Before the Committee on Appropriations
Subcommittee on Transportation, Treasury and
Independent Agencies
U. S. House of Representatives

FAA's FY 2005 Budget: Opportunities to Control Costs and Improve Effectiveness of Programs

Statement of
The Honorable Kenneth M. Mead
Inspector General
U.S. Department of Transportation

We appreciate the opportunity to testify today as the Subcommittee begins deliberations on the Fiscal Year (FY) 2005 appropriations for the Federal Aviation Administration (FAA). This year, we are facing an austere budgetary environment, one that will likely continue for at least the next several years. The Congressional Budget Office estimates that the Federal deficit will be $477 billion this year, which means we are spending significantly more than what is coming in.

While the number of air travelers continues to show some improvement from the sharp declines following September 11, 2001, there still remains a substantial decline in projected Aviation Trust Fund revenues. Current estimates for FY 2005 Trust Fund revenues are about $11.1 billion. FAA's FY 2005 budget request exceeds those revenues by nearly $3 billion.

Aviation Trust Fund: Comparison of Trust Fund Receipts
$ in billions
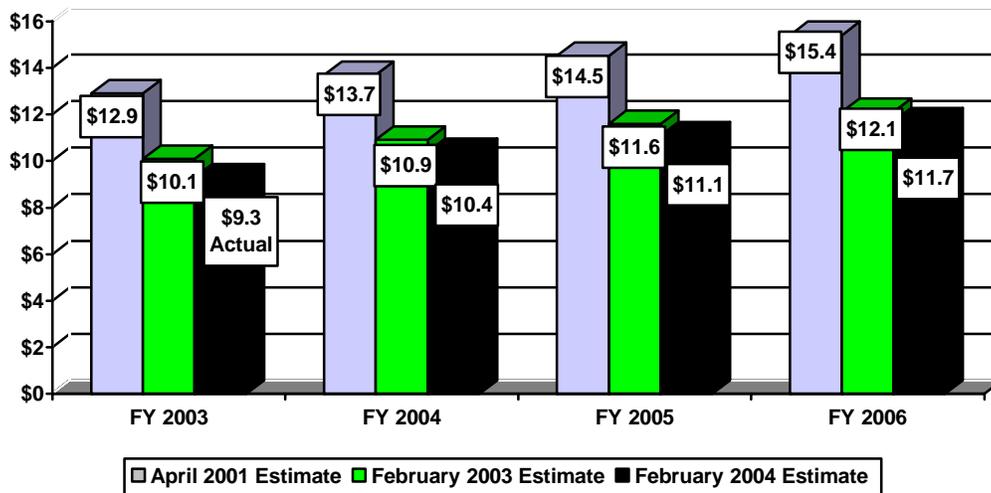
Clearly, a major focus for FAA this coming year, and for some time to come, must be controlling costs. FAA has not been accustomed to operating within this type of environment, and changing the organizational culture to reflect that focus will be a challenge. This past year, we have seen some very positive signs of

leadership and commitment on the part of Administrator Blakey and her staff to address FAA's costs. For instance, there has been notable progress this past year in beginning the process of reining in FAA's history of unabated cost growth in its operations account. Progress is also being made toward restructuring the Air Traffic Organization into a performance-based organization. However, much more remains to be done to bring FAA's costs under control, and this will be the focus of our testimony today.

SAFETY. It is important to note that the U.S. aviation industry continues to be the safest in the world. However, FAA must follow through on its commitment to adjust its safety oversight to emerging trends in the aviation industry, such as outsourcing maintenance. While major air carriers outsourced 37 percent of their aircraft maintenance in 1996, the amount spent on outsourced maintenance increased to 47 percent of maintenance costs in 2002.

This past year FAA has made progress in reducing runway incursions (potential collisions on the ground), but operational errors (when controllers allow planes to come too close together in the air) continue to increase. In FY 2003, runway incursions decreased 4 percent to 324, while operational errors increased 12 percent to 1,186, with an average of 3 operational errors each day and 1 serious error (those rated as high risk) every 7 days.

OPERATING COSTS. FAA is requesting $7.849 billion for its FY 2005 operating budget, which is about $370 million above the FY 2004 enacted amount of $7.479 billion. Operating costs represent the largest portion of FAA's FY 2005 total budget, over 56 percent, whereas FAA's airports and capital accounts represent 25 percent and 18 percent, respectively. This past year Administrator Blakey and her staff have made progress in addressing FAA's operating cost growth.

Last year before this Subcommittee, we reported that FAA and the National Air Traffic Controllers Association (NATCA) had entered into numerous sidebar agreements or Memoranda of Understanding (MOUs). Many of those MOUs had significant cost and/or operational impacts on the Agency, but we found that FAA had virtually no controls over the process.

This past year, FAA developed new policies and procedures that, if properly implemented, should significantly improve controls over MOUs. As part of an agreement to extend the controller' collective bargaining agreement for another 2 years, FAA and NATCA also rescinded or modified many of the most costly MOUs. For example,

- FAA and NATCA rescinded an MOU that allowed controllers transferring to larger consolidated facilities to begin earning the higher salaries associated with their new positions substantially in advance of their transfer or taking on new duties.

However, one costly MOU that we identified last year was not renegotiated. This MOU concerns "Controller Incentive Pay" (CIP) which provides controllers at 110 locations with an additional cost-of-living adjustment of between 1 and 10 percent, in addition to Government-wide locality pay. In FY 2003, this additional cost-of-living adjustment cost FAA about $35.6 million.

FAA also made progress in linking pay and performance—a key tenet of FAA's personnel reform efforts. As part of the 2-year extension of the controllers' agreement, FAA and NATCA agreed to tie a portion of controllers' salary increases to meeting four national performance metrics, which include goals for reducing operational errors and runway incursions. It is important to note, however, that in the case of controllers, the performance increase represents a very

small percentage of their total annual pay increase. For each goal reached, controllers will receive a pay increase of 0.2 percent, which is in addition to their average annual increase of 4.9 percent this year.

Achieving substantial reductions in operating costs represents a tremendous challenge because salaries and benefits make up approximately 73 percent of FAA's operating budget. Because FAA's salary base is relatively fixed, it is unlikely that significant reductions in operating cost growth can be achieved in the near term without substantial improvements in the Agency's workforce productivity. Initiatives such as new air traffic systems, technological improvements, efforts to redesign the National Airspace System, and consolidating locations have been tried on a limited basis in the past. However, FAA was unable to quantify improvements in productivity because it did not have systems to capture cost and workforce data.

Accurate cost and workforce data are particularly critical in light of the anticipated wave of controller retirements. FAA currently estimates that about 7,000 controllers could leave the Agency over the next decade. Whether FAA will need to replace all of them on a one-for-one basis depends on many factors, including future air traffic levels, new technologies, and initiatives that FAA undertakes in its hiring and training process.

A substantial challenge for FAA will be to hire and train new controllers within a tightly constrained operating budget. FAA has recently made significant progress in this area by renegotiating several pay rules with NATCA that previously allowed some newly hired controllers to earn base salaries in excess of $79,000 while in training. The renegotiated rules now allow FAA to set newly hired controllers' salaries at levels that are more commensurate with an entry-level

position (from $25,000 to $52,000) and should help FAA avoid higher costs as it begins hiring and training greater numbers of new controllers.

We have just completed an audit of this issue and will be issuing a report next month. We found that this is an area where management attention is needed to better prepare for the expected increase in retirements. For example, FAA has national estimates of expected attrition within the controller workforce, but those estimates do not take into account where vacancies will occur.

In addition, FAA does not keep national statistics on the controller on-the-job training (OJT) process, which is the longest portion of controller training. At the locations we visited, we found that the overall time required for newly hired controllers to become certified averaged 3.1 years, but in some cases it took as long as 7 years. To effectively manage the OJT process as hiring increases, FAA will need data such as the time and costs required to complete OJT, the number of training failures, and delays in the process to create benchmarks and improve the time and costs associated with OJT.

To effectively manage the expected increase in controller attrition, FAA needs to have its cost accounting and labor distribution systems in place and operating effectively. This past year, FAA has made some progress with its cost accounting system, but there has been very little progress in fielding the labor distribution system planned for air traffic employees. That system is critical for managing the expected wave of controller retirements. FAA is aware of this need and the Chief Operating Officer for the Air Traffic Organization has committed to putting both of these systems in place.

MAJOR ACQUISITIONS.   FAA modernization projects have historically experienced considerable cost growth, schedule slips, and shortfalls in performance.   In the current budget environment, cost growth and schedule slippages experienced in the past are no longer affordable or sustainable. Cost and schedule problems with ongoing modernization efforts have serious consequences because they result in postponed benefits, the crowding out of other modernization projects, costly interim systems, or a reduction in the number of units procured. In the past, the severity of these problems has been masked by the size of a modernization account that either grew or stayed constant.

We note that FAA has made downward adjustments in its FY 2005 request for a number of modernization projects, including the *Local Area Augmentation System.* Irrespective of funding concerns, these projects faced fundamental problems that needed to be addressed with respect to misjudging technological maturity, unexpected cost growth, or concerns about how to move forward in a cost-effective way.

