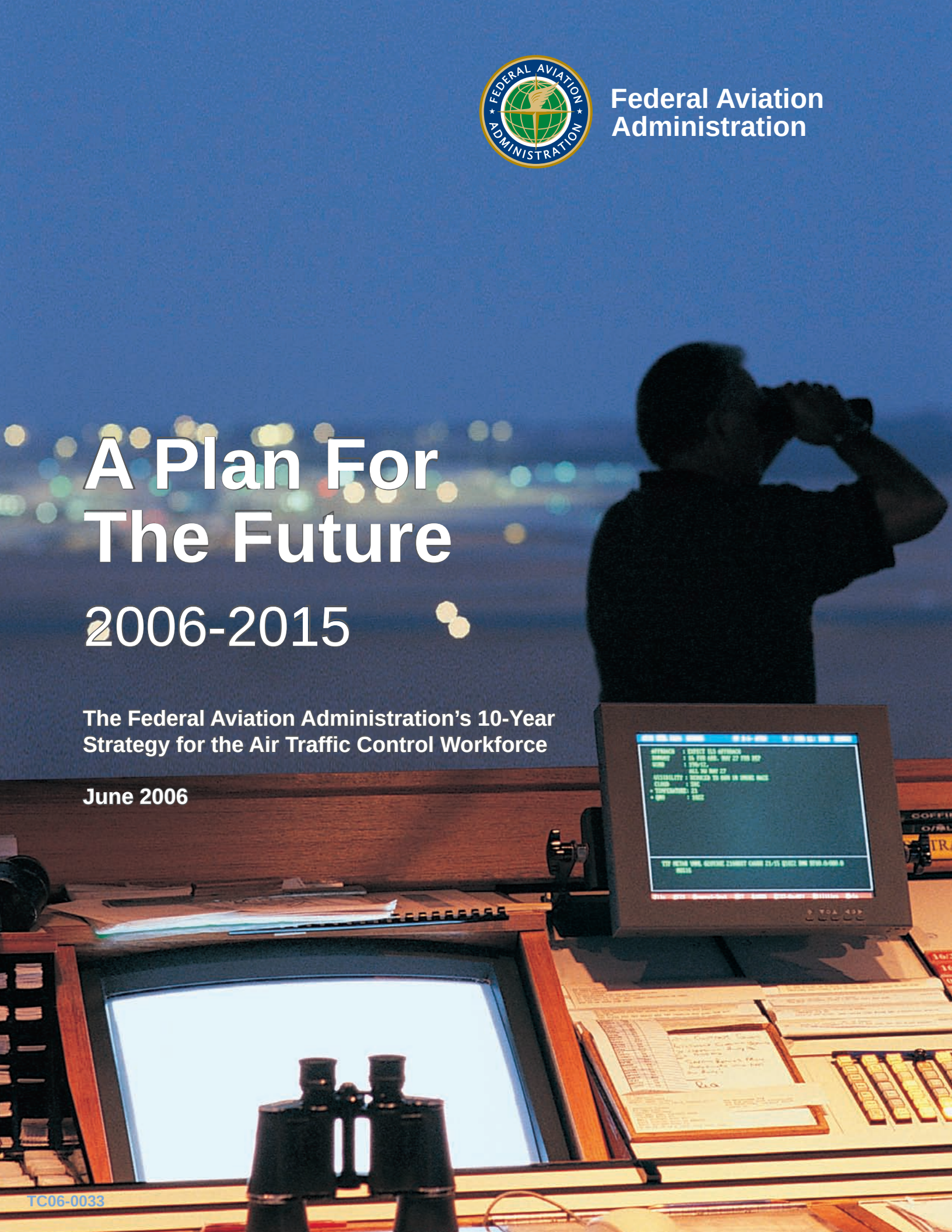


Federal Aviation Administration

A Plan For The Future

2006-2015

The Federal Aviation Administration's 10-Year Strategy for the Air Traffic Control Workforce

June 2006

TC06-0033

Table of Contents

Executive Summary

The Federal Aviation Administration employs nearly 15,000 air traffic controllers, responsible for safely and efficiently guiding aircraft from takeoff to landing through the nation's airspace and through oceanic airspace where the United States has jurisdiction. Over the next 10 years, fiscal year (FY) 2006 through FY 2015, approximately 70 percent of the agency's controller workforce will become eligible to retire. In addition to retirements, controllers are lost due to promotions, internal transfers, resignations, training failures, removal and death. Total losses over the next 10 years are expected to be approximately 10,300.

