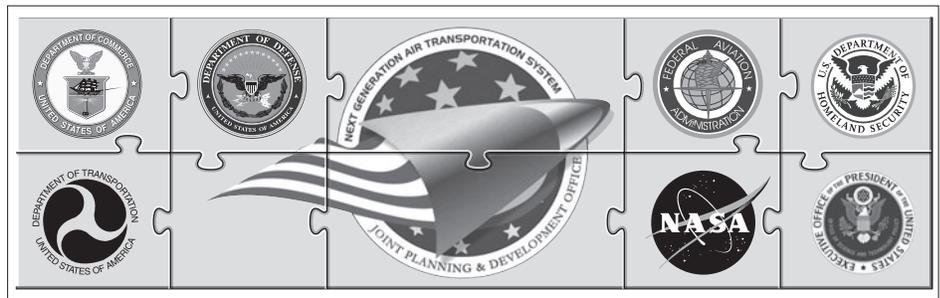
**Progress and Challenges in Planning and Implementing the Transformation of the National Airspace System**

**What GAO Found**

JPDO has made substantial progress in planning NextGen, but continues to face several challenges. JPDO has established a framework to facilitate federal interagency collaboration and is involving nonfederal stakeholders in its planning efforts. JPDO has begun leveraging the resources of its partner agencies and is finalizing key planning documents such as the concept of operations and the enterprise architecture. The draft concept of operations has been posted to JPDO’s Web site for public comment and the enterprise architecture is expected to be completed in the next few months. JPDO and FAA have improved their collaboration and coordination by expanding and revamping FAA’s Operational Evolution Plan—renamed the Operational Evolution Partnership—which is intended to provide an implementation plan for FAA for NextGen. Among the challenges JPDO faces are institutionalizing the interagency collaboration that is so central to its mission, developing a comprehensive cost estimate, and addressing potential gaps in research and development for NextGen.

In transitioning to NextGen, FAA faces several challenges. Although FAA has taken several actions to improve its management of current air traffic control modernization efforts, institutionalizing these improvements will require continued strong leadership, particularly since the agency will have lost two of its key agents for change by September 2007. Costs are another challenge facing FAA as it addresses the resource demands that NextGen will likely pose, while continuing to maintain the current air traffic control system. Finally, determining whether it has the technical and contract management expertise necessary to implement NextGen is a challenge for FAA.

**Seven Partner Agencies Form the Joint Planning and Development Office**



Source: GAO.

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Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to testify before you today on efforts to transform the current national airspace system to the Next Generation Air Transportation System (NextGen). The skies over America are becoming more crowded every day. Demand for air travel has increased in recent years, with over 740 million passengers flying in fiscal year 2006, climbing toward an estimated 1 billion passengers per year in 2015, according to FAA estimates. The consensus of opinion is that the current aviation system cannot be expanded to meet this projected growth. In 2003, recognizing the need for system transformation, Congress authorized the creation of the Joint Planning and Development Office (JPDO) and required the office to operate in conjunction with multiple federal agencies, including the Departments of Transportation, Commerce, Defense, and Homeland Security; the Federal Aviation Administration (FAA); the National Aeronautics and Space Administration (NASA); and the White House Office of Science and Technology Policy.<sup>1</sup> JPDO is responsible for coordinating the related efforts of these partner agencies to plan the transformation to NextGen: a fundamental redesign of the air transportation system that will entail precision satellite navigation; digital, networked communications; an integrated weather system; layered, adaptive security; and more. FAA will be largely responsible for implementing the policies and systems necessary for NextGen, while safely operating the current air traffic control system 24 hours a day, 7 days a week.

My testimony today addresses issues concerning both JPDO and FAA as the NextGen effort begins to move from conceptualization and planning to implementation of systems and procedures. Specifically, my testimony focuses on (1) the progress that JPDO has made in planning the NextGen system and some challenges it continues to face and (2) the challenges that FAA faces in transitioning to NextGen. My statement is based on our recent reports as well as ongoing work for this subcommittee. We conducted this work in accordance with generally accepted government auditing standards.

In summary:

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<sup>1</sup>Pub. L. No. 108-176, Vision 100—Century of Aviation Reauthorization Act, December 12, 2003.