While we see positive signs that the Administrator and her team are addressing fundamental problems with major acquisitions, additional steps are needed.

- Developing reliable cost and schedule estimates: Last year, we reported that despite the benefits of acquisition reform granted in 1996, cost growth and schedule slips in modernization efforts are all too common. For example, we analyzed 20 major acquisition projects and found that 14 of these projects experienced cost growth of over $4.3 billion (from $6.8 billion to $11.1 billion), which represents considerably more than the FAA's annual appropriation for modernizing the National Airspace System.

For example, the estimated cost of the *Standard Terminal Automation Replacement System (STARS),* which will supply new controller displays and related computer equipment for FAA's terminal facilities, has nearly doubled from $940 million to $1.69 billion, and the program office is currently updating this estimate.

FAA has already obligated $1.1 billion through FY 2003 but has only installed 19 systems, of which 16 are operational. FAA plans to deploy STARS to 162 sites. We reported in September 2003 that STARS is not the same program that was planned 8 years ago. The program has shifted from a commercial off-the-shelf procurement to one that has required more than $500 million in development costs. Moreover, because of cost growth and a schedule slip to FY 2012, the benefits that supported the initial acquisition are no longer valid.

At the Subcommittee's direction, we will review and validate the Agency's revised STARS lifecycle cost estimates. To control cost growth, FAA is developing a revised approach to STARS contracting. We are encouraged that FAA officials are negotiating a fixed price contract with options based on contractor performance. This month, FAA plans to make a decision about a very limited STARS production (11 systems for medium and small locations), and then, contingent on our validation, replace 2 Common ARTS systems at large sites.

Given the program's history and the fact that development for large sites, such as Denver and Chicago, is incomplete, it would be premature to commit to STARS at large sites before test results are available to show STARS can meet FAA's requirements.

- <u>Avoiding long-term cost-plus contracts</u>: Our work on the cost, schedule, and performance problems of 20 major FAA acquisitions illustrates why the Agency needs to avoid entering into long-term cost-plus contracts before Agency requirements and user needs are fully understood. Cost growth associated with additional development work and changing requirements for both STARS and the Wide Area Augmentation System was absorbed fully by the Government and ultimately the taxpayer.

  FAA is now undertaking a large and complex automation effort through a long term, cost-plus contract called the *En Route Automation Modernization* (ERAM) program, which FAA estimates will cost about $2 billion between now and 2011. FAA expects to spend over $240 million annually on the project beginning in FY 2005. ERAM is designed to replace the Host Computer System, the central nervous system for facilities that manage high altitude traffic. We have an audit on ERAM underway and anticipate completing our first review of this complex program this year.

  One significant exception to programs with major cost overruns with cost-plus contracts is the *Advanced Technologies and Oceanic Procedures* program (ATOP), an effort to modernize FAA facilities that manage air traffic over the Atlantic and Pacific Oceans. Because FAA has relied on what is largely a fixed price contract and kept requirements stable, the costs associated with additional software development and fixing software problems discovered during testing have thus far been absorbed by the contractor—not the Government.

- <u>Improving contract management</u>: Last year, we reported that FAA's management of cost-reimbursable contracts was deficient, lacked accountability, and did not adequately protect against waste and abuse. Our

audits have found that FAA officials did not (1) obtain audits of billions of dollars in expenditures on cost-reimbursable contracts; (2) ensure reliable Government cost estimates were prepared and used in evaluating contracts; and (3) properly account for billing and expenditures to prevent overpayments. For example, our current audit work has identified that FAA officials did not obtain audits of 17 cost reimbursable contracts with a total value of $6.7 billion.

In January 2004, when we rendered our opinion on the Department's financial statements, we identified these deficiencies as a material weakness, and FAA has developed a detailed action plan to correct the deficiencies. We are working with FAA to ensure that these actions are fully implemented. We do want to note that FAA achieved a "clean" opinion on its FY 2003 financial statements.
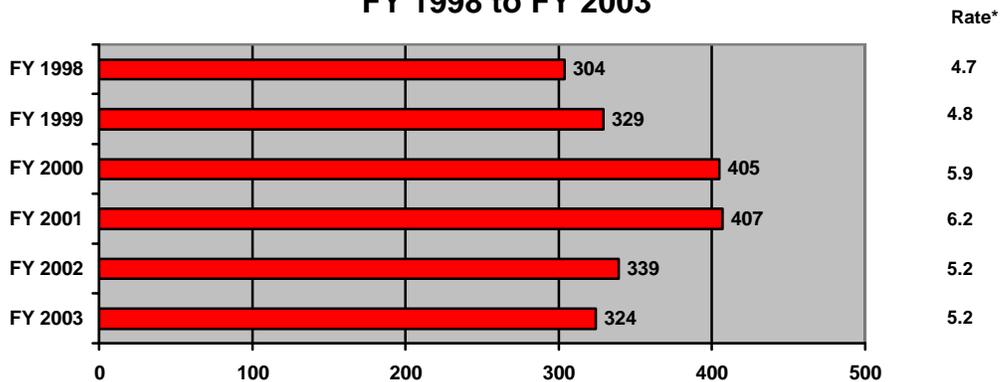
AIRPORTS. Finally, funding for the airport improvement program (AIP) has seen substantial increases over the past several years. FAA's AIP account has increased from $1.5 billion in 1996 to $3.5 billion in 2005. This is on top of passenger facility charges that airports collect (up to $4.50 per passenger) that FAA estimates will generate over $2 billion in fees in 2004. FAA projections suggest that a similar amount will be collected in 2005

A major emerging issue for FAA's budget is whether or not airport funds should be used to support some air traffic control related projects, such as new weather or instrument landing systems. In its budget request, FAA observes that new systems once considered to be beneficial to FAA air traffic operations have evolved to provide significant benefits to airport operators and users.

FAA's budget submission notes that many of these systems should be considered for AIP funding instead of funding from the F&E account. Although AIP funds can be used for this purpose, the change would represent a shift in the allocation of budgetary resources. FAA needs to identify and quantify the specific systems it believes should be funded by airport funds so that Congress and FAA stakeholders can make an informed decision about this important proposed shift in funding sources.
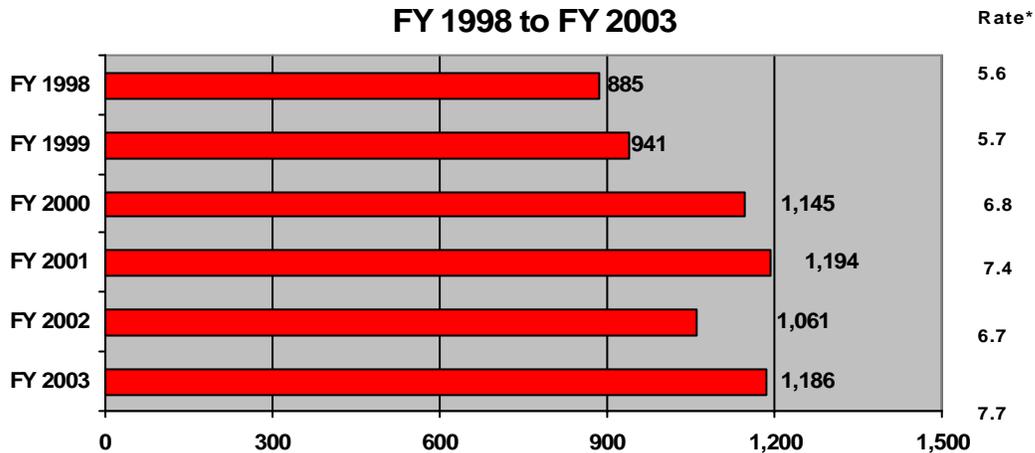
A long-standing problem that we continue to address through our work is diversion of airport revenues by airport sponsors or owners. Last year, we reported on revenue diversions at five large airports, including one airport that diverted about $40 million to other projects not related to the airport. FAA maintains that it does not have the resources to devote to this issue. We believe that given a staff of over 500, FAA needs to revisit its position and consider how to best address their oversight responsibilities for revenue diversions.

Runway Incursions
FY 1998 to FY 2003

Fiscal Year	Runway Incursions	Rate*
FY 1998	304	4.7
FY 1999	329	4.8
FY 2000	405	5.9
FY 2001	407	6.2
FY 2002	339	5.2
FY 2003	324	5.2

* Rate is per 1 million tower operations.