In December 2004, the FAA published *A Plan for the Future, The Federal Aviation Administration's 10-Year Strategy for the Air Traffic Control Workforce*. This blueprint outlined the agency's plan to hire and train controllers. Additionally, the plan outlined FAA initiatives to achieve staff savings through workplace efficiencies and improved productivity, and initiatives to achieve cost savings. Because the plan relies on traffic projections, controller retirement and other loss projections, the FAA will be updating the plan annually to reflect the latest data in its controller-loss model and traffic forecasts and will be issued in April of each year. This is the first update report to the FAA's December 2004 plan.

Accomplishments

Since submitting its plan in December 2004, the FAA has made good progress in addressing the looming air traffic controller retirement challenge. Major accomplishments in the areas of hiring, training, staff savings and cost savings include:

Hiring

- Hired 1,075 controllers from January 2005 to May 2006, including 211 displaced Automated Flight Service Station (AFSS) Specialists who were placed into terminal air traffic control facilities for operational training and subsequent certified professional controller (CPC) duties.
- Conducted career information sessions (job fairs) at five locations. Out of 2,566 attendees, approximately 440 were selected for testing and of those, 355 passed subsequent Air Traffic Selection and Training (AT-SAT) testing.
- Fully implemented administration of the AT-SAT examination to include all graduating College Training Initiative (CTI) students.

Training

- Completed the planned upgrade to the FAA Academy terminal simulation, increasing its training capabilities.
- Completed installation of the terminal simulation (tower cab) capability at Chicago O'Hare, Ontario and Miami.
- Completed redesign of the FAA Academy airspace for en route.

- Communicated the goals and initiatives of the controller workforce plan to ensure that training support providers and the air traffic CTI partners began preparations to meet the demands outlined in the plan. Enrollment in air traffic curricula has increased and training support providers have expanded their recruitment for instructors.

Staff Savings

- Implemented official time practices that resulted in 10 full-time employees performing representational duties being released back to the air traffic control facilities to perform controller duties.
- Reassigned 12 air traffic controllers who were medically disabled from performing controller duties to technical and administrative positions at various field facilities nationwide. In addition, three air traffic controllers receiving compensation were removed from the Department of Labor Office of Workers' Compensation Programs (OWCP) list.
- Implemented automated tools such as the Facility Activity Tool in en route, and Cru-X/ATO Resource Tool in both terminal and en route facilities, which are providing air traffic managers with the ability to monitor controller activity distributions and other activities to better match controller staffing to traffic demand.
- Implemented Special Federal Aviation Regulation SR103, which provides authority to the FAA Administrator to grant waivers to the mandatory retirement age of 56 years for air traffic controllers. As of January 2006, 16 waiver requests were received, six were granted.

Cost Savings

- Created a new type of temporary trainee position at the FAA Academy that decreases the agency's cost of providing initial air traffic controller training.
- Realized an estimated one-year cost avoidance of $5.4 million through management of new OWCP claims.
- Realized an estimated one-year cost avoidance of more than $1 million through the OWCP Return-to-Work (RTW) program for longer term claims.
- Realized a direct labor cost reduction of almost $1 million associated with the decrease in controller time charged to participation in workgroups, meetings and conferences.
- Began providing air traffic control services with five newly built contract towers.

Controller Staffing Requirement

The March 2006 traffic growth forecast was applied to the air traffic staffing standards to generate an updated 10-year controller staffing projection. The FAA had projected in its original plan that a modest 10 percent controller savings could be realized with our planned productivity initiatives over a five-year period. In FY 2005, the 3 percent productivity target was achieved. We are on track to achieve the 10 percent productivity goal by FY 2009.

