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FAA's FY 2008 Budget Request: Key Issues Facing the Agency

Statement of
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Chairman Murray, Ranking Member Bond, and Members of the Subcommittee:

We appreciate the opportunity to testify today regarding the Federal Aviation Administration's (FAA) fiscal year (FY) 2008 budget request. Our testimony will focus on the key issues that will frame FAA's financial requirements over the next several years.

A significant challenge facing FAA today is how to move forward with the next generation air transportation system. The current system handles over 700 million passengers per year, a number that will grow to over 1 billion travelers by 2015. This system must also be poised for the introduction of thousands of very light jets[1] during the same timeframe. This influx of new aircraft will strain the Agency's air traffic control systems and its inspection and certification workforces.

FAA oversees the busiest and most complex aviation system in the world. In 2006, FAA enroute centers—facilities that manage high-altitude traffic—handled 46 million operations, which approximated the activity levels in 2000. However, with respect to delays, operational performance of the National Airspace System (NAS) slipped slightly in 2006 with one in four flights arriving late, the worst level since 2000.

It is against this backdrop that we would like to discuss FAA's FY 2008 budget request. FAA is presenting its $14.1 billion budget request in a new format and structure that mirror its plans to reform how the Agency is financed. Currently, FAA is financed by two mechanisms: excise taxes (primarily those from ticket taxes on airfare) and a contribution from the General Fund. FAA has proposed changing that revenue stream to one that is based primarily on user fees; Congress is currently deliberating that proposal.

The focus of our testimony today, Madam Chairman, is that regardless of the funding mechanism ultimately decided upon by Congress, a number of "front-and-center" issues demand attention and will shape FAA's requirements over the next several years. These include the following:

Keeping Existing Modernization Efforts on Track and Reducing Risks With the Next Generation Air Transportation System (NextGen): FAA is requesting $2.46 billion for its capital programs in FY 2008, the majority of which is for the Air Traffic Organization's capital efforts. The FY 2008 request also includes funding for key NextGen initiatives, such as the Automatic Dependent Surveillance–Broadcast Program (ADS-B) and the System Wide Information Management Program (SWIM), and for demonstration projects.

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[1] These are small, "affordable" aircraft that will carry up to six passengers. Priced as low as $1 million per aircraft, very light jet manufacturers anticipate that these aircraft will find a niche among corporate and private owners and as on-demand air taxi services. According to FAA, up to 5,000 very light jets will vie for airspace by 2017.

Currently, we are reviewing the progress of 18 projects with a combined cost of $17 billion. We do not see the massive cost growth and schedule slips that we have in the past with FAA's major acquisitions. This is due to FAA's efforts to re-baseline major efforts and segment investment decisions. However, there are projects, such as FAA's Telecommunications Infrastructure program, that are at risk of not achieving expected cost savings and benefits because of schedule slips.

We are also concerned about further cost increases and schedule slips with the Airport Surface Detection Equipment Model-X (ASDE-X), which is an important program to reduce the risks of accidents on runways. It is planned to improve airport safety by operating in all-weather and low-visibility conditions (e.g., fog, rain, and snow) when controllers cannot see activity on ramps, runways, and taxiways. ASDE-X was initially designed to provide a low-cost alternative to FAA's ASDE-3 radar systems but has evolved into a different program. In September 2005, FAA increased ASDE-X costs from $505.2 million to $549.8 million and extended the completion date from 2007 to 2011. In addition, the cost to acquire and install some key ASDE-X activities has increased by $94 million since the 2005 re-baseline. To stay within the revised baseline, FAA offset this cost by decreasing funds for seven program activities, such as construction for later deployment sites.

As of March 2007, FAA had commissioned only 8 of the 35 ASDE-X sites. Of the seven sites planned for FY 2006, FAA only commissioned four. Further, it is uncertain when key safety features will be delivered. For example, FAA has yet to commission an ASDE-X system that can alert controllers of potential collisions on intersecting runways or converging taxiways. Because of these issues, the program is at risk of not meeting its current cost and schedule plans to deliver all 35 ASDE-X systems by 2011. We are reviewing ASDE-X and will issue a report later this year.

A central question in the debate about financing FAA is what it will cost to develop and implement NextGen. The most current estimates suggest that the Agency will require $15.4 billion for capital projects from FY 2008 to FY 2012. This includes $4.6 billion for NextGen initiatives ($4.3 billion from the capital account and $300 million from the Research Engineering and Development account). However, we caution that there are still unknowns with respect to requirements for new software, intensive automation systems, and data communications. Further, considerable development will be required to refine these concepts and determine how systems can be certified as safe.

We recently made a number of recommendations[2] aimed at reducing risk with NextGen, a multibillion-dollar effort that will dominate FAA's capital account. We

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[2] OIG Report Number AV-2007-031, "Joint Planning and Development Office: Actions Needed To Reduce Risks With the Next Generation Air Transportation System," February 12, 2007. OIG reports and testimonies can be found on our website: www.oig.dot.gov.

recommended that FAA provide Congress with costs along three vectors—research and development, adjustments to existing projects, and funds for new initiatives. This will help decision makers understand the magnitude of the effort and how additional funds will be used. Given the high-risk nature of NextGen, we also recommended that FAA articulate a strategy for how this extraordinarily complex effort will be managed (beyond conducting demonstration projects) and what expertise will be required to prevent past problems and successfully deliver new capabilities. FAA concurred with our recommendations.

Addressing Attrition in FAA's Critical Workforces: FAA is facing significant attrition issues within two of its most critical workforces—air traffic controllers and aviation safety inspectors. Ensuring that there are enough adequately trained and certified professionals in these two fields is critical to the safety and efficiency of the NAS and will remain a high priority for FAA and Congress over the next 10 years.

Through 2016, FAA must hire and train over 15,000 new controllers as controllers hired after the 1981 strike begin retiring. In December 2004, FAA developed a comprehensive workforce plan to address this challenge and issued the first in a series of annual reports to Congress. FAA issued its first update to the plan in June 2006 and its second update in March 2007.

In February, we issued the results of our review of FAA's progress in implementing its controller workforce plan.[3] Overall, we found that FAA continues to make progress in implementing a comprehensive staffing plan to address the surge in retirements. For example, we found that FAA has significantly improved its hiring process and has made progress in reducing the time and costs to train new controllers. However, further progress is still needed in key areas. Those include:

- Completing validation of accurate facility-level staffing standards (a critical component because FAA has over 300 air traffic facilities with significant differences in air traffic levels and complexity),

- Continuing efforts to reduce the time and costs associated with on-the-job training (the longest and most expensive portion of new controllers' training),

- Establishing baseline metrics to measure the effectiveness of controller productivity initiatives (FAA must ensure that reductions in staffing are a result of increased productivity and not simply fewer controllers controlling more traffic), and

- Identifying the estimated total costs of the plan (which will significantly impact FAA's operating cost requirements over the next 10 years).

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[3] OIG Report Number AV-2007-032, "FAA Continues To Make Progress in Implementing Its Controller Workforce Plan, but Further Efforts Are Needed in Several Key Areas," February 9, 2007.

We recommended that FAA include the progress made in validating facility staffing standards in the next update of the plan along with the plan's total estimated costs. FAA concurred with our recommendations and included interim staffing ranges for all facilities in its March 2007 update to the plan as well as the expected additional personnel and compensation costs that it will incur for new controllers in training each year through 2016. However, the actions needed to address this issue are ongoing and, in some cases, it may be years before they are fully implemented. We will continue to monitor and report on FAA's efforts in addressing this challenge.

Like its controller workforce, FAA is facing significant attrition among its aviation safety inspectors. FAA currently has 3,865 inspectors to oversee domestic and foreign aspects of the largest, most complex aviation system in the world. Over one-third of these inspectors (44 percent) will be eligible to retire by 2010.

FAA will never have an inspection workforce that is large enough to oversee all aspects of aviation operations, but it is important for the Agency to ensure that its inspectors are located where they are most needed. The National Research Council recently completed its study[4] of FAA's current methods of allocating inspector resources and concluded that the Agency's current model is not effective. FAA must develop a reliable staffing model to ensure that it has the right number of inspectors at the right locations. FAA advised us that it intends to implement the Council's recommendations and has procured the services of an independent contractor to obtain the most effective staffing mechanism. However, completion of this process is likely years away.