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- JPDO has made substantial progress in planning NextGen, but continues to face several challenges. JPDO has established a framework to facilitate the federal interagency collaboration that is central to its mission, and is involving nonfederal stakeholders in its planning efforts. JPDO has begun leveraging the resources of its partner agencies and finalizing several key documents that form the fundamental plan for NextGen, including a concept of operations and an enterprise architecture. The draft concept of operations has been posted to JPDO's Web site for public comment and the enterprise architecture is expected to be completed in the next few months. JPDO and FAA have improved their collaboration and coordination by developing an expanded and revamped Operational Evolution Plan intended to provide a NextGen implementation plan for FAA. JPDO has faced a continuing challenge in institutionalizing interagency collaboration. JPDO also faces challenges in developing a comprehensive cost estimate, exploring potential gaps in research and development for NextGen, incorporating the expertise of all major stakeholders, researching human factors issues, and establishing credibility among stakeholders.
  - FAA faces challenges in institutionalizing recent management improvements and controlling costs as it begins the transition to NextGen. By creating the Air Traffic Organization (ATO) in 2003, and appointing a Chief Operating Officer (COO) to head ATO, FAA established a new management structure and adopted more leading practices of private sector businesses to address the cost, schedule, and performance shortfalls that have plagued its air traffic control modernization efforts. For example, FAA has taken steps to improve its acquisition workforce culture and work toward a results-oriented, high-performance organization. However, institutionalizing these changes will require continued strong leadership, particularly since the agency will have lost two of its significant agents for change—the FAA Administrator and the COO—by September 2007. Additionally, the costs of operating and maintaining the current air traffic control system while implementing NextGen will be another important challenge for FAA, as will having the technical and contract management expertise needed to implement a system as complex as NextGen.

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## JPDO Has Made Progress in Planning NextGen, but Faces Several Challenges

JPDO has made progress in planning NextGen by facilitating collaboration among its partner agencies, working to finalize key planning documents, and improving its collaboration and coordination with FAA. Among the challenges JPDO faces are institutionalizing collaboration among the partner agencies, and identifying and exploring questions related to which

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entity will fund and conduct the research and development needed to meet NextGen requirements.

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### JPDO Has Made Progress in Planning NextGen by Facilitating Collaboration Among Partner Agencies, Working to Finalize Key Planning Documents, and Improving Coordination with FAA

JPDO has made progress in many areas in planning NextGen, as we reported in November 2006.<sup>2</sup> I will highlight just a few of those areas in this testimony. First, JPDO has taken several actions that are consistent with practices that facilitate interagency collaboration—an important point given how critical such collaboration is to the success of JPDO’s mission. For example, the JPDO partner agencies worked together to develop a high level plan for NextGen along with eight strategies that broadly address the goals and objectives for NextGen.<sup>3</sup> JPDO has since issued two annual updates to this plan, as required by Congress. Also, JPDO’s organizational structure involves federal and nonfederal stakeholders throughout. This structure includes a federal interagency senior policy committee, an institute for nonfederal stakeholders, and eight integrated product teams that bring together federal and nonfederal experts to plan for and coordinate the development of technologies that will address JPDO’s eight broad strategies. JPDO has also begun leveraging the resources of its partner agencies in part by reviewing their research and development programs, identifying work to support NextGen, and working to minimize duplication of research programs across the agencies. For example, one opportunity for coordination involves aligning aviation weather research across FAA, NASA, and the Departments of Commerce and Defense, developing a common weather capability, and integrating weather information into NextGen.

In addition to developing and updating its high-level integrated plan, first published in December 2004, JPDO has been working to develop several critical documents that form the foundation of NextGen planning, including a draft concept of operations and an enterprise architecture. The concept of operations describes how the transformational elements of

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<sup>2</sup>GAO, *Next Generation Air Transportation System: Progress and Challenges Associated with the Transformation of the National Airspace System*, GAO-07-25 (Washington, D.C.: Nov. 13, 2006).

<sup>3</sup>The eight strategies are: (1) Develop airport infrastructure to meet future demand; (2) establish an effective security system without limiting mobility or civil liberties; (3) establish an agile air traffic system that quickly responds to shifts in demand; (4) establish shared situational awareness—where all users share the same information; (5) establish a comprehensive and proactive approach to safety; (6) develop environmental protection that allows sustained aviation growth; (7) develop a systemwide capability to reduce weather impacts; and (8) harmonize equipage and operations globally.