Controller Retirements and Other Losses

In FY 2005, 465 controllers retired versus 341 projected in the 2004 plan. A review of retirement data indicates that approximately 23 percent of the controllers are retiring within their first year of retirement eligibility and nearly 77 percent of the retirement-eligible controller workforce is projected to retire within the first six years of retirement eligibility. We have refined our methodology since the first plan and should be more accurate in projecting actual retirements. As of June 30, 2006, FY 2006 actual retirements are 405 versus a projected year end total of 467, with one quarter to go. The methodology was also updated to correct the treatment of mandatory retirements in the original plan that resulted in over-estimating retirements in later years.

In addition to retirements, controllers are lost due to internal transfers, promotions to operational supervisors, resignations, removals, death and Academy training failures. The number of controllers projected to be lost through FY 2015 due to these factors is over 3,500. The total controller loss through FY 2015 is projected to be approximately 10,300.

Controller Hiring Plan

Over 11,800 controllers will need to be hired through FY 2015. This hiring number takes into account traffic growth and provides adequate training lead-time depending on the position. As a result, the projected actual on-board staffing will exceed the annual staffing targets because hiring is being done in advance of when the controllers will actually be needed to allow time for training. Availability of capable people is not an issue; the current pool of controller candidates from FAA's various hiring sources exceeds 3,700.

Controller Training

The FAA has the physical capacity to train the number of controllers required in this plan. Academy training and facility training improvements have been implemented and further improvements are continuing. Even-flow hiring that links Academy training capacity and facility training capacity has avoided training bottlenecks at both the Academy and in-the-field facilities. Contract instructors are being used at targeted facilities to supplement the training provided by CPC personnel. This has proven to be a cost-effective approach for providing facility training.

During FY 2005, the agency's simulation capability has been both improved and expanded. This is being done to reduce the training time required for developmental controllers to achieve CPC status.

Challenges Ahead

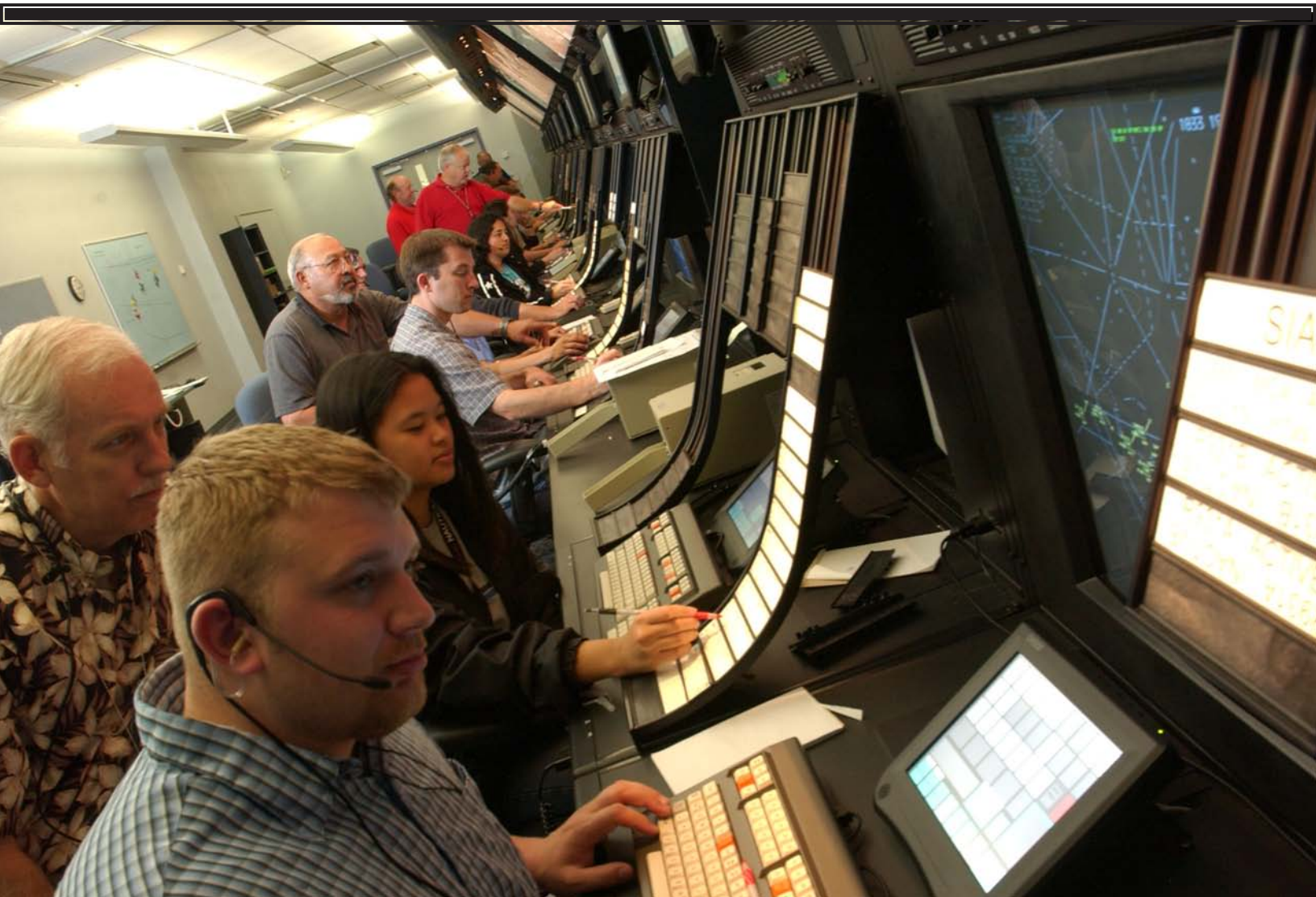
To be able to sustain the hiring necessary to meet the controller workforce plan over the long term, the FAA is aggressively managing its costs. In this constrained fiscal environment, it will be extremely challenging to sustain the long-term hiring and training to meet the projected controller staffing requirement.