Determining the Appropriate Amount of Airport Funding: The Airport Improvement Fund (AIP) supports the airport system by providing funds to primarily enhance safety and security, maintain the infrastructure, increase capacity, and mitigate airport noise in surrounding communities. Over the last 2 years, FAA's budget requests for the AIP have been significantly less than authorized levels. However, Congress has provided FAA with close to the Vision 100[5] authorized amounts in FY 2005 and FY 2006.

In FY 2007, the AIP is funded at the 2006 level of $3.5 billion, which is a $200 million reduction from the FY 2007 authorized level. For FY 2008, FAA has requested $2.75 billion for the AIP—$950 million less than the FY 2007 Vision 100 authorized level.

With growing demands for airport improvement projects and potentially less AIP funding available, AIP funds must be directed to the Nation's highest priority projects while meeting the unique needs of small airports. Given the growth in projected

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[4] Study completed by the National Research Council of the National Academies, "Staffing Standards for Aviation Safety Inspectors," September 20, 2006.
[5] Vision 100 – Century of Aviation Reauthorization Act, Pub. L. No. 108-176 (2003).

passenger traffic and the Department's commitment to accelerate major airport infrastructure projects by giving priority treatment and resources to capacity projects, it may be time to re-examine AIP funding levels and the type of projects funded.

For example, we found that under current AIP Military Airport Program set-aside requirements, low-priority projects could be funded at an airport that meets set-aside requirements while higher-priority projects at other airports could go unfunded. We will report on FAA's prioritization of AIP funds later this year.

Another important funding mechanism for airports are passenger facility charges (PFC). PFCs have become an important funding mechanism for airports—between 1992 and 2006, FAA approved the collection of $57.3 billion in PFCs. Of this amount, airports have collected approximately $22 billion, with another $2.6 billion anticipated for 2007. Currently, PFCs are capped at $4.50 per segment of flight (a maximum of $18.00 on a round trip). Over 75 percent (248 of 328 airports) of the airports collecting a PFC charge the maximum amount. The current cap on PFCs has significant implications for major airports' capital expenditure plans because over 75 percent of the airports collecting PFCs are already charging the maximum amount, and some airports are anticipating an increased PFC as part of major capital improvement financing plans.

I would now like to discuss FAA's FY 2008 budget request and these three areas in greater detail. I will also provide our observations on FAA acquisition and contracting issues.

FAA'S FY 2008 BUDGET

FAA is requesting $14.1 billion for FY 2008, a reduction of nearly $460 million from the FY 2007 enacted levels, and $233 million from the FY 2006 actual levels. FAA is presenting its budget request in a new format and structure that mirror its plans to shift from the current excise taxes to a structure that relies on, among other things, cost-based user fees. FAA anticipates that the new financing system will be implemented in FY 2009.

For FY 2008, FAA has realigned its four accounts to better reflect its lines of business and proposed financing system. The budget request shows the Operations and Facilities & Equipment (F&E) accounts realigned into two new accounts. The first account combines the Agency's safety oversight, Commercial Space Transportation, and staff offices into a single account called Safety and Operations. The second account combines most of the Facilities and Equipment account with the Air Traffic maintenance and other Operations account functions into the Air Traffic Organization (ATO) account. The Airport Improvement Program and the Research, Engineering, and Development (RE&D) accounts remain the same. FAA's budget funds these four accounts as follows:

- For the Safety and Operations account, FAA is requesting $1.88 billion (13 percent of FAA's total budget), an increase of $102 million over last year's enacted amount for comparable functions. For safety-related functions, such as safety inspectors and certification activities, FAA is requesting $1.11 billion, an increase of $105 million from last year's enacted amount.

- For the ATO account, FAA is requesting $9.3 billion (66 percent of FAA's total budget), an increase of $184 million over comparable functions in the FY 2007 enacted budget. For the operation and maintenance of the air traffic control system, the Agency is requesting $6.96 billion, an increase of $225 million over last year's amount. FAA is also requesting $2.34 billion in capital program funds for the ATO, a decrease of $41 million from last year's enacted amount. Capital projects associated with other functions, such as safety, are now included in the Safety and Operations account.

- For the AIP account, FAA is requesting $2.75 billion (20 percent of FAA's total budget). This represents a $765 million decrease from the amounts provided in FY 2007. To put this figure into context, since FY 2001, the AIP account has been authorized at $3.2 billion or higher each year.

- Finally, FAA is requesting $140 million for the RE&D account (1 percent of FAA's total budget), an increase of $10 million from the FY 2007 enacted level.

To demonstrate in terms of the old and new budget presentation, table 1 summarizes the FY 2008 budget request in last year's four-account format.

Table 1. FAA Budgets FY 2006 Through FY 2008
($ in Millions)

Account	FY 2006 Actual	FY 2007 Enacted	FY 2008* Request
Operations	$8,104	$8,374	$8,726
Facilities & Equipment	$2,555	$2,518	$2,462
Airport Improvement Program	$3,515	$3,515	$2,750
Research, Engineering, and Development	$137	$130	$140
Total	**$14,310**	**$14,537**	**$14,077**

Source: FAA's FY 2008 Budget Request and FAA's Office of the Budget

*We summarized FAA's FY 2008 budget request using the previous format for comparative purposes.
Note: Figures may not add up exactly due to rounding.

The FY 2008 budget would be financed by the two mechanisms currently used to fund FAA: excise taxes deposited into the Airport and Airway Trust Fund and a General Fund contribution. The Trust Fund, which was created in 1970, provides FAA with a dedicated revenue source for funding aviation programs.

Initially envisioned as a means to fund the infrastructure and modernization needs of the NAS, the Trust Fund also pays for large portions of FAA's operating budget, the Essential Air Service Program, and one-time items (e.g., security funding after the September 11, 2001, attacks). The General Fund is used to make up the difference between Trust Fund revenues and the unfunded portion of FAA's budget.

For FY 2008, FAA expects the Trust Fund to contribute $11.5 billion, or 81 percent, toward its total budget and the General Fund to contribute $2.6 billion, or 19 percent. These amounts are similar to what has been budgeted in the previous 4 years. Table 2 shows the contribution from each of the funding sources toward FAA's proposed new accounts.

Table 2. Funding Source Contributions
($ in Millions)

Account	Airport and Airway Trust Fund	General Fund	Total
Air Traffic Organization	$7,915 (85%)	$1,393 (15%)	$9,308
Safety and Operations	$672 (36%)	$1,208 (64%)	$1,879
Airport Improvement Program	$2,750 (100%)	$0 (0%)	$2,750
Research, Engineering, and Development	$123 (88%)	$17 (12%)	$140
Total	$11,459 (81%)	$2,618 (19%)	$14,077

Source: FAA's FY 2008 budget submission to Congress
Note: Percentages in table are toward the total budget.
Note: Figures may not add up exactly due to rounding.

KEEPING EXISTING MODERNIZATION EFFORTS ON TRACK AND REDUCING RISKS WITH NEXTGEN

FAA faces challenges in maintaining existing systems while developing and implementing new capabilities to meet the anticipated demand for air travel. For fiscal year (FY) 2008, FAA is requesting $2.46 billion in capital funds, the majority of which ($2.3 billion) is for Air Traffic Organization (ATO) efforts to modernize the NAS. Over the last several years, increasing operating costs have crowded out funds for the capital account. Since FY 2005, capital funding requests have leveled off, falling within the range of $2.4 billion to $2.5 billion, well below the levels authorized in the Vision 100 Act. Another trend has been FAA's decision to cancel, defer, and segment acquisitions while the capital budget stayed essentially flat. Further, only about 50 percent of FAA's capital budget goes to air traffic systems; the remainder goes to personnel, mission support, and facilities (i.e., sustainment). Although a large portion of FAA's capital funds will go toward sustainment, FAA is requesting additional funds for key technologies for NextGen. These include the following:

- **Automatic Dependent Surveillance-Broadcast (ADS-B)[6]** is a satellite-based technology that allows aircraft to broadcast their position to others. FAA requested $80 million in FY 2007 for this satellite-based technology. For FY 2008, it is requesting $85.7 million. FAA expects to award a contract for the installation and maintenance of the ADS-B ground infrastructure in 2007. However, a number of challenges must be addressed. These include conducting human factors work and determining how air and ground elements will be certified as safe. FAA may have to rely on a rulemaking initiative to help speed ADS-B airspace user equipage. The current cost estimate for ADS-B is approximately $1.2 billion, and FAA is planning to re-baseline the ADS-B costs this summer.