Operational Errors
FY 1998 to FY 2003

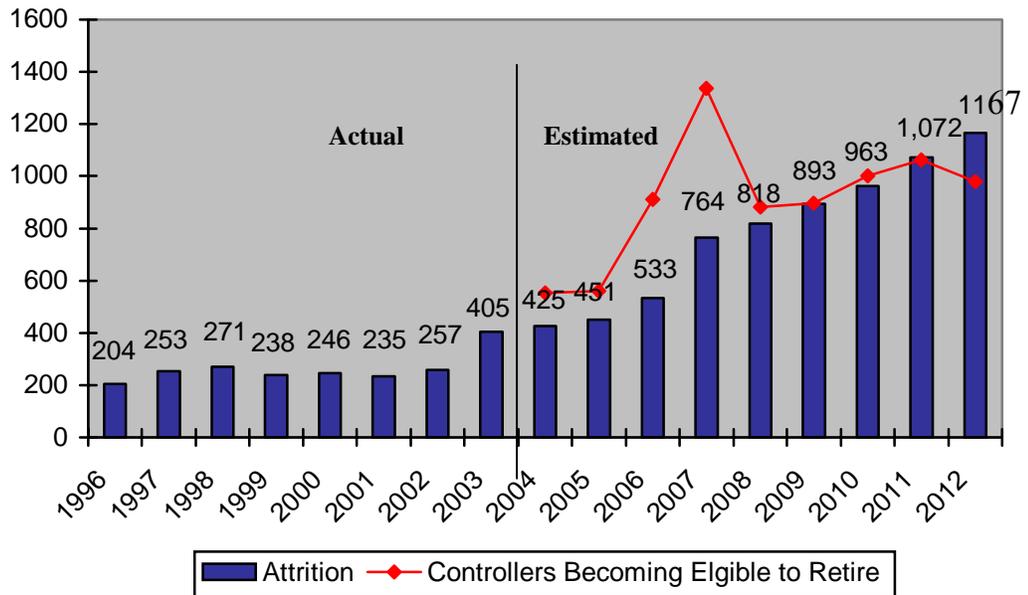| Fiscal Year	Operational Errors	Rate*
FY 1998	885	5.6
FY 1999	941	5.7
FY 2000	1,145	6.8
FY 2001	1,194	7.4
FY 2002	1,061	6.7
FY 2003	1,186	7.7

* Rate is per 1 million air traffic operations.

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FAA's Operations Budget - FY 1996 to FY 2005*
$ in Billions

*(requested)

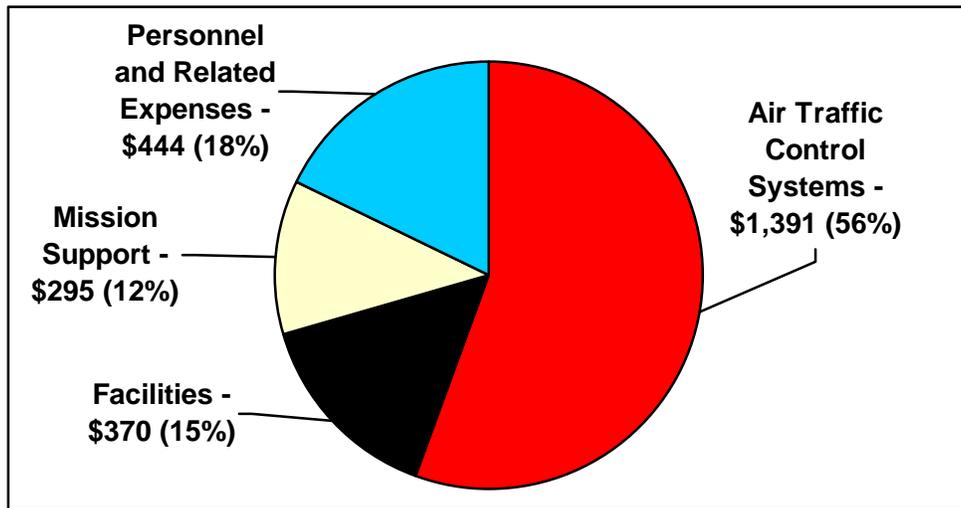| FY	Budget
FY 1996	$4.6
FY 1997	$5.0
FY 1998	$5.3
FY 1999	$5.6
FY 2000	$6.0
FY 2001	$6.6
FY 2002	$6.9
FY 2003	$7.0
FY 2004	$7.5
FY 2005	$7.8
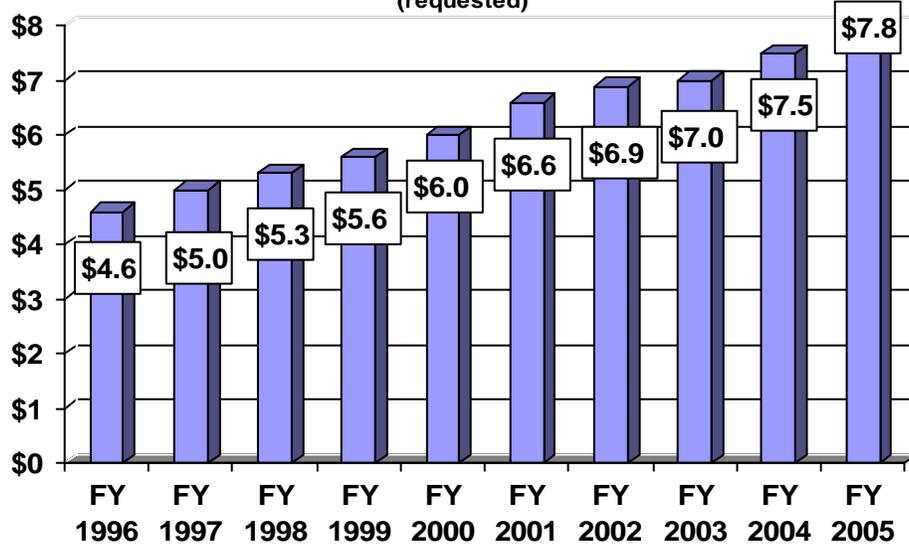
FAA Air Traffic Controller Attrition Compared to Retirement Eligibility

* Attrition data are as of November 2003. The number of controllers becoming eligible includes only those controllers reaching retirement eligibility in that year and does not include prior years. Retirement eligibility estimates are as of December 31, 2003.

FAA's FY 2005 Facilities and Equipment Budget Request
($ Millions)

Personnel and Related Expenses - $444 (18%)

Mission Support - $295 (12%)

Facilities - $370 (15%)

Air Traffic Control Systems - $1,391 (56%)

Source: FAA
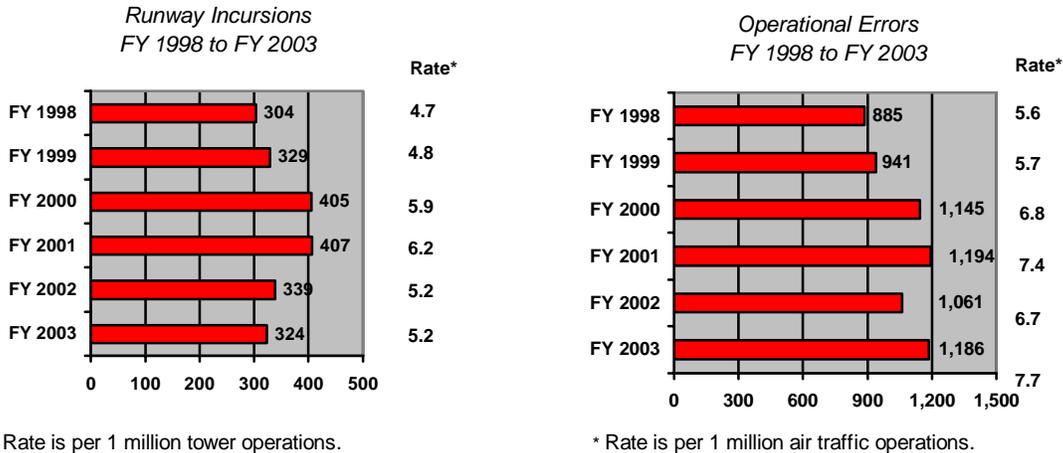(note - percentages do not add up due to rounding)

Planned Funding for ERAM, STARS and WAAS
Fiscal Years 2004 to 2007
$ Millions
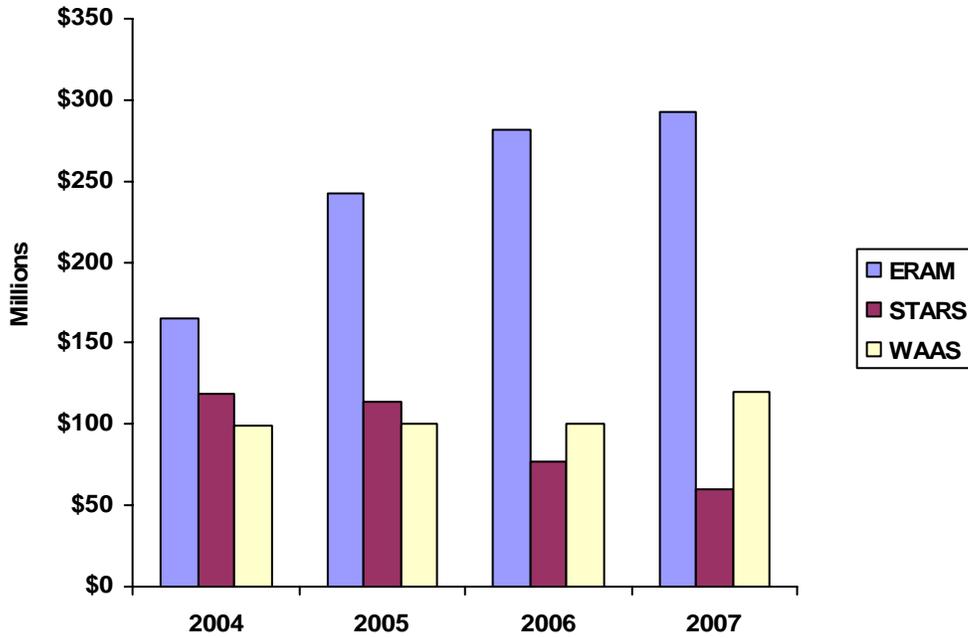
Source: FAA's January 2004 Draft Capital Investment Plan.
Note: Cost and schedule plans for STARS and WAAS are under review.