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NextGen will operate in 2025. It is intended to establish general stakeholder buy-in to the NextGen end state, a transition path, and a business case. The enterprise architecture follows from the concept of operations and will describe the system in more detail (using the federal enterprise architecture framework). It will be used to integrate NextGen efforts of the partner agencies. The draft concept of operations has been posted to JPDO's Web site for stakeholder review and comment. According to JPDO, an expanded version of the enterprise architecture is expected in mid-2007.

Progress has also been made in improving the collaboration and coordination between JPDO and FAA—the agency largely responsible for the implementation of NextGen systems and capabilities. FAA has expanded and revamped its Operational Evolution Plan (OEP)—renamed the Operational Evolution Partnership—to become FAA's implementation plan for NextGen.<sup>4</sup> The OEP is being expanded to apply to all of FAA and is intended to become a comprehensive description of how the agency will implement NextGen, including the required technologies, procedures, and resources. An ATO official told us that the new OEP is to be consistent with JPDO's key planning documents and partner agency budget guidance. According to FAA, the new OEP will allow it to demonstrate appropriate budget control and linkage to NextGen plans and will force FAA's research and development to be relevant to NextGen's requirements. According to FAA documents, the agency plans to publish the new OEP in June 2007.

In an effort to further align FAA's efforts with JPDO's plans for NextGen, FAA has created a NextGen Review Board to oversee the OEP. This Review Board will be co-chaired by JPDO's Director and ATO's Vice President of Operations Planning. Initiatives, such as concept demonstrations or research, proposed for inclusion in the OEP, will now need to go through the Review Board for approval. Initiatives are to be assessed for relation to NextGen requirements, concept maturity, and risk. An ATO official told us that the new OEP process should also help identify some smaller programs that might be inconsistent with NextGen and which could be discontinued. Additionally, as a further step towards integrating ATO and JPDO, the administration's reauthorization proposal calls for the JPDO Director to be a voting member of FAA's Joint Resources Council and ATO's Executive Council.

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<sup>4</sup>Prior to expansion of the OEP, the document centered around plans for increasing capacity and efficiency at 35 major airports.

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## Challenges for JPDO Include Institutionalizing Interagency Collaboration and Exploring Potential Gaps in Research and Development Needs for NextGen

Although JPDO has established a framework for collaboration, it has faced a challenge in institutionalizing this framework. As JPDO is a coordinating body, it has no authority over its partner agencies' key human and technological resources needed to continue developing plans and system requirements for NextGen. For example, JPDO has been working to establish a memorandum of understanding (MOU) with its partner agencies to more clearly define partner agencies' roles and responsibilities since at least August 2005. As of March 16, 2007, however, the MOU remained unsigned. Another key activity for strengthening the collaborative effort will be synchronizing the NextGen enterprise architecture with the partner agencies' enterprise architectures. These types of efforts, which would better institutionalize JPDO's collaborative framework throughout the partner agencies, will be critical to JPDO's ability to leverage the necessary funding for developing NextGen. Institutionalization would help ensure that, as administrations and staffing within JPDO change over the years, those coming into JPDO will have a clear understanding of their roles and responsibilities and of the time and resource commitments entailed.

JPDO faces a challenge in developing a comprehensive cost estimate for the NextGen effort. In its recent 2006 Progress Report,<sup>5</sup> JPDO reported some cost estimates related to FAA's NextGen investment portfolio, which I will discuss in more detail later in this statement. However, JPDO is still working to develop an understanding of the future requirements of its other partner agencies and the users of the system. JPDO stated that it sees its work in estimating costs as an ongoing process. The office notes that it will gain additional insight into the business, management, and technical issues and alternatives that will go into the long-term process of implementing NextGen as it continues to work with industry, and that it expects its cost estimates to continue to evolve.

Another challenge facing JPDO is exploring potential gaps in the research and development necessary to achieve some key NextGen capabilities and to keep the development of new systems on schedule. In the past, a significant portion of aeronautics research and development, including intermediate technology development, has been performed by NASA. However, our analysis of NASA's aeronautics research budget and proposed funding shows a 30 percent decline, in constant 2005 dollars,

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<sup>5</sup>JPDO, *Making the NextGen Vision a Reality: 2006 Progress Report to the Next Generation Air Transportation System Integrated Plan*, (Washington, D.C.; March 2007).