- **System Wide Information Management (SWIM)** is a new information architecture that will allow airspace users to securely and seamlessly access a wide range of information on the status of the NAS and weather conditions. It is analogous to an internet system for all airspace users. FAA requested $24 million for this program in FY 2007. For FY 2008, it is requesting $21.3 million. The cost to fully implement SWIM is unknown, and we note that SWIM is scheduled to be reviewed by FAA's Joint Resources Council this June.

In its FY 2008 budget submission, FAA is requesting funds for new NextGen initiatives, such as NextGen Data Communication ($7.4 million), NextGen Network Enabled Weather ($7 million), and a new National Airspace System Voice Switch ($3 million). FAA is also requesting $50 million for demonstration and infrastructure projects.

We are tracking 18 programs with a combined acquisition cost of $17 billion. Today, we will highlight (1) FAA's progress and problems with key modernization efforts and (2) FAA actions needed to reduce risk with NextGen.

FAA's Progress and Problems With Ongoing Modernization Projects

We do not see the massive cost growth that we have in the past with FAA acquisitions. This is due to FAA's efforts to re-baseline programs and segment investment decisions. However, we found that several projects (totaling of $6 billion in capital investment costs) will require significant attention and oversight because of their size, diminishing benefits, potential cost and schedule problems, or importance to the NextGen transition. These are discussed below.

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[6] The first phase of ADS-B implementation, known as *ADS-B out*, is expected to replace many ground radars that currently provide aircraft surveillance with less costly ground-based transceivers. Aircraft would be equipped with ADS-B out, which broadcasts a signal to these transceivers. However, implementing ADS-B out is just the first step to achieving the larger benefits of ADS-B, which would be provided by *ADS-B in*. ADS-B in would allow aircraft to receive signals from ground-based transceivers or directly from other aircraft equipped with ADS-B. This could allow pilots to "see" nearby traffic and, consequently, transition some responsibility for maintaining safe separation from the air traffic controllers to the cockpit.

En Route Automation Modernization (ERAM): This program is intended to replace the "Host" computer network—the central nervous system for facilities that manage high-altitude traffic. FAA requested $375.7 million for ERAM in FY 2007. For FY 2008, it is requesting $368.8 million. The first ERAM system is scheduled to be fielded by December 2009. While providing some enhancements, ERAM is essentially a one-for-one replacement for the existing "Host" computer system. As currently structured, ERAM will have two follow-on software releases (releases 2 and 3) valued at $83 million; these are still undefined. ERAM is expected to provide the basic platform for NextGen's automated capabilities.

With an acquisition cost of $2.1 billion and a monthly expenditure or "burn rate" of $31 million, this program continues to be one of the most expensive and complex acquisitions in FAA's modernization portfolio. While currently on track, considerable testing and integration work lies ahead. The next major milestone is completion of Factory Acceptance Testing,[7] which is planned for June 2007. Any ERAM cost increase or schedule slip will have an impact on other capital programs and could directly affect the pace of the overall transition to NextGen.

Federal Aviation Administration Telecommunications Infrastructure (FTI): The FTI program is to replace seven FAA-owned and -leased telecommunications networks with a single network that will provide FAA with telecommunications services through 2017. FAA expects that FTI will significantly reduce its operating costs after the new network is completed. In FY 2007, FAA requested $28 million for the FTI program. For FY 2008, it is requesting $8.5 million. The vast majority of FTI, however, is funded out of the Operations Account as opposed to the Facilities and Equipment account, which funds most acquisitions. For FY 2008, FAA estimates that it will need $210 million to support FTI operations. Additionally, FAA is planning to request another $91 million to maintain legacy network operations until the FTI transition is complete.

In April 2006, we reported[8] that FTI was a high-risk and schedule-driven effort that was unlikely to meet its December 2007 completion date. We found that FAA needed to improve management controls over FTI by developing a realistic master schedule and an effective transition plan. Since our report, the Agency has extended the FTI completion date to December 2008; this represents a 1-year schedule delay. In May 2006, we began a follow-up review of FTI. To its credit, FAA is making significant progress in delivering FTI services. As of March 31, 2007, 10,973 of about 21,820 services were operating on FTI.

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[7] Factory Acceptance Testing is defined by FAA as formal testing conducted by the contractor to verify that the production item conforms to all contract specifications, is free from manufacturing defects, and meets all system requirements.

[8] OIG Report Number AV-2006-047, "FAA Telecommunications Infrastructure Program: FAA Needs To Take Steps To Improve Management Controls and Reduce Schedule Risks," April 27, 2006.

As a result of the delay, FAA's Joint Resources Council approved a new cost baseline for FTI in August 2006. FAA increased its acquisition costs to develop the FTI network by an additional $8.6 million (from $310.2 to $318.8 million) and increased its overall operations costs to support FTI network and legacy networks by about $100 million (from $3.0 to $3.1 billion).

We also continue to see an erosion of expected FTI cost savings. For example, in October 2005, the Program Office reported a reduction in the benefit estimate from $820 million to $672 million. By the end of FY 2006, we estimate that FTI cost savings decreased from $672 million to $442 million, including sunk costs. Moreover, since FAA has not yet validated the FTI cost and benefits estimates that were approved in August 2006—an action that we recommended and that FAA agreed to take—the true FTI costs and benefits remain unknown.

FAA continues to face challenges in making the transition to FTI. For instance, FAA currently has a large backlog of FTI services (averaging about 1,800 services over the last 3 months) that need to be addressed. The backlog includes failed transitions, on-hold services, misconfigured [sic] equipment, and obsolete services. Additionally, the transition of digital services, such as critical radar and flight data, to FTI continues to be problematic. Some digital services were placed on "national hold" while engineering solutions could be developed.

In addition, FAA needs to ensure that it has an effective strategy to address FTI reliability and customer service problems. For example, many FTI services are not meeting reliability standards and are not being restored to service within contractual timeframes after outages. These problems led to unscheduled outages of both primary and back-up services, which led to flight delays. For example, on January 9, 2007, the Salt Lake City en route center experienced a 3-hour outage that caused 90 departure delays due to an FTI maintenance contractor trying to upgrade operational FTI equipment.

Overall, key watch items for FTI include addressing the backlog of services, improving FTI reliability and customer service, stopping the erosion of expected cost benefits, and validating costs. Recently, FAA completed negotiations with Verizon Business to extend LINCS[9] (FAA's largest and costliest existing network to be replaced by FTI), which expired in April 2007. FAA has agreed to a $92 million ceiling price to extend LINCS until April 2008. We will be reporting on the FTI program later in the year.

Airport Surface Detection Equipment-Model X (ASDE-X): ASDE-X is an important safety initiative planned to reduce the risks of accidents on runways. In FY

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[9]   In March 2007, about 43 percent of LINCS A-nodes had been decommissioned.

2007, FAA requested $63.6 million for the ASDE-X program. For FY 2008, it is requesting $37.9 million.

ASDE-X is FAA's latest effort designed to provide controllers with positive identification of aircraft and vehicle positions on the airport surface. It is planned to improve airport safety by operating in all-weather and low-visibility conditions (e.g., fog, rain, and snow) when controllers cannot see surface movement on ramps, runways, and taxiways.

ASDE-X was initially designed to provide a low-cost alternative to FAA's ASDE-3 radar systems for small- to medium-sized airports but has evolved into a different program. FAA made a significant change to the scope of the program in September 2005 and now intends to upgrade ASDE-3 systems with ASDE-X capabilities at 25 large airports and install the system at 10 other airports that currently lack surface surveillance technology. In September 2005, FAA increased ASDE-X costs from $505.2 million to $549.8 million and extended the completion date from 2007 to 2011.

We are concerned about further cost increases and schedule delays with this program since the cost to acquire and install some ASDE-X activities has increased by $94 million since the 2005 re-baseline. To stay within the revised baseline, FAA offset this cost by decreasing planned expenditures funds for seven other program activities, such as construction for later deployment sites.

We are also concerned that the ASDE-X schedule is not realistic. As of March 2007, FAA had commissioned only 8 of the 35 ASDE-X sites. Of the seven sites planned for FY 2006, FAA only commissioned four. Further, it is uncertain when key safety features will be delivered. For example, FAA has yet to commission an ASDE-X system that can alert controllers of potential collisions on intersecting runways or converging taxiways. Because of these issues, the program is at risk of not meeting its current cost and schedule plans to deliver all 35 ASDE-X systems by 2011. We are reviewing ASDE-X and will issue a report later this year.