AVIATION SAFETY ISSUES

In terms of safety, FAA and U.S. air carriers have maintained a remarkable safety record. The January 2003 Air Midwest crash in Charlotte was the only fatal commercial accident in the past 2 years. However, operational errors pose a significant safety risk, with an average of 3 operational errors per day and 1 serious error (those rated as high risk) every 7 days. In FY 2003, the number of operational errors increased 12 percent to 1,186, or 125 more than the number of incidents that occurred in FY 2002. Additionally, while runway incursions have continued to decline for a second year in a row, there is still an average of nearly 1 runway incursion per day and an average of 1 serious runway incursion every 11 days (those incursions that barely avoided or had significant potential for a collision).

Runway Incursions FY 1998 to FY 2003		Rate*
FY 1998	304	4.7
FY 1999	329	4.8
FY 2000	405	5.9
FY 2001	407	6.2
FY 2002	339	5.2
FY 2003	324	5.2

* Rate is per 1 million tower operations.

Operational Errors FY 1998 to FY 2003		Rate*
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FY 2003	1,186	7.7

* Rate is per 1 million air traffic operations.

As shown in the following table, while the total number of runway incursions decreased, during the first 5 months of FY 2004, the most serious runway incursions have increased. Also, the total number of operational errors continued to increase, even though the most serious, or high severity, operational errors decreased during this same time period.
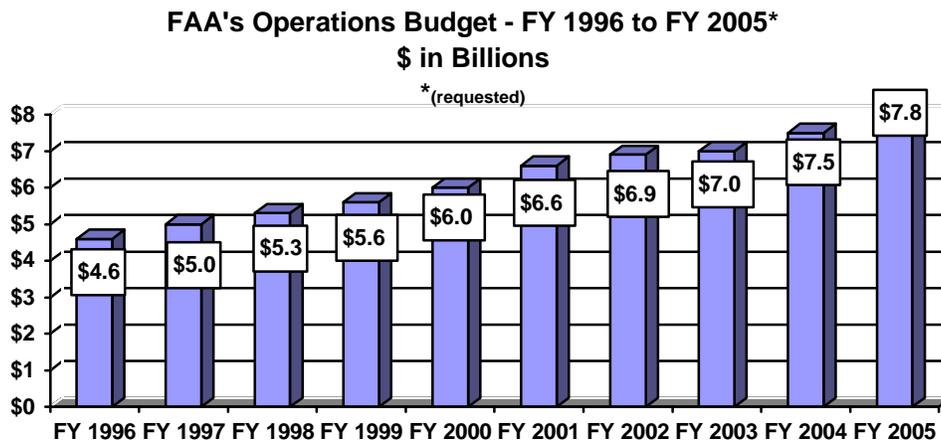
	For the Period October 1 ,2003 through February 29, 2004*					
	Total Incidents			Most Serious Incidents		
	FY 2003	FY 2004	Percent Change	FY 2003	FY 2004	Percent Change
Runway Incursions	134	125	(7%)	10	13	33%
Operational Errors	396	417	5%	25	18	(28%)

*FY 2004 information is preliminary as all incidents may not have received a final severity rating. Serious incidents for runway incursions include category A and B incidents. Serious incidents for operational errors include high severity incidents.

This past year, we also reported that improvements are needed in FAA's oversight of a growing trend toward air carrier use of outsourced maintenance facilities. While major air carriers outsourced 37 percent of their aircraft maintenance expense in 1996, the amount spent on outsourced maintenance increased to 47 percent of maintenance costs in 2002. Yet, over 90 percent of FAA's inspections are still focused on in-house maintenance, leaving contract repair stations inadequately reviewed. In response to our audit, FAA agreed to develop a new process to identify repair stations that air carriers use to perform safety-critical repairs and target inspector resources to those facilities.

ABATING A TREND OF OPERATING COST GROWTH

FAA is requesting $7.849 billion for its FY 2005 operating budget which is about $370 million above the FY 2004 enacted amount of $7.479 billion. Operating costs represent the largest portion of FAA's FY 2005 total budget, over 56 percent, whereas FAA's airports and capital accounts represent 25 percent and 18 percent respectively. As shown in the following graph, FAA's operating costs have been increasing substantially over the past 9 years.

FAA's Operations Budget - FY 1996 to FY 2005*
$ in Billions

*(requested)

FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
$4.6	$5.0	$5.3	$5.6	$6.0	$6.6	$6.9	$7.0	$7.5	$7.8

This past year Administrator Blakey and her staff have made notable progress in beginning the process of reining in FAA's history of operating cost growth. There are four areas that stand out in particular.

- *MOUs.* Last year before this Subcommittee, we reported that FAA and the National Air Traffic Controllers Association (NATCA) had entered into numerous sidebar agreements or Memoranda of Understanding (MOUs). Many of those MOUs had significant cost and/or operational impacts on the Agency, but we found that FAA had virtually no controls over the process. This past year, FAA developed new policies and procedures that, if properly implemented, should significantly improve controls over MOUs. As part of an agreement to extend the controllers' collective bargaining agreement for

another 2 years, FAA and NATCA also rescinded or modified many of the most costly MOUs. For example,

- FAA and NATCA rescinded an MOU that allowed controllers transferring to larger consolidated facilities to begin earning the higher salaries associated with their new positions substantially in advance of their transfer or taking on new duties. At one location, controllers received their full salary increases 1 year in advance of their transfer (in some cases going from an annual salary of around $55,000 to over $99,000). During that time, they remained in their old location, controlling the same airspace, and performing the same duties. At three locations alone, we found FAA incurred over $2.2 million in unnecessary one-time costs as a result of this MOU.

- FAA and NATCA also renegotiated another MOU for a new free flight tool that originally gave each controller two $250 cash awards and a time-off award of 24 hours for meeting certain training milestones on the new system. The MOU contained no distinction of awards for individual contributions other than coming to work and attending training. At six facilities alone, this MOU resulted in FAA incurring approximately $1.3 million in individual cash awards and 62,500 hours in time off, which is the equivalent of approximately 30 full-time positions.

However, one costly MOU that we identified last year was not renegotiated. This MOU concerns "Controller Incentive Pay" (CIP) which provides controllers at 110 locations with an additional cost of living adjustment of between 1 and 10 percent, in addition to Government-wide locality pay. For example, like all other Federal and FAA employees in the Washington Metropolitan area, controllers receive 14.63 percent in Government-wide locality pay (for CY 2004). However, as a result of this MOU:

- Controllers at Dulles International also receive 4.6 percent in CIP;
- Controllers at Reagan National also receive 3.3 percent in CIP;
- Controllers at Andrews Air Force Base also receive 5.9 percent in CIP; and
- Controllers at Baltimore Washington International also receive 1.7 percent in CIP.

In FY 2003, this additional cost of living adjustment cost FAA about $35.6 million.

- ***Flight Service Stations.*** Another area of progress this past year is FAA's A-76 study of its flight services functions, which provide general aviation pilots with aeronautical information and services such as weather briefings, flight planning

assistance, and aeronautical notices. In December 2001, we issued a report showing that FAA could save approximately $500 million over 7 years by consolidating its automated flight service stations in conjunction with deployment of new flight services software. In response, FAA began an A-76 study to determine if flight services should be retained within the Government or contracted out.

FAA has made strides in the process this past year. FAA plans to review proposals from several contractors, as well as the Government's "More Efficient Organization" proposal, within the next several months and believes it will be ready to make a final determination by March 2005. A key challenge will be completing those actions under what are already tight timeframes. Keeping this process on track is important because the potential for cost savings is significant. FAA is requiring a 22 percent cost savings, or about $478 million, over 5 years as a selection factor for determining if a proposal will be considered.

- ***Pay for Performance.*** FAA also made progress in linking pay and performance‑a key tenet of FAA's personnel reform efforts. As part of the 2-year extension of the controllers' agreement, FAA and NATCA agreed to tie a portion of controllers' salary increases to meeting four national performance metrics:
  1. A reduction in the number of operational errors,
  2. A reduction in the number of runway incursions,
  3. Improvements in arrival efficiency rates, and
  4. Improvements in on-time performance.