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from fiscal year 2005 to fiscal year 2011. To its credit, NASA plans to focus its research on the needs of NextGen. However, NASA is also moving toward a focus on fundamental research and away from developmental work and demonstration projects. FAA is currently assessing its capacity to address these issues. Currently it is unknown how all of the significant research and development activities inherent in the transition to NextGen will be conducted or funded.

Still another challenge facing JPDO is ensuring that all relevant stakeholders are involved in the effort. Some stakeholders, such as current air traffic controllers and technicians, will play critical roles in NextGen, and their involvement in planning for and deploying the new technology will be important to the success of NextGen. In November 2006, we reported that air traffic controllers were not involved in the NextGen planning effort.<sup>6</sup> Controllers are beginning to become involved as the controllers' union is now represented on a key planning body. However, technicians are currently not participating in NextGen efforts. Input from current air traffic controllers who have recent experience controlling aircraft and current technicians who will maintain the new equipment is important is considering human factors and safety issues. Our work on past air traffic control modernization projects has shown that a lack of stakeholder or expert involvement early and throughout a project can lead to cost increases and delays.

Addressing human factors issues is another key challenge for JPDO. For example, the NextGen concept of operations envisions that pilots will take on a greater share of the responsibility for maintaining safe separation and other tasks currently performed by controllers—raising human factors questions about whether pilots can safely perform these additional duties. According to JPDO, the change in the roles of controllers and pilots is the most important human factors issue involved in creating NextGen but will be difficult to research because data on pilot behavior are not readily available for use in creating models.

Finally, we reported in November 2006 that establishing credibility was viewed by the majority of the expert panelists we consulted as a challenge facing JPDO. This view partially stems from past experiences in which the government has stopped some modernization efforts after industry invested in supporting technologies. Stakeholders' belief that the

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<sup>6</sup>[GAO-07-25](#).

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government is fully committed to NextGen will be important as efforts to implement NextGen technologies move forward. Another credibility challenge for JPDO is convincing stakeholders that the collaborative effort is making progress toward facilitating implementation. To address this challenge, the new Director of JPDO is planning to implement some structural and procedural changes to the office. For example, the Director has proposed changing JPDO's integrated product teams into "working groups" that would task small teams with exploring specific issues and delivering discrete work products. These changes have not yet been implemented at JPDO and it will take some time before the effectiveness of these changes can be evaluated.

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## FAA Faces Challenges in Transitioning to NextGen

FAA is a principal player in JPDO's efforts and will be the chief implementer of NextGen. Successful implementation will depend, in part, on how well FAA addresses its challenges of institutionalizing its recent improvement in managing air traffic control modernization efforts, addressing the cost challenges of implementing NextGen while safely maintaining the current air traffic control system, and obtaining the expertise needed to implement a system as complex as NextGen. I turn now to these challenges.

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## FAA Faces the Challenge of Institutionalizing Recent Progress in Managing Air Traffic Control Modernization Efforts

A successful transition to NextGen will depend, to a great extent, on FAA's ability to manage the acquisition and integration of multiple NextGen systems. Since 1995, we have designated FAA's air traffic control modernization program as high risk because of systemic management and acquisition problems. In recent years, FAA has taken a number of actions to improve its management of acquisitions. Realization of NextGen goals could be severely compromised if FAA's improved processes are not institutionalized and carried over into the implementation of NextGen, which is an even more complex and ambitious undertaking than past modernization efforts.