Air Traffic Management (ATM): ATM includes the Traffic Flow Management–Modernization (TFM-M) program and the Collaborative Air Traffic Management Technologies (CATMT) program. TFM-M modernizes the TFM system, which is the Nation's single source for capturing and disseminating air traffic information to reduce delays and make maximum use of system capacity. CATMT provides new decision support tools to deliver additional user benefits and increase effective NAS capacity. At a cost of $450 million, these are two key efforts for coordinating air traffic across the NAS and managing the adverse impacts of bad weather. In FY 2007, FAA requested $79 million for ATM programs. For FY 2008, it is requesting $91 million.

Although the TFM-M effort has not experienced cost increases or schedule delays, we are concerned about risks and what will ultimately be delivered. Our concerns are based on the fact that FAA and the contractor significantly underestimated the size and complexity of TFM-M software development. FAA was pursuing TFM-M through a cost-reimbursable agreement, meaning that all risk for cost growth rested with the Government. FAA has modified the contract and adjusted the scope of work. The current risks for TFM-M focus on developing complex software, integrating TFM-M with other NAS systems, and stabilizing requirements.

Terminal Modernization and Replacement of Aging Controller Displays: FAA's FY 2008 budget request calls for $40 million for efforts aimed at modernizing controller displays and related automation systems at terminal facilities. FAA's budget states that three-fourths of the FY 2008 funds will be used for the Standard Terminal Automation Replacement System (STARS) "technology refresh" (i.e., replacing obsolete components) and software enhancements.

FAA's past modernization efforts have focused exclusively on STARS. In 2004, faced with cost growth in excess of $2 billion for STARS, FAA rethought its terminal modernization approach and shifted to a phased process. FAA committed STARS to just 50 sites at an estimated cost of $1.46 billion as opposed to the original plan to deploy STARS at 172 sites at a cost of $940 million.[10] FAA renamed this modernization effort the Terminal Automation Modernization-Replacement (TAMR) initiative.

In 2005, FAA approved modernizing five additional small sites with STARS and replacing the aging displays at four large, complex facilities at a cost of $57 million. This leaves over 100 sites that still need to be modernized. Although FAA has not decided on how it will modernize these 100 sites, its budget submission indicates that this effort could cost over $1 billion.

There is no current defined "end state" for terminal modernization, and past problems with developing and deploying STARS leave FAA in a difficult position to begin transitioning to NextGen capabilities. Future costs will be shaped by (1) NextGen requirements, (2) the extent of FAA's terminal facilities consolidation, and (3) the need to replace or sustain existing (or legacy) systems that have not yet been modernized.

Without question, the most urgent concern facing terminal modernization is how quickly FAA can replace aging displays at the four large sites that are particularly critical to the NAS—Chicago, Illinois; Denver, Colorado; St. Louis, Missouri; and Minneapolis, Minnesota. FAA chose not to compete this work based on a joint

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[10] OIG Report Number AV-2005-016, "Terminal Modernization: FAA Needs To Address Its Small, Medium, and Large Sites Based on Cost, Time, and Capability," November 23, 2004.

proposal from two contractors and instead decided to modify the current STARS contract to include the work. This was expected to expedite replacement of the aging displays, but the time spent revising the contract to establish cost, schedule, and design parameters caused FAA to lose the time advantage from foregoing competition. As a result, the aging displays will not be replaced until 2008. We recommended action on this matter over 2 years ago in November 2004.

Advanced Technology and Oceanic Procedures (ATOP): FAA requested $31.4 million in FY 2007. For FY 2008, it is requesting $53.1 million. ATOP is FAA's $548 million effort to modernize how controllers manage oceanic flights. FAA now has ATOP in use at Oakland, California; New York, New York; and Anchorage, Alaska.

Since September 2005, FAA controllers have experienced recurring failures (loss of data-link communication with aircraft and aircraft position jumps) with the new ATOP system at the Oakland site. These problems directly limit the potential capacity and productivity benefits from the new automation system. This could impact FAA's plans for using ATOP to demonstrate NextGen capabilities.

According to controllers, these incidents represent potentially hazardous safety conditions that need to be resolved. The larger separation distances required between aircraft over the oceans than for those in domestic airspace have allowed controllers to manage these problems. However, benefits from the new automation system, such as reduced separation, have not been fully realized. Problems persist in ATOP, as evidenced by two operations bulletins (on aircraft altitude changes and detecting conflicts between aircraft) issued by the Oakland facility in April. FAA needs to resolve the problems that it has identified with communication service providers and aircraft avionics and adjust ATOP software as needed to realize expected benefits.

Perspectives on FAA's Metrics for Measuring Progress With Major Acquisitions

FAA reports in its FY 2007 Flight Plan and the most recent Performance and Accountability Report that 100 percent of its critical acquisitions were within 10 percent of budget estimates and 97 percent were on schedule for 2006. Currently, FAA is tracking about 29 acquisitions, such as the acquisition of new radars. FAA's cost and schedule metrics are worthwhile tools for Agency management and oversight of major acquisitions—a step we called for a number of years ago. However, these metrics have limitations that need to be understood by decision makers in order to properly assess the overall status of FAA's acquisition portfolio.

First, FAA's cost and schedule metrics are *snapshots* in time. They are not designed to address changes in requirements, reductions in procured units, or shortfalls in performance that occur over time. Second, FAA's budget metrics involve comparisons of cost estimates taken during the fiscal year. These estimates involve

the updated, "re-baselined" cost figures—not estimates from the original baseline. This explains why the Wide Area Augmentation System (a satellite-based navigation system) is considered "on budget" even though costs have grown from $892 million to over $3 billion since 1998.

"Re-baselining" a project is important to get realistic cost and schedule parameters and is consistent with Office of Management and Budget (OMB) guidance and the Agency's own Acquisition Management System. The revised baselines are used for justifying budgets and making investment decisions, i.e., ensuring that major acquisitions are still cost beneficial. We note that OMB allows FAA to measure deviations from the new baselines once they have been approved. Nevertheless, such comparisons of revised program baselines—absent additional information—fail to provide an accurate picture of a program's true cost parameters.

Finally, FAA's schedule metrics used for assessing progress with several programs in 2006 were generally reasonable, but focused on interim steps or the completion of tasks instead of whether systems met operational performance goals. For example, ASDE-X metrics focused on delivery of two systems. This metric does not relate to whether systems entered service or met operational performance expectations. We note that there are no written criteria for selecting or reporting the milestones. Table 3 provides information on some of the metrics used for measuring progress in acquisitions in FY 2006.

Table 3. Metrics Used To Measure Programs in 2006

Program	Metric	Planned Date	Actual Date
Airport Surface Detection Equipment Model-X	Deliver two systems	February 2006	February 2006
Standard Terminal Automation Replacement System	Deliver to one site	February 2006	January 2006
Air Traffic Management	Conduct Detailed Design Review	August 2006	March 2006
Precision Runway Monitor	Complete Factory Acceptance Testing for Atlanta	April 2006	April 2006
Wide Area Augmentation System	Complete initial installation of two reference stations	September 2006	May 2006

Source: FAA ATO-F Capital Expenditures Program Office

As FAA's former chief operating officer stated, simply measuring cost and schedule may not be sufficient in evaluating NextGen initiatives. We agree and believe it will be important to focus on the promised capability and benefits of new initiatives, particularly those associated with the goals of enhancing capacity, boosting productivity, and reducing Agency operating costs. Therefore, FAA should explore a wider range of metrics to measure—and report on—progress with NextGen efforts.

FAA Actions Needed To Reduce Risks With the Next Generation Air Traffic Management System

The transition to NextGen is an extraordinarily complex, high-risk effort involving billion-dollar investments by the Government and airspace users. We have made a series of recommendations specifically aimed at reducing risk and facilitating the shift from planning to implementation.

FAA needs to develop realistic NextGen cost estimates, quantify expected benefits, and establish a road map for industry to follow. A central question in the current debate on financing FAA is what the costs associated with developing and implementing NextGen will be. Figure 1 illustrates FAA's most recent cost estimates.