This now means that 78 percent of FAA's workforce will be on a pay-for-performance plan, up from 36 percent last year at this time. It is important to note, however, that in the case of controllers, the performance increase represents a very small percentage of their total annual pay increase. For each goal reached, controllers will receive a pay increase of 0.2 percent (or a pay increase of approximately $850[1] if all 4 goals are achieved). However, even if none of the performance goals are met, controllers will still receive an average increase of 4.9 percent this year (or a pay increase of approximately $5,200[2]) based on requirements in their collective bargaining agreement.

Other FAA employees who are on other pay systems will receive different pay increases. For example, non-bargaining unit employees on the Agency's "core compensation plan" will receive a 4.5 percent average pay increase. However,

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[1] Based on 2003 average base salary of $106,580.
[2] Includes an average locality adjustment of 1.4 percent.

those employees are still eligible to receive a performance increase, which averages about 0.6 percent, based on an individual's job performance, and not on specific goals as in the case of controllers.

- ***FAA Review of Overtime and Sick Leave Usage.*** This past year, our office received several hotline complaints alleging that FAA employees at four large facilities were abusing credit hours and manipulating work schedules to increase overtime usage. In the past, when we made FAA aware of similar allegations, the Agency took little or no action whatsoever. However, this year, FAA has taken steps to address the allegations. FAA assigned a management team at one facility to determine if the allegations were valid, and to identify what management action may be needed. At another location, FAA managers are looking into whether excessive overtime usage may stem from an outdated order from the early 1980s. These are clearly steps in the right direction. However, FAA needs to examine these issues nationally to determine if they are systemic, and we are discussing with FAA how our office and the Agency can coordinate our efforts.

Mr. Chairman, the actions taken by the Administrator and her staff this past year are encouraging. However, it is important to keep in mind that achieving significant reductions in operating costs represents a tremendous challenge. This is because salaries and benefits make up approximately 73 percent of FAA's operating budget or about $5.7 billion in FY 2005.

FAA's operating costs are further compounded by the fact that FAA has a very high average salary base. For example, last year, the average base salary for all FAA employees was over $87,000. We estimate that this year, the average base salary for controllers, FAA's largest workforce, will be about $111,000[3], which is exclusive of premium pay. Against FAA's high salary base, pay increases (which are a percentage of base pay) result in large dollar increases to FAA's operating costs. For example, FAA's FY 2005 budget request of $7.8 billion for operations is a total increase of about $370 million over FY 2004 appropriations. However, FAA estimates that approximately $200 million of the $370 million will be consumed by pay increases alone.

Because FAA's salary base is relatively fixed, it is unlikely that significant reductions in operating cost growth can be achieved without substantial improvements in the Agency's workforce productivity. Initiatives such as new air traffic systems, technological improvements, efforts to redesign the National Airspace System, and consolidating locations all have the potential to significantly

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[3] Based on a 4.9 percent average increase, which does not take into account possible additional increases for meeting performance goals.

improve productivity. In the past, FAA has embarked on similar initiatives on a limited basis, but was unable to quantify improvements in productivity because it did not have systems to capture cost and workforce-related data.

Expected Increases in Controller Attrition. A significant issue for FAA is the expected increase in controller attrition. Attrition in FAA's air traffic controller workforce is expected to rise sharply in upcoming years as controllers hired after the 1981 Professional Air Traffic Controllers Organization controllers' strike become eligible for retirement. FAA currently estimates that nearly 7,100 controllers could leave the Agency over the next 9 years (FYs 2004-2012). In contrast, FAA has only experienced total attrition of about 2,100 controllers over the past 8 years (FYs 1996-2003).

Whether FAA will need to replace all 7,100 controllers on a one-for-one basis depends on many factors including future air traffic levels, new technologies, and long-term initiatives that FAA undertakes. However, it is clear that as a result of the anticipated increases in attrition, FAA will begin hiring and training controllers at levels that the Agency has not experienced since the early 1980s.

FAA Air Traffic Controller Attrition Compared to Retirement Eligibility
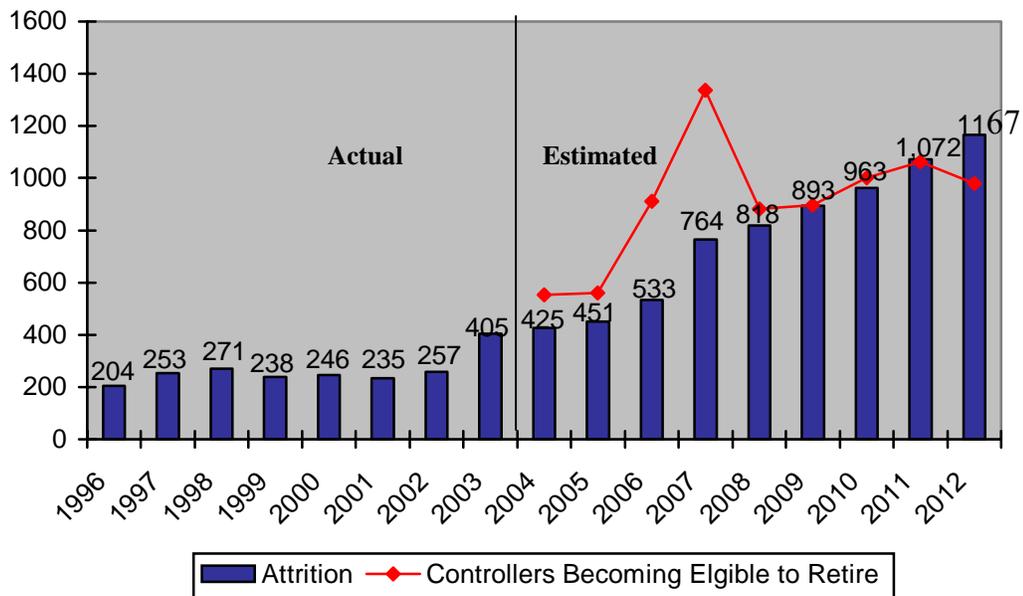
* Attrition data are as of November 2003. The number of controllers becoming eligible includes only those controllers reaching retirement eligibility in that year and does not include prior years.   Retirement eligibility estimates are as of December 31, 2003.

We have just completed an audit of FAA's process for selecting, placing, and training air traffic controllers and will be issuing a report next month. We found

that this is an area where additional management attention is needed.   For
example:

- FAA has national estimates of expected attrition within the controller
  workforce, but those estimates do not take into account where vacancies will
  occur. It is almost certain that many will be at some of the busiest and most
  critical facilities within the National Airspace System.

- While most locations we visited had estimates of attrition over the next 2 years,
  they included different information in developing those estimates. One facility
  only projected mandatory retirements, another facility projected attrition for
  transfers but not retirements, and another facility provided estimates on all
  types of attrition (i.e. retirements, transfers, hardships, resignations, and
  removals).

- In addition, FAA does not currently have a selection process for determining if
  newly hired controllers have the knowledge, skills, and abilities to complete
  training and become certified at the facility level of their assigned location.

- FAA does not keep national statistics on the controller on-the-job training
  (OJT) process, which is the longest portion of controller training. At the
  locations we visited, we found the overall time required for newly hired
  controllers to become certified averaged 3.1 years but in some cases took as
  long as 7 years. To effectively manage the OJT process as hiring increases,
  FAA will need data such as the time and costs required to complete OJT, the
  number of training failures, and delays in the process to benchmark against and
  improve the time and costs associated with OJT.

A substantial challenge for FAA will be to hire and train new controllers within a
tightly constrained operating budget. FAA has recently made significant progress
in this area by renegotiating several pay rules with NATCA that previously
allowed some newly hired controllers to earn base salaries in excess of
$79,000 while in training. The renegotiated rules now allow FAA to set newly
hired controllers' salaries at levels that are more commensurate with an entry-level
position (from $25,000 to $52,000) and should help FAA avoid higher costs as it
begins hiring and training greater numbers of new controllers.

One point worth noting, Mr. Chairman, is that new controllers will generally have
lower base salaries than the retiring controllers they replace. Over time, this could
help reduce FAA's average base salary and in turn, help reduce FAA's operating
cost growth. However, if FAA does not place new controllers where and when
they are needed, the potential reductions in base salaries will be offset by lower

productivity as a result of placing too many or too few controllers at individual facilities.

To effectively manage the expected increase in controller attrition, FAA needs accurate cost and workforce data, which underscores the urgency of getting the Agency's cost accounting and labor distribution systems in place and operating effectively. The Chief Operating Officer for the Air Traffic Organization has committed to putting both of these systems in place. This past year, FAA has made some progress with its cost accounting system, but there has been very little progress in fielding the labor distribution system planned for air traffic employees. That system is critical for managing the expected wave of controller retirements.

- *__Cost Accounting.__* In 2003, FAA's cost accounting system was partially operational in two of FAA's five lines of business. FAA produced limited cost accounting information for the Air Traffic Services line of business, a major component of the new Air Traffic Organization, and for the Commercial Space Transportation line of business. FAA made progress during the year by assigning some overhead costs properly, but much more needs to done. For example, FAA is unable to assign about $1.3 billion of costs to individual facilities. Until these costs can be assigned, managers will lack the information they need to determine the true cost of facility operations.