To its credit, FAA has taken a number of actions to improve its acquisition management. By creating the Air Traffic Organization (ATO) in 2003, and appointing a Chief Operating Officer (COO) to head ATO, FAA established a new management structure and adopted more leading practices of private sector businesses to address the cost, schedule, and performance shortfalls that have plagued air traffic control acquisitions. ATO has worked to create a flatter organization, with fewer management layers, and has reported reducing executive staffing by 20 percent and total management by 16 percent. In addition, FAA uses a performance

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management system to hold managers responsible for the success of ATO. More specifically, to better manage its acquisitions and address problems we have identified,<sup>7</sup> FAA has

- established strategic goals to improve its acquisition workforce culture and build towards a results-oriented, high-performing organization;
- developed and applied a process improvement model to assess the maturity of its software and systems acquisitions capabilities resulting in, among other things, enhanced productivity and greater ability to predict schedules and resources; and
- reported that it has established a policy and guidance on using Earned Value Management (EVM) in its acquisition management system and that 19 of its major programs are currently using EVM.<sup>8</sup>

Institutionalizing these improvements throughout the agency (i.e., providing for their duration beyond the current leadership by ensuring that reforms are fully integrated into the agency's structure and processes and have become part of its organizational culture) will continue to be a challenge for FAA. For example, the agency has yet to implement its cost estimating methodology, although, according to the agency, it has provided training on the methodology to employees. Furthermore, FAA has not established a policy to require use of its process improvement model on all major acquisitions for the national airspace system. Until the agency fully addresses these legacy issues, it will continue to risk program management problems affecting cost, schedule, and performance. With a multi-billion dollar acquisition budget, addressing these issues is as important as ever.

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<sup>7</sup>GAO, *Federal Aviation Administration: Stronger Architecture Program Needed to Guide Systems Modernization Efforts*, [GAO-05-266](#) (Washington, D.C.: Apr. 29, 2005); *Air Traffic Control: System Management Capabilities Improved, but More can be Done to Institutionalize Improvements*, [GAO-04-901](#) (Washington, D.C.: Aug. 20, 2004); and *Information Technology: FAA Has Many Investment Management Capabilities in Place, but More Oversight of Operational Systems is Needed*, [GAO-04-822](#) (Washington, D.C.: Aug. 20, 2004).

<sup>8</sup>EVM is a project management technique that combines measurements of technical performance, schedule performance, and cost performance with the intent of providing an early warning of problems while there is time for corrective action.

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## Institutionalizing Change within FAA Will Require Continued Strong Leadership

While FAA has implemented many positive changes to its management processes, it currently faces the loss of key leaders. We have reported that the experiences of successful transformations and change management initiatives in large public and private organizations suggest that it can take 5 to 7 years or more until such initiatives are fully implemented and cultures are transformed in a sustainable manner. Such changes require focused, full-time attention from senior leadership and a dedicated team.<sup>9</sup> FAA's management improvements are relatively recent developments, and the agency will have lost two of its significant agents for change—the Administrator and the COO—by the end of September. The administrator's term ends in September 2007; the COO left in February 2007, after serving 3 years. This situation is exacerbated by the fact that the current Director of JPDO is also new, having assumed that position in August 2006. For the management and acquisition improvements to further permeate the agency, and thus provide a firm foundation upon which to implement NextGen, FAA's new leaders will need to demonstrate the same commitment to improvement as the outgoing leaders. This continued commitment to change is critical over the next few years, as foundational NextGen systems begin to be implemented. Expediently moving to find a new COO will help sustain this momentum.

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## FAA Faces a Cost Challenge of Implementing NextGen while Sustaining the Current Air Traffic Control System

JPDO recently reported some estimated costs for NextGen, including specifics on some early NextGen programs.<sup>10</sup> JPDO believes the total federal cost for NextGen infrastructure through 2025 will range between \$15 billion and \$22 billion. JPDO also reported that a preliminary estimate of the corresponding cost to system users, who will have to equip with the advanced avionics that are necessary to realize the full benefits of some NextGen technologies, ranges between \$14 and \$20 billion. JPDO noted that this range for avionics costs reflects uncertainty about equipment costs for individual aircraft, the number of very light jets that will operate in high-performance airspace, and the amount of out-of-service time required for installation.

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<sup>9</sup>GAO, *National Airspace System: Transformation will Require Cultural Change, Balanced Funding Priorities, and Use of All Available Management Tools*, [GAO-06-154](#) (Washington, D.C.: Oct. 14, 2005).