Figure 1. FAA Capital Funding Projections for FY 2008 to FY 2012
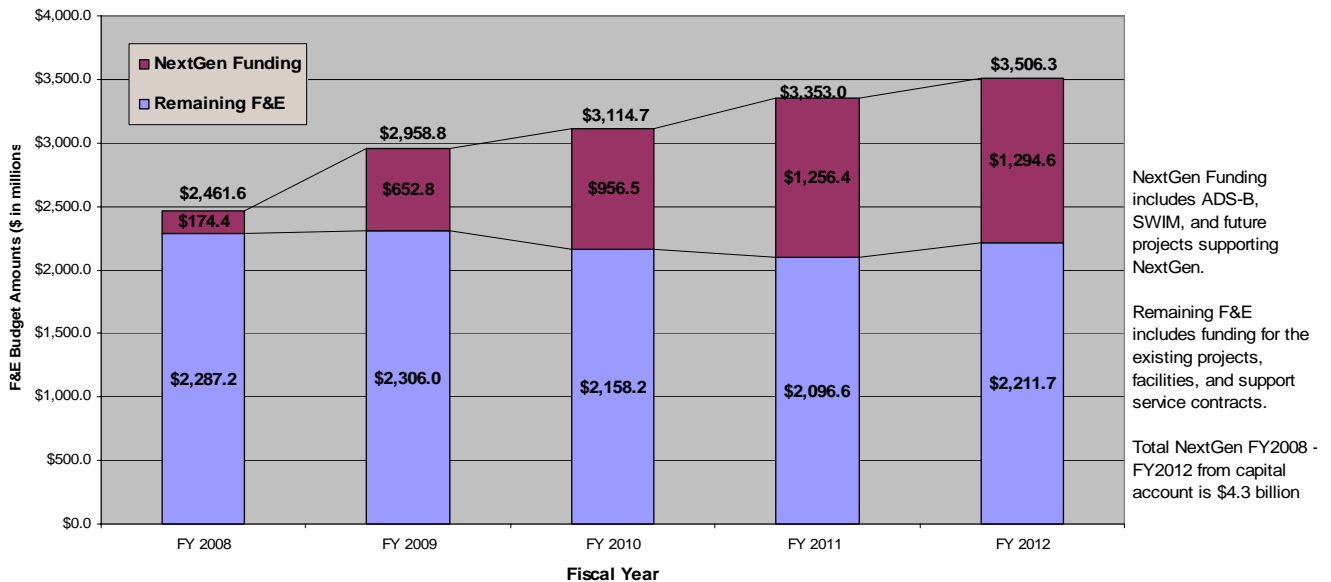
Source: FAA National Airspace System Capital Investment Plan FY 2008 – FY 2012

FAA estimates suggest that the Agency will require $15.4 billion for capital projects from FY 2008 to FY 2012. This includes $4.6 billion for NextGen initiatives ($4.3 billion from the capital account and $300 million from the RE&D account).

We note that the bulk of NextGen funds will be allocated to *developmental efforts*, including demonstration projects. There are unknowns with respect to performance requirements for new automation systems and data-link communications. The development of new automation systems is a particular concern given their complexity and the fact that almost flawless performance will be required. FAA will not have a firm grasp on costs until it has a mature enterprise architecture and a NextGen R&D plan that clearly indicates the contributions of other agencies.

The costs for airspace users to equip with new avionics will be significant. The Joint Planning and Development Office's (JPDO) most recent progress report estimates the cost for airspace users to be between $14 billion and $20 billion for the long term. This underscores the need for FAA to have a clear understanding of complex transition issues and what will be required to get expected benefits. Another cost driver focuses on the extent to which FAA intends to consolidate facilities based on modern technology. We recommended that when FAA reports NextGen costs to Congress, it should do so along three vectors—research and development needed, adjustments to existing projects, and costs for new initiatives. FAA agreed and stated that it will build a comprehensive cost estimate this year.

More work remains to set expectations, requirements, and milestones—or *transition benchmarks*—for developing when new procedures, new ground systems, and aircraft need to be equipped to realize benefits. During an April 2006 workshop, industry participants asked FAA for a "service roadmap" that (1) specifies required aircraft equipage in specific time increments, (2) bundles capabilities with clearly defined benefits and needed investments, and (3) uses a 4- to 5-year equipage cycle that is coordinated with aircraft maintenance schedules. Once concepts and plans have matured, it will be important for FAA to provide this information to industry.

FAA and the JPDO need to develop approaches for risk mitigation and systems integration. FAA and the JPDO must articulate how they will do things differently to avoid problems that affected modernization efforts in the past (such as cost growth, schedule slips, and performance shortfalls). Developing and implementing NextGen will be an enormously complex undertaking. As the JPDO notes in its December 2004 Integrated Plan,[11] "there has never been a transformation effort similar to this one with as many stakeholders and as broad in scope." The central issue is determining what will be done differently from past modernization efforts with NextGen initiatives (other than conducting demonstration projects) to ensure success and deliver much needed benefits to FAA and airspace users.

FAA's decision to use the Operational Evolution Plan (the Agency's blueprint for capacity) to help implement NextGen is a good first step. Nevertheless, the transition to NextGen will pose complex software development and integration problems and will require synchronized investments between FAA and airspace users over a number of years.

To maintain support for NextGen initiatives, we recommended that the JPDO and FAA articulate how problems that affected past modernization efforts will be mitigated and what specific skill sets with respect to software development and system integration will be required. This will help reduce cost and schedule problems

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[11] JPDO "Next Generation Air Transportation System – Integrated Plan," December 2004.

with NextGen initiatives. FAA concurred with our recommendations and stated that it will form a panel of experts to examine the issues we raised.

FAA is requesting $50 million in its FY 2008 budget for demonstration projects, which are important opportunities to reduce risk. In the past, FAA has experienced problems with certifying systems as safe, which led to cost growth and schedule slips. Therefore, we recommended, and FAA agreed, that planned NextGen demonstration projects should develop sufficient data to establish a path for certifying new systems and identify the full range of adjustments to policies and procedures needed for success.

FAA needs to review ongoing modernization projects and make necessary cost, schedule, and performance adjustments. As FAA's budget request points out, 29 existing capital programs serve as "platforms" for NextGen. We recommended that FAA review ongoing modernization programs to determine what adjustments in cost, schedule, and performance will be required. This is critical because NextGen planning documents suggest that billions of dollars will be needed to adjust ongoing programs, like ERAM and TFM-M.

During FY 2007 through FY 2008, over 25 critical decisions must be made about ongoing programs. These decisions will directly impact how quickly new capabilities can be deployed and will involve establishing requirements for future ERAM software releases, making investments to support existing radars, and incorporating weather information into SWIM.

ADDRESSING ATTRITION IN FAA'S CRITICAL WORKFORCES

Controlling operating cost growth will remain a significant challenge for FAA as it faces several workforce challenges in the coming year. Our office has an extensive body of work regarding cost control and financial issues within FAA. For example, in 1999, we reported[12] that persistent cost growth in the Agency's operating account (primarily salary-driven) was "crowding out" critical capital investments in the Agency's modernization account. This is still a challenge today. As FAA focuses on increasing workforce productivity and decreasing costs, it must also continue to address the expected increase in air traffic controller and safety inspector retirements and ensure that it has the right number of controllers and inspectors at the right locations.

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[12] OIG Report Number AV-1999-066, "Federal Aviation Administration's Financing and Cost Control," March 22, 1999.

FAA Continues To Make Progress in Implementing Its Controller Workforce Plan, but Further Efforts Are Needed in Several Key Areas

In December 2004, FAA issued the first in a planned series of congressionally directed annual reports that outline the Agency's plans for hiring new controllers to replace those expected to leave over the next 10 years. The 2004 plan also outlined various initiatives for increasing controller productivity and for decreasing on-the-job training (OJT) time and costs. FAA updated the 2004 plan in June 2006 and again in March 2007.

In February 2007, we reported on the results of our review of FAA's progress in implementing key initiatives of its controller workforce plan. Overall, we found that FAA continues to make progress in implementing a comprehensive and complex staffing plan. For example, we found that FAA made significant improvements by centralizing many aspects of its hiring process. We also found that FAA made progress in reducing the time and costs to train new controllers, primarily through greater use of simulator training at the FAA Training Academy, and implemented a new national database to track on-the-job training statistics. Further progress is needed, however, in several key areas.

First, FAA is still in the process of validating facility-level staffing standards, which are a foremost necessity in effectively placing newly hired controllers where they are most needed. Planning by location is critical because FAA has over 300 terminal and en route air traffic control facilities with significant differences in the types of users served, the complexity of airspace managed, and the levels of air traffic handled. Without accurate facility-level planning, FAA runs the risk of placing too many or too few controllers at these locations.

FAA is aware of this concern and is validating its facility staffing standards down to the sector and position level for each location in order to develop accurate staffing ranges for all of its facilities. FAA expects to complete this assessment for its 21 en route centers (its largest facilities) by the end of this year. However, FAA does not expect to complete the entire project, including terminal facilities, until late 2008. In the interim, FAA established staffing ranges by facility, which take into account the existing staffing standard models but also include facility manager input and expected productivity improvements. Although these ranges are a step toward more accurate controller levels, they are not a replacement for a facility-level staffing range based on validated staffing standard models.