- *__Labor Distribution.__* Cru-X is the labor distribution system FAA chose to track hours worked by air traffic employees. As designed, Cru-X could have provided credible workforce data for addressing concerns about controller staffing, related overtime expenditures, and determining how many controllers are needed and where. However, CRU-X has not been deployed as designed because of a September 2002 agreement between FAA and NATCA that limited the system's capability to gather data regarding workforce productivity. Specifically, the agreement eliminated (1) requirements for controllers to sign in and out of the system when arriving or leaving work, and (2) tracking time spent by employees performing collateral duties.

  In February 2004, FAA provided NATCA with substantive changes planned for the system, and plans to open discussions with the union later this month. FAA and NATCA need to complete actions to resolve internal control deficiencies with CRU-X and implement the system as quickly as possible so the Agency and union have objective data to determine how many controllers are needed and where.

**BRINGING FISCAL DISCIPLINE AND ACCOUNTABILITY TO FAA
MODERNIZATION EFFORTS**

FAA is requesting $2.5 billion for the Facilities and Equipment account for FY 2005. This represents a reduction of over $350 million from last year's appropriated level of $2.86 billion and nearly $500 million less than the authorized level. Historically, FAA's modernization projects have experienced considerable cost growth, schedule slips, and shortfalls in performance.

In the current budget environment, cost growth and schedule slippages experienced in the past are no longer affordable or sustainable. As the following chart shows, only 56 percent of FAA's $2.5 billion budget request for Facilities and Equipment is for developing and acquiring air traffic control modernization projects. The remaining funds are for salaries, FAA facilities, and mission support.

FAA's FY 2005 Facilities and Equipment Budget Request
$ Millions
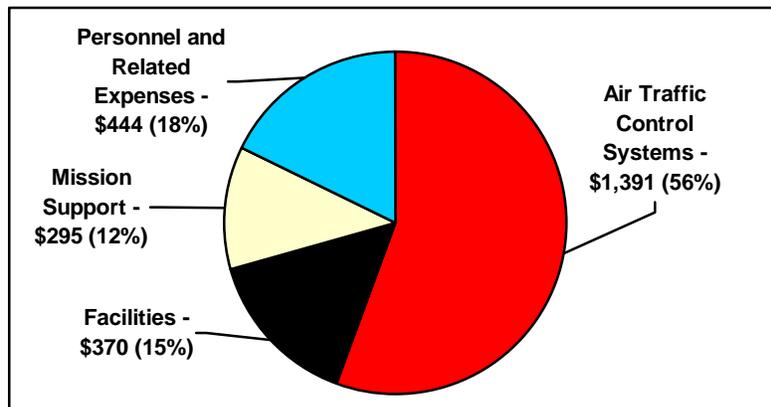
Source: FAA
(note - percentages do not add up due to rounding)

Cost and schedule problems with ongoing modernization efforts have serious consequences because they result in postponed benefits (in terms of safety and capacity), the crowding out of other modernization projects, costly interim systems, or a reduction in units procured. In the past, the severity of these problems has been masked by the size of a modernization budget that either grew or stayed constant.

Adjustments to FAA Modernization Projects. FAA has reduced or eliminated funding in its FY 2005 request for a number of modernization projects, including, the *Local Area Augmentation System, Controller-Pilot Data Link Communications,* and the *Next Generation Air to Ground Communications*

System. These efforts were longer-term in nature and called for airspace users to purchase and install new avionics. Funding reductions also reflect an emphasis on near-term FAA infrastructure projects.

Irrespective of funding concerns, these projects faced problems that needed to be addressed with respect to misjudging technological maturity, unexpected cost growth, or concerns about how to move forward.

- *The Local Area Augmentation System (LAAS)*—is a new precision landing and approach system. It was expected to cost $696 million and to be deployed in 2006, 4 years later than originally planned. FAA is not requesting funds for LAAS in FY 2005. In December 2002, we reported that expectations with respect to cost, schedule, and performance needed to be reset because the new landing system is not as mature as FAA expected.[4] Category I LAAS was planned for 2006 and the more demanding CAT II/III LAAS is now a research and development effort with uncertain completion dates.[5]

  Considerably more development work is required for LAAS than FAA expected just a year ago. The key issue is how to ensure the system will work as safely as intended. After assessing contractor progress, FAA estimated that it could take up to 21 months and an additional $37 million for the contractor to recover and complete just the first phase for LAAS.

- *Next Generation Air-to-Ground Communications System (NEXCOM)*—is an effort to replace aging analog radios and foster the transition to digital communications. The first segment of NEXCOM (new radios and new ground infrastructure for digital communications) was expected to cost $986 million. FAA is requesting $31 million for NEXCOM in FY 2005, $54 million less than last year's appropriated level of $85 million. FAA will move forward with replacing older radios (the least complex element of the NEXCOM effort) but has postponed making decisions about NEXCOM ground system development and is re-evaluating its approach for modernizing the air to ground communications. FAA will spend over $200 million less on NEXCOM ground system development between FY 2005 and FY 2008 than planned just a year ago.

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[4] See FAA Needs to Reset Expectations for LAAS Because Considerable Work is Required before It Can Be Deployed for Operational Use (Av-2003-006, December 16, 2002).
[5] CAT I precision approach has a 200 foot ceiling/decision height and visibility of ½ mile. CAT II precision approach has a 100 foot ceiling/decision height and visibility of ¼ mile. CAT III precision approach and landing has a decision height and visibility less than 100 feet down to the airport surface.

FAA's decision to postpone decisions about NEXCOM gives the Agency opportunities to develop a cost-effective approach for meeting the air-to-ground communications needs of the National Airspace System. NEXCOM has been controversial with airlines because of FAA's preferred technology and related costs. While FAA replaces older radios, the Agency needs to address (1) how to sustain existing communications infrastructure, and (2) how to address frequency congestion problems in the short- and long-term.

- *Controller-Pilot Data Link Communications* (CPDLC)—is a new way for controllers and pilots to share information that is analogous to wireless EMAIL and considered an enabling technology for Free Flight. FAA began using CPDLC at Miami Center in October 2002 and planned to deploy the system to other facilities that manage high altitude traffic at a cost of $167 million. FAA deferred these plans for expanding CPDLC last year. The Conference report for the FY 2004 Appropriations Act directed our office to look into, among other things, the circumstances leading to termination of the CPDLC program and what controls could have been put in place to avoid a program failure of this type.

  We found that a number of factors contributed to FAA's decision, including concerns about how quickly users would equip with new avionics and the fact the approved program baseline of $167 million was no longer valid. FAA estimates that it would cost $236.5 million for eight locations—an increase of $69 million for less than half the locations initially planned.

  Another factor was the impact on the operations account, which is already overburdened. CPDLC would have added $63 million in cost to the operations account for, among other things, controller training and overtime (for just eight locations), and $20 million annually for the cost of data link messages. We are continuing our work on CPDLC and will report back to this Committee later this year.

We see positive signs that the Administrator and her team are addressing problems with major acquisitions. However, there should be no mistake that FAA's efforts are in the early stages and a number of fundamental steps are needed. They include:

- developing reliable cost and schedule estimates,
- avoiding long-term cost-plus contracts, and
- establishing controls to prevent waste and abuse.

Developing Reliable Cost and Schedule Estimates. Last year, we reported that despite the benefits of acquisition reform granted in 1996, cost growth and scheduled slips in modernization efforts are all too common. For example, we analyzed 20 major acquisition projects and found that 14 of these projects experienced cost growth of over $4.3 billion (from $6.8 billion to $11.1 billion), which represents considerably more than the FAA's annual appropriation for modernizing the National Airspace System. Also, 13 of the 20 projects accounted for delays ranging from 1 to 7 years. FAA recognizes these problems and the Agency's strategic plan—Flight Plan 2004-2008—establishes a performance target so that 80 percent of critical acquisitions are both on schedule and within 10 percent of budget. This is an important step.

A number of key modernization projects that have been delayed still do not have reliable cost and schedule baselines. Without better information, FAA cannot effectively plan, manage the modernization portfolio, or determine what is affordable. The following table provides information on selected acquisitions that do not have reliable cost and schedule baselines.

Four Key Projects Needing Updated Cost and Schedule Baselines
($ in Millions)

Program	Estimated Program Costs (Dollars in Millions)		Percent Cost Growth	Implementation Schedule		Schedule Delay
	Original	Current		Original	Current	
Wide Area Augmentation System	$892.4	$2,922.4*	227%	1998-2001	2003-TBD**	5 years
Standard Terminal Automation Replacement System	$940.2	$1.690.2	80%	1998-2005	2002-2012**	7 years
Airport Surveillance Radar-11	$743.3	$1,040	39.9%	2000-2005	2003-2013	8 years
Integrated Terminal Weather System	$276.1	$283.7	3%	2002-2003	2003-2008	5 years

*   This includes the cost to acquire geostationary satellites.
**   Costs and schedules are under review.

Mr. Chairman, I would like to discuss three of these projects.