<sup>10</sup>JPDO, *Making the NextGen Vision a Reality: 2006 Progress Report to the Next Generation Air Transportation System Integrated Plan*, (Washington, D.C.: March 2007)

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In its Capital Investment Plan for fiscal years 2008-2012, FAA includes estimated expenditures for eleven line items that are considered NextGen capital programs.<sup>11</sup> The total 5-year estimated expenditures for these programs are \$4.3 billion. In fiscal year 2008, only six of the line items are funded for a total of roughly \$174 million; funding for the remaining five programs would begin with the fiscal year 2009 budget. According to FAA, in addition to capital spending for NextGen, the agency will also spend an estimated \$300 million on NextGen-related research and development from fiscal years 2008 through 2012. Also, the administration's budget for fiscal year 2008 for FAA includes \$17.8 million to support the activities of JPDO.

It is important to note that while FAA must manage the costs associated with the NextGen transformation, it must simultaneously continue to fund and operate the current national airspace system. In fact, the Department of Transportation's Inspector General has reported that the majority of FAA's capital funds go toward the sustainment of current air traffic systems and that, over the last several years, increasing operating costs have crowded out funds for the capital account. Efforts to sustain the current system are particularly important given the safety concerns that could be involved with system outages—the number of which has increased steadily over the last few years as the system continues to age.

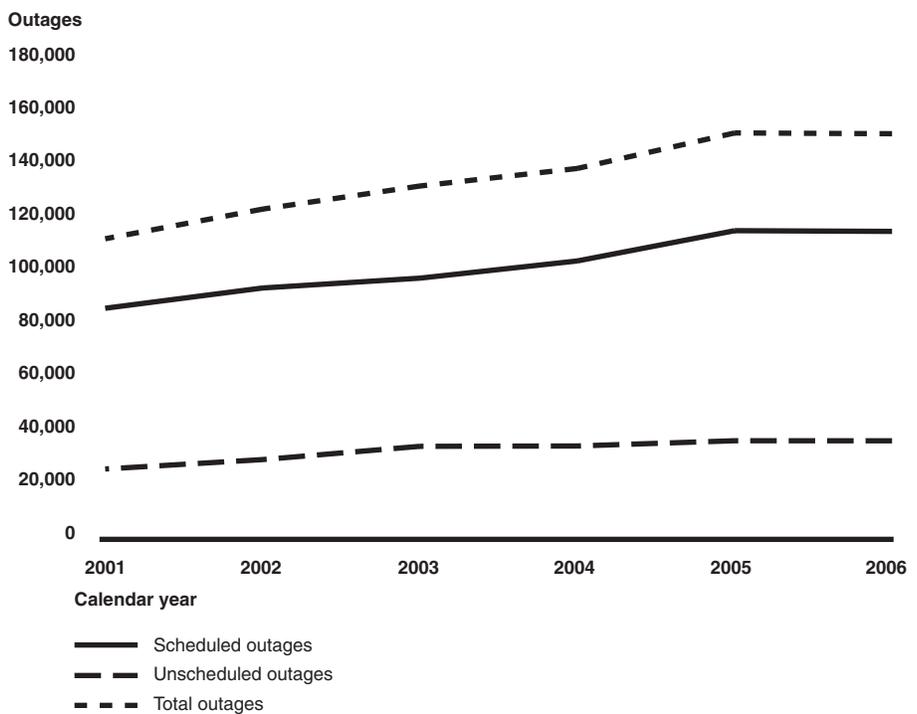
For example, the adequacy of FAA's maintenance of existing systems was raised following a power outage and equipment failures in Southern California that caused hundreds of flight delays during the summer of 2006. Investigations by the DOT Inspector General into these incidents identified a number of underlying issues, including the age and condition of equipment. Nationwide, the number of scheduled and unscheduled outages of air traffic control equipment and ancillary support systems has been increasing (see fig. 1). According to FAA, increases in the number of unscheduled outages indicate that systems are failing more frequently. FAA also notes that the duration of unscheduled equipment outages has also been increasing in recent years from an average of about 21 hours in

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<sup>11</sup>FAA has six capital investment programs that it considers transformational NextGen programs slated to receive funding in fiscal year 2008: ADS-B nationwide implementation, System Wide Information Management (SWIM), NextGen Data Communications, NextGen Network Enabled Weather, National Airspace System Voice Switch, and NextGen Technology Demonstration. In addition, five other programs are slated to begin funding in 2009: NextGen System Development, NextGen High Altitude Trajectory Based Operations, NextGen High Density Airports, NextGen Networked Facilities, and NextGen Cross-Cutting Infrastructure.