We recommended that FAA report the progress made in validating facility staffing standards in its next annual update to the workforce plan, including the number of facilities completed, the staffing ranges established for each location, and the estimated completion date for all remaining facilities. FAA concurred with our

recommendation and included the interim staffing ranges for all facilities in its March 2007 update.

Second, FAA reached its goal of reducing controller staffing by 3 percent relative to its national staffing standard for FY 2005, but it is unknown whether the initiatives established in the 2004 plan were effective in helping achieve that reduction. FAA introduced several initiatives in the 2004 plan intended to improve workforce efficiency and controller productivity. Those initiatives include efficiencies such as reducing the use of sick leave by 8 percent, ensuring appropriate use of workers' compensation benefits, and increasing scheduling efficiencies.

FAA achieved a 3-percent productivity gain in FY 2005 by decreasing total controller staffing by 3 percent relative to its national staffing standard, a goal established in the 2004 plan. However, it is unclear what, if any, additional impact FAA's productivity initiatives had on controller productivity because FAA did not establish baseline metrics for measuring their effectiveness. We recommended that FAA establish baseline metrics for the initiatives and update the plan annually to reflect actual progress in achieving each initiative and, ultimately, in accomplishing its goal to reduce controller staffing by 10 percent. FAA agreed to continue providing status updates for the initiatives but stated that estimating the contribution of each initiative would be labor intensive and costly and would divert resources.

We believe that FAA should reconsider its position. FAA runs the risk of simply having fewer controllers controlling more traffic without the benefit of metrics to determine if the productivity initiatives are driving the reductions in staffing. This is important given that the Agency is still validating its staffing needs at the facility level. FAA's 2007 update did not include an update on its productivity goals.

We also recommended that FAA identify the annual and total costs for hiring, training, and certifying new controllers to meet future requirements. The cost of hiring and training over 15,000 new controllers will be substantial, particularly since it currently takes 2 to 5 years for new controllers to become fully certified. During that time, FAA incurs the cost of the trainee's salary and benefits as well as the cost of the salaries and benefits of the certified controllers who instruct trainees individually. FAA concurred with our recommendation and included estimates for the salary and benefit costs of newly hired controllers each year through 2016 in its March 2007 update to the plan.

An Evolving Aviation System Requires That FAA Maintain a Sufficient Number of Safety Inspectors Positioned in the Right Locations

Safety is and must remain FAA's highest priority. Although accidents have occurred in recent years, the United States continues to maintain the safest aviation system in the world. While much credit is due to safety systems that air carriers have built into their operations, FAA regulations and inspectors play an important role in providing

an added layer of safety oversight. As shown in table 4, this oversight covers a vast network of operators and functions, which make up the largest, most complex aviation system in the world.

Table 4. FAA Inspectors' Workload

Commercial Air Carriers	123		Flight Instructors	90,555
Repair Stations	4,927		FAA Designee Representatives	11,000
Active Pilots	744,803		Aircraft	347,326
Approved Manufacturers	1,738		FAA-Licensed Mechanics	320,293

Source: FAA

FAA's 3,865 inspectors must oversee both domestic and foreign aspects of these operations—a task made more difficult by the rapidly changing aviation environment. To ensure that the system remains safe, FAA must maintain a sufficient number of inspectors.

FAA needs effective oversight systems to maximize inspector resources. FAA will never have an inspection workforce that is large enough to oversee every aspect of aviation operations. As a result, FAA is working toward using risk-based safety oversight systems—that is, systems that target inspection resources to areas of greatest risk.

Without question, risk-based oversight is the best approach; however, our past reports have identified a wide range of areas in which FAA should strengthen its inspector oversight. For example, air carriers continue to increase their use of external maintenance facilities, but FAA still needs to implement better processes to determine where air carriers send their critical maintenance. In December 2005, we reported[13] that FAA must understand the full extent and type of work that is being performed by non-certificated repair facilities. These facilities are not licensed or routinely visited by FAA inspectors but perform critical maintenance, such as engine replacements. FAA has yet to develop a process to determine which non-certificated repair facilities perform this type of maintenance for air carriers. Until FAA knows where critical maintenance is performed, it cannot ensure that it has focused its inspection resources to areas of greatest risk.

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[13] OIG Report Number AV-2006-031, "Review of Air Carriers' Use of Non-Certificated Repair Facilities," December 15, 2005.

FAA developed a risk-based oversight system for FAA-certified repair stations; however, it only recently completed full implementation of the system. If used effectively, the new repair station oversight system should significantly improve FAA's ability to target resources to areas of higher risk in this growing segment of the aviation industry.

A changing aviation environment requires strategic inspector placement. The pace at which changes are occurring in today's aviation environment makes it imperative that FAA place sufficient resources in areas where they are most needed. FAA has made at least two attempts to develop a staffing model to determine the number of inspectors needed and the best locations for placement. Neither model, however, provided FAA with an effective approach to allocate inspector resources. In September 2006, the National Research Council completed a study of FAA's current methods for allocating inspector resources. This study validated a concern that we have also reported—that FAA's current method of allocating inspectors is antiquated and must be redesigned to effectively target inspectors to those areas of higher risk.

In particular, the Council reported that the changing U.S and global aviation environments have important implications that will be key drivers of future inspector staffing needs. For example, airlines' outsourcing of aircraft maintenance, FAA's shift to a system safety oversight approach, and safety inspectors' attrition and retirement are all important changes that must be considered in determining staffing needs. This year, 28 percent (1,085 of the 3,865) of the current inspector workforce will be eligible to retire. By 2010, 44 percent of the workforce will be eligible to retire.

Unless FAA develops an effective staffing model, however, it will not be able to make effective use of the resources that it obtains. Further, the Council stressed that FAA must ensure that its safety inspectors are sophisticated database users, with knowledge of system safety principles and an analytical approach to their work. In addition, inspectors must maintain their capabilities to conduct thorough on-site inspections of air carrier, aircraft maintenance, and aircraft manufacturer operations.

At the same time, FAA must prepare for emerging safety issues, such as very light jets and unmanned aerial vehicles. For example, by 2017, approximately 5,000 new aircraft known as very light jets will be an integral part of the U.S. aviation system. These aircraft will be flown by a new class of pilots with mixed levels of expertise and will vie for airspace with commercial jets. Three models of very light jets were certified in 2006 for operation. As these become operational, FAA inspectors will face new oversight challenges in every aspect of FAA's operations, including inspector oversight of pilot training and aircraft maintenance and air traffic control.

## DETERMINING THE APPROPRIATE AMOUNT OF AIRPORT FUNDING

In the months following the release of FAA's reauthorization proposal, Congress, FAA, and aviation stakeholders have been discussing important questions about how to fund airport improvement projects. Key issues for the reauthorization debate will be the FY 2008 AIP and PFC funding levels, project priorities, and project eligibility.

Airport Improvement Program

FAA is requesting $2.75 billion for the AIP in FY 2008. Since the current authorization, Vision 100, expires in FY 2007, no AIP authorization target exists for FY 2008. However, the FY 2008 request is a substantial reduction over the FY 2007 authorized level in Vision 100.

The AIP supports the airport system by providing funds to primarily enhance safety and security, maintain the infrastructure, increase capacity, and mitigate airport noise in surrounding communities. AIP authorized funding has steadily increased over the last 9 years. As shown in figure 2, authorized funding increased by approximately 54 percent from 1999 to 2007. Since 2001, the AIP has been authorized at $3.2 billion or higher in funding each year.