- *Standard Terminal Automation Replacement System (STARS)* – will supply new controller displays and related computer equipment for FAA's terminal facilities. FAA's official STARS acquisition cost estimate has nearly doubled from $940 million to $1.69 billion, and the program office is currently updating this estimate.

  FAA has already obligated $1.1 billion through FY 2003 but has only installed 19 systems, of which 16 are operational. FAA plans to deploy STARS to 162 sites. We reported in September 2003 that STARS is not the same program that was planned 8 years ago. The program has shifted from a commercial off-the-shelf procurement to one that has required more than $500 million in development costs. Moreover, because of cost growth and a schedule slip to FY 2012, the benefits that supported the initial acquisition are no longer valid.[6] Due to STARS delays, FAA deployed Common Automated Radar Terminal System (Common ARTS) hardware and software to 141 terminal facilities over the past 5 years.

  In our 2003 report, we recommended that FAA select the most cost-effective and affordable strategy to complete terminal modernization by augmenting STARS deployment with Common ARTS. We estimated that implementing this approach would allow FAA to put at least $220 million to better use. To date, the Agency has not ruled out keeping some Common ARTS as an alternative if STARS proves to be unaffordable or does not perform as expected.

  However, STARS remains FAA's preferred alternative. FAA officials maintain that STARS has important capabilities, such as "Sensor Fusion," which are designed to merge data from multiple radars on controllers' displays. However, FAA continues to experience problems with the Sensor Fusion software. We have not yet seen sufficient evidence to justify FAA's conclusion that the capabilities of STARS are far superior to the capabilities of Common ARTS, and both systems are certified for use in the National Airspace System.

  At the Subcommittee's direction, we will review and validate the Agency's revised STARS lifecycle cost estimates. To control cost growth, FAA is developing a revised approach to STARS contracting. We are encouraged that FAA officials are negotiating a fixed price contract with options based on contractor performance. This month, FAA plans to make a decision about a very limited STARS production (11 systems for medium and small locations),

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[6] FAA Needs to Reevaluate STARS Costs and Consider Other Alternatives, AV-2003-058, September 9, 2003.

and then, contingent on our validation, replace 2 Common ARTS systems at large sites.

Given the program's history, and the fact that development for large sites, such as Denver and Chicago, is incomplete, it would be premature to commit to STARS at large sites before test results are available to show STARS can meet FAA's requirements.

- *The Wide Area Augmentation System (WAAS)*—is a new satellite-based navigation system to enhance all phases of flight. The program has a long history of uncertainty regarding how much the system will cost, when it will be delivered, and what benefits can be obtained. Limited WAAS services became available in July 2003 but additional work is needed to expand WAAS coverage through additional ground stations. FAA has obligated over $800 million on WAAS and expects to spend $100 million on the new system in FY 2005.

  WAAS was expected to provide Category I performance to the majority of the Nation's airports but will provide something less when the system is deployed. Based on our discussions with FAA, the Subcommittee should expect to see a reduction in overall WAAS baseline costs in the $300 to $400 million range to reflect the fact that Agency will not pursue Category I performance.

- *The Integrated Terminal Weather System (ITWS)*—provides air traffic managers with a 20-minute forecast of weather conditions near airports and can help the National Airspace System recover from periods of bad weather. FAA initially planned to complete deployment of 38 systems by 2003 at a cost of about $276 million, but production costs increased significantly from $360,000 to $1 million per system. According to FAA officials, the Agency now plans to establish new cost and schedule parameters this April, and accelerate an ITWS enhancement (the Convective Weather Forecast product) in response to our December 2002 report.

Avoiding Long-Term Cost-Plus Contracts. Our work on the cost, schedule, and performance problems of 20 major FAA acquisitions illustrates why the Agency needs to avoid entering into long-term cost-plus contracts before Agency requirements and user needs are fully understood. Cost growth associated with additional development work and changing requirements for both STARS and WAAS was absorbed fully by the Government. In the future, FAA needs to use a more incremental approach to complex long-term efforts until the scope of work and development is clearly defined and rely more on fixed price contracts.

FAA is now undertaking a large and complex automation effort through a long term, cost-plus contract called the *En Route Automation Modernization* (ERAM) program, which FAA estimates will cost about $2 billion between now and 2011. FAA expects to spend over $240 million annually on the project beginning in FY 2005. ERAM is designed to replace the Host Computer System, the central nervous system for facilities that manage high altitude traffic. The FY 2004 Appropriations Conference Report directs our office to look at executability of the program and identify program risks, including security.

The following chart illustrates planned funding for ERAM and as well as funding profiles for STARS and WAAS, two projects that have been delayed for years.[7] Any cost increases with these programs will have a cascading effect on other efforts and limit FAA's flexibility to begin new projects.

Planned Funding for ERAM, STARS and WAAS
Fiscal Years 2004 to 2007
$ Millions
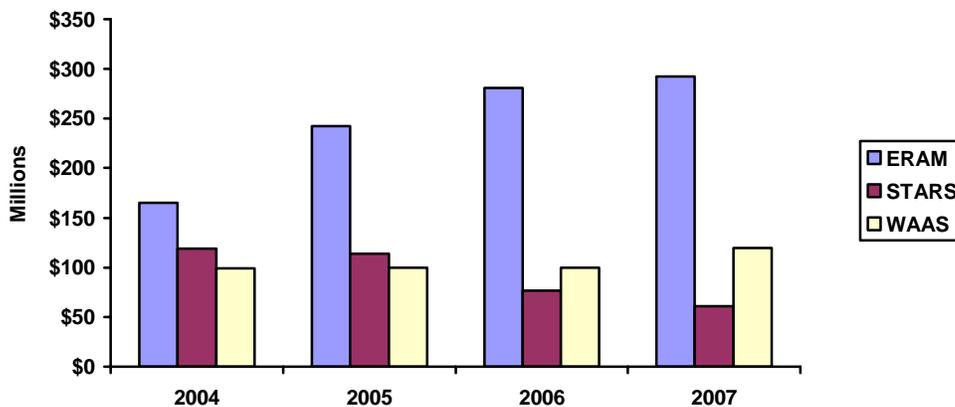
Source: FAA's January 2004 Draft Capital Investment Plan.
Note: Cost and schedule plans for STARS and WAAS are under review.

ERAM is the largest and most complex automation effort FAA has embarked on since the Advanced Automation System. We anticipate completing our first review of this complex program this year. At this stage, we see key ERAM program risks as: (1) an aggressive schedule, (2) complex software development and integration, and (3) successfully managing a long-term cost-plus contract that is already valued at close to $1 billion.

One significant exception to programs with major cost overruns is the *Advanced Technologies and Oceanic Procedures* program (ATOP), an effort to modernize FAA facilities that manage air traffic over the Atlantic and Pacific Oceans. This

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[7] STARS and WAAS funding profiles are currently under review by FAA.

effort has and continues to experience unexpected software development problems. Problems are traceable to the fact that the contractor relied on non-development software that could not meet FAA requirements.

In June 2001, FAA awarded a $217 million contract for ATOP to provide oceanic air traffic systems. Since the contract was awarded, the contractor has experienced problems with software development and testing. As a result, the first phase of testing, known as factory acceptance testing, was completed 12 months behind schedule. In October 2003, FAA began operational testing to determine whether the new automation system would perform as intended. This testing uncovered further software problems that forced FAA to halt testing of ATOP's air traffic management functions.

FAA has relied on what is largely a fixed price contract and kept requirements stable. Consequently, the costs associated with additional software development and fixing software problems discovered during testing have been absorbed by the contractor—not the Government. However, due to the software problems and pending delays, FAA decided to modify the contract in an effort to maintain the schedule for Oakland. According to FAA, the modification will expand the use of cost-plus contract elements (including time and materials) and increase the value of the contract by approximately $11 million. In essence, the modification allows the contractor to focus additional resources to fix software development problems found during testing.

While this $11 million adjustment is modest compared to cost growth we have seen with other programs and can be accommodated in the current baseline, it is cause for concern. ATOP is now schedule driven and FAA's change in approach has increased risk to the effort. We will continue to monitor progress with ATOP. The Conference report accompanying the Appropriations Bill for FY 2004 directed our office to compare FAA's oceanic modernization experiences and capabilities with experiences of NAVCanada, and other oceanic air service providers. We intend to begin work on this later this year.

Improving Contract Management. Last year, we reported that FAA's management of cost-reimbursable contracts was deficient, lacked accountability, and did not adequately protect against waste and abuse. Our audits have found that FAA officials did not (1) obtain audits of billions of dollars in expenditures on cost-reimbursable contracts, (2) ensure reliable Government cost estimates were prepared and used in evaluating contracts, and (3) properly account for billing and expenditures to prevent overpayments.

For example, our current audit work has identified that FAA officials did not obtain audits of 17 cost reimbursable contracts with a total value of $6.7 billion.

In addition, we reported that FAA officials did not ensure that contractor employees were qualified to do the work. For example, a contractor employee charged approximately $255,000 as a senior systems engineer, even though that individual had only a Bachelors of Arts Degree in Psychology, and his past work history indicated no experience in engineering.