2001 to about 40 hours in 2006, which may indicate, in part, that maintenance and troubleshooting activities are requiring more effort and longer periods of time. However, the agency considers user impact and resource efficiency when planning and responding to equipment outages, according to an FAA official. As a result, although some outages will have longer restoration times, FAA believes that they do not adversely affect air traffic control operations. It will be important for FAA to monitor and address equipment outages to ensure the safety and efficiency of the legacy systems and a smooth transition to NextGen.

**Figure 1: Number of Scheduled and Unscheduled Equipment Outages, Calendar Years 2001-2006**



Source: GAO analysis of FAA's NASPAS data.

As part of managing the costs of system sustainment and system modernization, FAA is seeking ways to reduce costs by introducing infrastructure and operational efficiencies. For example, FAA plans to produce cost savings through outsourcing and facility consolidations. FAA is outsourcing flight service stations and estimates a \$2.2 billion savings over 12 years. Similarly, FAA is seeking savings through outsourcing its planned nationwide deployment of Automatic Dependent Surveillance-

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Broadcast (ADS-B), a critical surveillance technology for NextGen. FAA is planning to implement ADS-B through a performance-based contract in which FAA will pay “subscription” charges for the ADS-B services and the vendor will be responsible for building and maintaining the infrastructure. (FAA also reports that the ADS-B rollout will allow the agency to remove 50 percent of its current secondary radars, saving money in the ADS-B program’s baseline.) As for consolidating facilities, FAA is currently restructuring its administrative service areas from nine offices to three offices, which FAA estimates will save up to \$460 million over 10 years.

We have previously reported that FAA should pursue further cost control options, such as exploring additional opportunities for contracting out services and consolidating facilities. However, we recognize that FAA faces challenges with consolidating facilities, an action that can be politically sensitive. In recognition of this sensitivity, the administration has proposed in FAA’s reauthorization proposal that the Secretary of Transportation be authorized to establish an independent, five-member Commission, known as the Realignment and Consolidation of Aviation Facilities and Services Commission, to independently analyze FAA’s recommendations to realign facilities or services. The Commission would then send its own recommendations to the President and to Congress. In the past, we have noted the importance of potential cost savings through facility consolidations; however, it must also be noted that any such consolidations must be handled through a process that solicits and considers stakeholder input throughout, and fully considers the safety implications of any proposed facility closures or consolidations.

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## FAA Needs to Explore Whether It Has the Technical and Contract Management Expertise Necessary to Implement NextGen

In the past, a lack of expertise contributed to weaknesses in FAA’s management of air traffic control modernization efforts, and industry experts with whom we spoke questioned whether FAA will have the technical expertise needed to implement NextGen. In addition to technical expertise, FAA will need contract management expertise to oversee the systems acquisitions and integration involved in NextGen. In November, we recommended that FAA examine its strengths and weaknesses with regard to the technical expertise and contract management expertise that will be required to define, implement, and integrate the numerous complex programs inherent in the transition to NextGen.<sup>12</sup> In response to our recommendation, FAA is considering convening a blue ribbon panel to

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<sup>12</sup>[GAO-07-25](#).

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study the issue and make recommendations to the agency about how to best proceed with its management and oversight of the implementation of NextGen. We believe that such a panel could help FAA begin to address this challenge.

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To conclude, transforming the national airspace system to accommodate much greater demand for air transportation services in the years ahead will be an enormously complex undertaking. JPDO has made strides in meeting its planning and coordination role as set forth by Congress, and FAA has taken several steps in recent years that better position it to successfully implement NextGen. If JPDO and FAA can build on their recent achievements and overcome the many challenges they face, the transition to NextGen stands a much better chance for success.

Mr. Chairman, this concludes my statement. I am pleased to answer any questions you or members of the Subcommittee might have.

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## GAO Contact and Staff Acknowledgements

For further information on this testimony, please contact Susan Fleming at (202) 512-2834 or [flemings@gao.gov](mailto:flemings@gao.gov). Individuals making key contributions to this testimony include Gerald Dillingham, Matthew Cook, Anne Dilger, Sharon Dyer, Colin Fallon, Heather Krause, Edmond Menoche, Faye Morrison, and Carrie Wilks.

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