Figure 2. AIP Authorized Funding Levels, 1999 to 2007
($ in Millions)
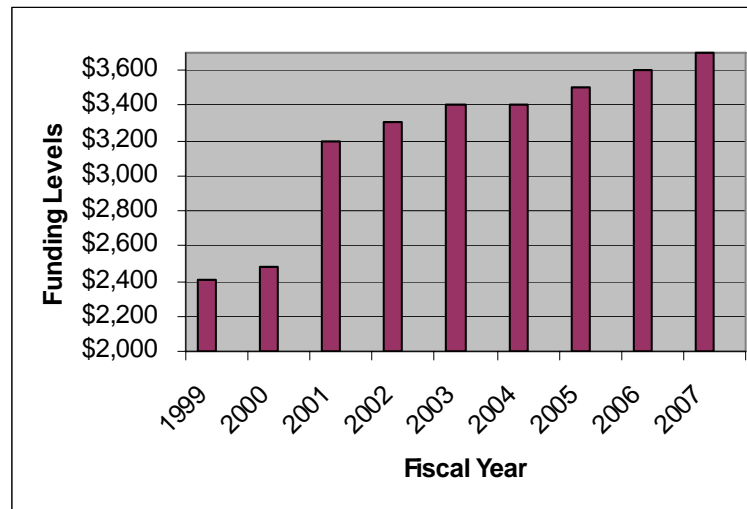
Sources: 1999-2003 Wendell H. Ford Aviation Investment and Reform Act for the 21st Century and the 2004-2007 Vision 100-Century of Aviation Reauthorization Act

As shown in table 5 below, 2 of the last 3 years' budget requests have been significantly less than authorized levels. The FY 2007 budget request for AIP funding of $2.75 billion was nearly $1 billion less than authorized under Vision 100 for FY 2007.

Table 5. AIP Authorized and Budget Request Funding Levels
2005 to 2007 *($ in Millions)*

Fiscal Year	Authorized	Budget Request	Funding Level
2005 (Vision 100)	$3,500	$3,500	$3,500
2006 (Vision 100)	$3,600	$3,000	$3,500
2007 (Vision 100)	$3,700	$2,750	$3,500

Source: FAA budget submissions from FY 2005 through FY 2007

However, Congress has provided FAA with close to the Vision 100 authorized amounts in FY 2005 and FY 2006. For FY 2007, the AIP is funded at $3.5 billion, which is only a $200 million reduction from the FY 2007 authorized level, not the nearly $1 billion reduction requested in FAA's FY 2007 budget.

With the potential decrease in available AIP funds, FAA must take a more proactive role in managing and overseeing airport grants. Since the early 1990s, we have identified hundreds of millions of dollars in airport revenue diversions—revenues that should have been used for the capital or operating cost of an airport but were instead used for non-airport purposes. In the last 4 years, we reported on revenue diversions of more than $50 million at seven large airports, including one airport whose sponsor—a local government agency—diverted about $40 million to other projects not related to the airport.

FAA is now taking a more active role to identify airport revenue diversions, but airports must do their part to ensure that airport revenues are not used for non-airport purposes. Similarly, as we testified last year,[14] ensuring that airports dispose of land acquired for noise mitigation purposes when the land is no longer needed for noise compatibility purposes or airport development would also provide additional funds for airport projects. Our review[15] in 2005 of 11 airports identified approximately $242 million that could be used for other noise mitigation projects at the respective airports or returned to the Trust Fund.

With growing demands for airport improvement projects and potentially less AIP funding available, AIP funds must be directed to the Nation's highest priority projects while meeting the unique needs of small airports. During our current review of the AIP, we found that FAA policies and procedures, for the most part, ensure that these high-priority projects are funded with AIP funds. We also found, however, that the

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[14] OIG Report Number CC-2006-027, "Perspectives on FAA's FY 2007 Budget Request and the Aviation Trust Fund," March 28, 2006.

[15] OIG Report Number AV-2005-078, "Audit of the Management of Land Acquired Under the Noise Compatibility Program," September 30, 2005.
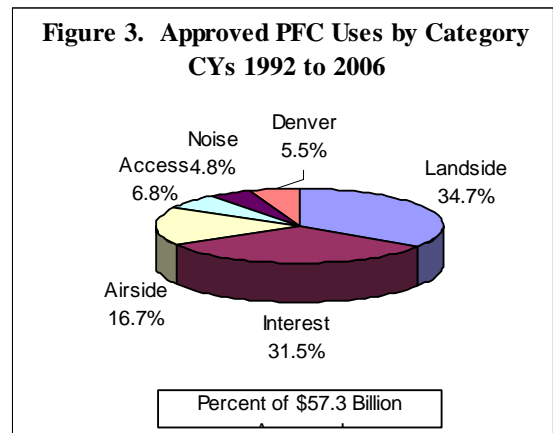
AIP Military Airport Program set-aside[16] (MAP) can result in low-priority projects being funded at an airport that meets set-aside program requirements while higher-priority projects at other airports could go unfunded.

In order to meet the required level of MAP set-aside funding of approximately $34 million per year, the majority of projects being funded are comprised of lower-priority projects as rated under FAA's numerical rating system. FAA ranks projects on a scale of 0 to 100. Projects rated at 40 or above are generally funded by FAA. However, in FY 2006, 17 of 25 (68 percent) MAP projects with ratings ranging from 17 to 36 were funded at an estimated cost of $31 million, as a result of the MAP set-aside funding requirements. For example, one project with a rating of 19 was funded at a cost of more than $2.2 million to rehabilitate a parking lot.

Given the growth in projected passenger traffic and the Department's commitment to accelerate major airport infrastructure projects by giving priority treatment and resources to capacity projects, it may be time to re-examine AIP set-aside funding levels and the type of projects funded. We will report on FAA's prioritization of AIP funds later this year.

Passenger Facility Charges

In addition to AIP funds, PFCs have become an important funding mechanism for airports. For instance, between 1992 and 2006, FAA approved the collection of $57.3 billion in PFCs. Of this amount, airports have collected approximately $22 billion, with another $2.6 billion anticipated for 2007. In comparison, airports received about $35.2 billion in AIP grants between 1992 and 2006, with FAA requesting another $2.75 billion for 2007. Overall, airports anticipate using 34.7 percent of PFC collections to finance landside projects (e.g., terminals, security, and land), another 31.5 percent for bond interest payments, 16.7 percent for airside projects (e.g., runways, taxiways, and equipment), 6.8 percent for access roadways, 4.8 percent for noise abatement, and 5.5 percent for the Denver International Airport (see figure 3).[17]

Figure 3. Approved PFC Uses by Category CYs 1992 to 2006

Denver 5.5%
Noise 4.8%
Access 6.8%
Landside 34.7%
Airside 16.7%
Interest 31.5%
Percent of $57.3 Billion

Source: OIG analysis of FAA data

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[16] Under Vision 100, the AIP discretionary fund is subject to three statutory set-aside programs that benefit (1) noise compatibility planning to mitigate airport noise in surrounding communities, (2) the Military Airport Program to convert former military fields to civilian airfields, and (3) certain reliever airports.

[17] FAA tracks Denver's PFC separately due to its large size and because it was used to fund the new airport, not specific projects.

Currently, PFCs are capped at $4.50 per segment of flight (a maximum of $18.00 on a round trip). The current cap on PFCs is an important matter for this Committee and has significant implications for major airports' capital expenditure plans. Over 75 percent (248 of 328 airports) of the airports collecting a PFC charge the maximum amount. The current cap has led some airports to collect PFCs for extremely long periods of time in order to cover the cost of their projects, including: Clarksburg, West Virginia (50 years); Miami, Florida (34 years); Detroit, Michigan (25 years); and Denver, Colorado (25 years). Overall, 45 percent of airports collecting a PFC have set collection periods longer than 10 years. Other airports such as Chicago O'Hare International, are anticipating future increases in the cap as part of their financing plans. The funding of future airports projects and the level of AIP funding and PFC charges will be important issues as Congress decides how best to finance FAA.

An important issue regarding PFCs is FAA's reliance on airport sponsors for PFC oversight. Unlike AIP grants, DOT and FAA officials have concluded that the Agency lacks clear authority to prevent airports from contracting with suspended or debarred companies for projects funded by PFCs. This is significant because, of the 838 projects that FAA approved in FY 2006 to receive PFC funding, 194 are to be funded solely by PFCs. Ninety-three others will be funded via PFCs and other non-AIP funding sources. Moreover, of the associated $2.7 billion in approved PFC collections, an estimated $1.8 billion (67 percent) will go for projects funded solely by PFCs or a combination of PFC and other non-AIP funding sources. According to FAA, however, companies suspended or debarred for committing fraud on other Government contracts cannot be excluded from projects funded solely with PFCs. Congress should consider legislation to address this risk area.

ACQUISITION AND CONTRACTING ISSUES

Providing increased attention to ensure that procurement and acquisition activities are conducted in an efficient and effective manner and that taxpayer dollars are protected from fraud and abuse is a Government-wide priority, and we have focused significantly more audit and investigative resources on procurement and acquisition issues. In our testimony today, we would like to highlight two specific watch areas for FAA: support services contracts and the transition of flight services to contract operations.