When we rendered our opinion on the Department's financial statements we identified these deficiencies as a material weakness, and FAA has developed a detailed action plan to correct the deficiencies. For example, FAA has made progress in reducing the backlog of 459 completed contracts by closing out 279 contracts valued at $2.55 billion. In addition, FAA is providing adequate funding to perform cost incurred audits of contract expenditures. Congress provided $3 million in FY 2004 funds for this purpose and FAA is establishing procedures to ensure the funds are applied effectively by focusing on larger contracts.

FAA is also establishing a centralized control in FAA headquarters to track the status of all completed and ongoing cost reimbursable contracts in order to meet Congressional direction to audit 100 percent of contracts over $100 million and 15 percent of contracts less than $100 million. We are working with FAA to ensure that these plans are implemented.

AIRPORT FUNDING ISSUES

Mr. Chairman, let me address funding for airports and related issues. Funding for the airport improvement program (AIP) has seen substantial increases over the past several years. FAA's AIP account has increased from $1.5 billion in 1996 to $3.5 billion in 2005. This is on top of passenger facility charges (PFCs) that airports collect. The maximum amount allowed has increased from $3.00 to $4.50 per passenger, and FAA estimates that PFCs will generate over $2 billion in fees in 2004. FAA projections suggest that a similar amount will be collected in 2005.

The following chart illustrates funding levels for FAA's airports, operations, and facilities and equipment accounts from FY 1996 through FY 2005. It shows that AIP is taking up an increasing share of FAA's overall budget. For example, in FY 1996 AIP made up 18 percent of FAA's total budget whereas in FY 2005 AIP represents 25 percent of the Agency's total budget.

FAA's Budget By Program (FYs 1996-2005)
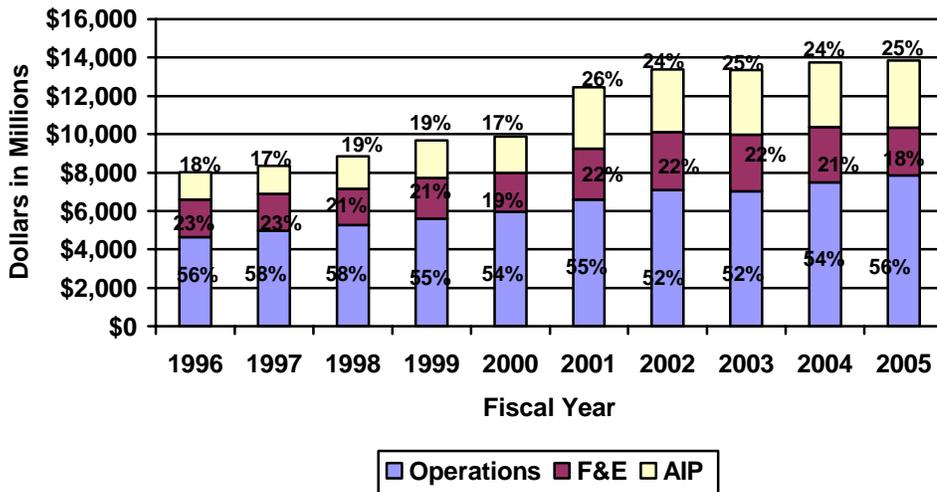
Emerging Issue for AIP. A major emerging issue for this Subcommittee focuses on how to fund some airport-related efforts that have been traditionally paid for by other FAA accounts. As more AIP funds are spent on airport projects, such as new runways, FAA incurs corresponding investments in air traffic control systems, navigational aids, airspace redesign, and related efforts to accommodate the increased capacity. We note that FAA's FY 2005 budget request observes that,

> "Over the past years, technology that was once considered to be beneficial to FAA's air traffic operations has evolved to provide significant benefits to airport operators and users. As a result, many of these systems should be considered for funding under the Airport Improvement Program instead of the Facilities and Equipment Appropriation . . . ."

Although AIP funds can be used for this purpose, the change would represent a shift in the allocation of budgetary resources. FAA needs to identify and quantify the specific systems it believes should be funded by airport funds so that Congress and FAA stakeholders can make an informed decision about this important proposed shift in funding sources

Revenue Diversions. A longstanding problem that we continue to address through our work is diversion of airport revenues by airport sponsors or owners and a lack of effective FAA oversight. It is a matter of law that all airports receiving Federal assistance use airport revenues for the capital or operating cost of an airport. Any other use of airport revenue is considered a "revenue diversion." Examples of common revenue diversions include charges to the airport for property or services that were not provided, indirect costs such as promotional activities that were

improperly allocated to the airport, and payments of less than fair market value for use of airport property.

Last year, we reported on revenue diversions at five large airports, including one airport whose sponsor, a local government agency, diverted about $40 million to other projects not related to the airport. Recently, we began reviews regarding potential revenue diversion and contracting irregularities at Los Angeles International Airport.

Our work shows that FAA's oversight of revenue diversions is limited. FAA maintains that it does not have the resources to devote to this issue. We believe that given a staff of over 500, FAA needs to revisit its position and consider how to best address oversight of revenue diversions.

That concludes my statement,[8] Mr. Chairman. I would be pleased to address any questions you or other members of the Subcommittee might have.

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[8] This testimony was conducted in accordance with <u>Government Auditing Standards</u> prescribed by the Comptroller General of the United States. The work supporting this testimony was based on prior and ongoing audits conducted by the Office of Inspector General. We updated material to reflect current conditions or to reflect FY 2005 budget requests as necessary.

RELATED OFFICE OF INSPECTOR GENERAL REVIEWS
1998 - 2004

Operations

- Using CRU-X to Capture Official Time Spent on Representational Activities – AV-2004-033, February 13, 2004
- FAA's Management of Memorandums of Understanding with the National Air Traffic Controllers Association – AV-2003-059, September 12, 2003
- Safety, Cost and Operational Metrics of the Federal Aviation Administration's Visual Flight Rule Towers – AV-2003-057, September 4, 2003
- FAA's Oversight of Workers' Compensation Claims in Air Traffic Services – AV-2003-011, January 17, 2003
- FAA's National Airspace System Implementation Support Contract – AV-2003-002, November 15, 2002
- FAA's Air Traffic Services' Policy of Granting Time Off Work to Settle Grievances – CC-2002-048, December 14, 2001
- Subcontracting Issues of the Contract Tower Program – AV-2002-068, December 14, 2001
- Automated Flight Service Stations: Significant Benefits Could be Realized by Consolidating AFSS Sites in Conjunction with Deployment of OASIS – AV-2002-064, December 7, 2001
- Compensation Issues Concerning Air Traffic Managers, Supervisors, and Specialists – AV-2001-064, June 15, 2001
- Technical Support Services Contract: Better Management Oversight and Sound Business Practices Are Needed – 2000-127, September 28, 2000
- Contract Towers: Observations on FAA's Study of Expanding the Program – AV-2000-079, April 12, 2000
- Staffing: Supervisory Reductions will Require Enhancements in FAA's Controller-in-Charge Policy – AV-1999-020, November 16, 1998
- Personnel Reform: Recent Actions Represent Progress but Further Effort is Needed to Achieve Comprehensive Change – AV-1998-214, September 30, 1998
- Liaison and Familiarization Training – AV-1998-170, August 3, 1998

Acquisition and Modernization

- FAA Needs to Reevaluate STARS Costs and Consider Other Alternatives – AV-2003-058, September 10, 2003
- Status of FAA's Major Acquisitions – AV-2003-045, June 27, 2003
- Integrated Terminal Weather System: Important Decisions Must Be Made on the Deployment Strategy – AV-2003-009, December 20, 2002
- FAA's Progress in Developing and Deploying the Local Area Augmentation System – AV-2003-006, December 18, 2002
- Follow-up Memo to FAA on STARS Acquisition – CC-2002-087, June 3, 2002
- Letter Response to Senator Richard Shelby on FAA's Advanced Technologies and Oceanic Procedures (ATOP) – CC-2001-210, April 12, 2002
- Status Report on the Standard Terminal Automation Replacement System – AV-2001-067, July 3, 2001
- Efforts to Develop and Deploy the Standard Terminal Automation Replacement System – AV-2001-048, March 30, 2001

Aviation Safety

- Review of Air Carriers' Use of Aircraft Repair Stations - AV-2003-047: July 8, 2003.
- Operational Errors and Runway Incursions - AV-2003-040: April 3, 2003.
- Air Transportation Oversight System (ATOS) - AV-2002-088: April 8, 2002.
- Oversight of FAA's Aircraft Maintenance, Continuing Analysis, and Surveillance Systems - AV-2002-066: December 12, 2001.
- Further Delays in Implementing Occupational Safety and Health Standards for Flight Attendants Are Likely - AV-2001-102: September 26, 2001.
- Despite Significant Management Focus, Further Actions Are Needed To Reduce Runway Incursions - AV-2001-066: June 26, 2001.

Airports

- Oversight of Airport Revenue - AV-2003-030: March 20, 2003.

For further information, these reports can be reviewed on the OIG website at http://www.oig.dot.gov.