Support Services Contracts

FAA faces challenges for each phase of the acquisition cycle, including planning, awarding, and administering support services contracts. In FY 2006, FAA obligated about $930 million for support services using numerous contracts and three multiple-award "umbrella" procurement programs.

In September 2006, we issued a report[18] on our review of the RESULTS program (one of the three multiple-award programs), for which FAA has awarded about $543 million since program inception. We found that the program was not properly established or managed. Continued use of this program would cost FAA tens of millions of dollars in higher costs. FAA terminated this procurement program in 2006 and started strengthening oversight of all support service contracts. FAA needs to pay special attention to the following.

Verification of Labor Qualification and Rates: Labor costs generally account for the largest portion of support service contract costs. Our RESULTS audit and FAA's own review identified incidents when contractor staff did not meet the expected qualifications for positions billed. For example, we found that an employee on a contract was originally billed as an administrative assistant at an hourly rate of $35. Four months later, the same employee was billed as an analyst at an hourly rate of $71 without any proof of additional qualifications. Verifying contract labor qualification for the rates billed could potentially save FAA millions of dollars for support services.

Based on our RESULTS audit, and as part of an Agency-wide initiative announced by the FAA Administrator to strengthen internal controls over procurements, FAA reviewed one of its other multiple-award programs, BITS II, and found similar problems. For example, FAA found evidence that multiple contractors had extensively billed FAA for employees at labor rates that were higher than their actual education and experience warranted, as specified by terms of the contract.

FAA referred this matter to us for investigation. In one case, we found that a contractor invoiced FAA for the services of an employee in the labor category of "Senior Management Analyst" at a rate of $100 per hour, instead of the proper rate of $40 per hour based on the employee's qualifications. Specifically, the "Senior Management Analyst" category required an individual with 12 years of direct experience, yet the employee in question had only 2 years of experience. As a result of our investigation to date, 12 of 13 contractors have agreed to repay a total of $7.9 million in inflated billings under administrative settlements with FAA.

Review of Contractor-Proposed Prices: Our audit found that FAA awarded contracts without sufficient competition and price analyses. FAA now requires that the Deputy Administrator approve all new contracts valued over $1 million that are awarded on a sole-source basis. While this is a step in the right direction, FAA still needs to strengthen its review of contractor-proposed prices. When facing inadequate competition from bidding contractors, FAA's contracting officers are required to perform a price analysis to assess the fairness of contractor-proposed prices. We

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[18] OIG Report Number FI-2006-072, "Audit of the Federal Aviation Administration's RESULTS National Contracting Service," September 21, 2006.

found that this control was not working in many incidents. For example, we found a case where the Independent Government Cost Estimate was prepared by the contractor to whom the contract was awarded. We plan to follow up on FAA's use of price and cost analysis techniques to ensure the reasonableness of prices in contract proposals.

Controls Over the Conversion of Flight Service Stations to Contract Operations

On February 1, 2005, FAA awarded a 5-year, fixed-price incentive contract (with 5 additional option years) to Lockheed Martin to operate the Agency's 58 flight service stations in the continental United States, Puerto Rico, and Hawaii. The contract, worth about $1.8 billion, represents one of the largest non-defense outsourcing of services in the Federal Government.

FAA anticipates that by contracting out flight service facilities, it will save $2.2 billion over the 10-year life of the agreement. On October 4, 2005, Lockheed Martin took over operations at the 58 flight service stations. We are currently conducting a review of FAA's controls over the conversion of flight service stations to contract operations. We plan on issuing our interim report later this month.

Overall, we found that FAA has implemented effective controls over the initial transition of flight service stations to contract operations. These controls include contractual performance measures that require the contractor to achieve acceptable levels of operational performance and service and internal mechanisms that oversee the operational and financial aspects of the program.

We also found that the Agency uses these controls to monitor contract flight service stations and, in some cases, penalizes the contractor for poor performance. To date, FAA has imposed approximately $9 million in financial penalties against the contractor for failing several contractual performance measures. FAA is requiring the contractor to submit corrective action plans to resolve the deficient performance measures. In addition, FAA and the contractor are now entering the next and most critical phase of the transition.

In February, the contractor began efforts to complete, test, and implement a new software operating system for flight service stations and consolidate the existing 58 sites into 3 hub and 16 refurbished locations—all by the end of July.[19] Any slips in that schedule could have significant implications to the costs and anticipated savings of the transition.

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[19] One facility, which was originally planned to be refurbished, will now remain open until the end of the year; it will then be consolidated into the Leesburg hub.

In addition, FAA could be facing further reductions to savings as Lockheed Martin is requesting nearly $177 million in equitable adjustments to the contract. Most of that adjustment ($147 million) is based on the contractor's claim that it was not provided the correct labor rates when it submitted its bid.

In April, FAA provided us with the first of its planned annual variance reports comparing estimated and actual first-year costs. This is an important tool in that it will allow FAA to identify cost overruns, determine the reasons for the overruns, and allow for adjustments to ensure that savings are realized. We are currently reviewing the completed variance report and assessing the contractor's progress in executing the next phase of the transition.

That concludes my statement, Madam Chairman. I would be happy to address any questions you or other Members of the Subcommittee may have.

The following pages contain textual versions of the graphs and charts found in this document. These pages were not in the original document but have been added here to accommodate assistive technology.

FAA's FY 2008 Budget Request: Key Issues Facing the Agency

Section 508 Compliant Presentation

Figure 1. FAA Capital Funding Projections for FY 2008 to FY 2012

Fiscal Year 2008	NextGen Funding $174,400,000	Remaining Facilities and Equipment Funds $2,287,200,000	Total $2,461,600,000
Fiscal Year 2009	NextGen Funding $652,800,000	Remaining Facilities and Equipment Funds $2,306,000,000	Total $2,958,800,000
Fiscal Year 2010	NextGen Funding $956,500,000	Remaining Facilities and Equipment Funds $2,158,200,000	Total $3,114,700,000
Fiscal Year 2011	NextGen Funding $1,256,400,000	Remaining Facilities and Equipment Funds $2,096,600,000	Total $3,353,000,000
Fiscal Year 2012	NextGen Funding $1,294,600,000	Remaining Facilities and Equipment Funds $2,211,700,000	Total $3,506,300,000

Totals: The total NextGen funding projected for this period is $4,334,700,000. The total Remaining Facilities and Equipment Funds projected for this period are $11,059,700,000. The grand total (NextGen Funding plus Remaining Facilities and Equipment Funds) is $15,394,400,000.

Note: NextGen Funding includes the Automatic Dependent Surveillance-Broadcast Program, the System Wide Information Management Program, and future projects supporting NextGen. Remaining Facilities and Equipment funds include funding for the existing projects, facilities, and support service contracts. Total NextGen Fiscal Year 2008 to Fiscal Year 2012 from the capital account is $4.3 billion.

Source: FAA National Airspace System Capital Investment Plan FY 2008 to FY 2012

Table 4. FAA Inspectors' Workload

Commercial Air Carriers	123	Flight Instructors	90,555
Repair Stations	4,927	FAA Designee Representatives	11,000
Active Pilots	744,803	Aircraft	347,326
Approved Manufacturers	1,738	FAA-Licensed Mechanics	320,293

Source: FAA

Figure 2. Airport Improvement Program Authorized Funding Levels, 1999 to 2007 (Dollars in millions)

Fiscal Year 1999	Authorized Funding Level $2,410,000
Fiscal Year 2000	Authorized Funding Level $2,475,000
Fiscal Year 2001	Authorized Funding Level $3,200,000
Fiscal Year 2002	Authorized Funding Level $3,300,000
Fiscal Year 2003	Authorized Funding Level $3,400,000
Fiscal Year 2004	Authorized Funding Level $3,400,000
Fiscal Year 2005	Authorized Funding Level $3,500,000
Fiscal Year 2006	Authorized Funding Level $3,600,000
Fiscal Year 2007	Authorized Funding Level $3,700,000

Sources: 1999-2003 Wendell H. Ford Aviation Investment and Reform Act for the 21st Century and 2004-2007 Vision 100-Century of Aviation Authorization Act

Figure 3. Approved Passenger Facility Charge Uses by Category Calendar Year 1992 to 2006

Access Roadways	6.8 percent
Airside Projects	16.7 percent
Denver Airport	5.5 percent
Interest Payments	31.5 percent
Landside Projects	34.7 percent
Noise Abatement	4.8 percent

Note: Table figures show percent of $57.3 billion approved.

Source: Office of Inspector General analysis of Federal Aviation Administration data