Plan Updates

The first plan gave a detailed description of the controller retirement wave and how the agency planned to address it. This update provides the status of the initiatives outlined in the plan. Budget, traffic and retirement projections have also been updated. The original plan should be used as a reference for background information.

This is the second in a series of annual reports to outline what will be evolving methodologies and management initiatives to ensure the FAA has an adequate air traffic controller workforce to meet the future needs of the national airspace system.

Chapter 1
Introduction



Chapter 1: Introduction

This is the first update of the FAA's December 2004 report *A Plan for the Future: The Federal Aviation Administration's 10-Year Strategy for the Air Traffic Control Workforce*.

The agency will not continue to track in these updates those initiatives in the December 2004 plan that are not directly related to air traffic controller staffing. These initiatives, such as office consolidation and decommissioning of navigation aids, are tracked in other FAA plans.

The remainder of the update contains a condensed description of the initiatives, the status of each initiative and the results achieved through May 2006. The 2004 plan should be referenced as background for a detailed description of the initiatives and their rationales.

This update revises controller retirement projections and staffing requirements based on actual results and changes in traffic forecasts since 2004. We have refined our methodology since the first plan and should be more accurate in projecting actual retirements. The methodology was also updated to correct the treatment of mandatory retirements in the original plan that resulted in over-estimating retirements in later years. In the December 2004 report, we estimated the need to hire 1,249 controllers in FY 2006 based on traffic forecasts produced in March of that year. The March 2005 traffic forecast predicted 1,129 hires for FY 2006. For this update, the March 2006 traffic forecast came in lower than the March 2004 and March 2005 forecasts, resulting in the need to hire 930 air traffic controllers for FY 2006.

1.1 Background

On August 3, 1981, a majority of the air traffic controller workforce went on strike. President Ronald Reagan ordered the striking controllers to return to duty within 48 hours. President Reagan fired 10,438 controllers who elected not to return to duty within the specified time frame. About 4,700 controllers remained on duty. From 1982 through 1991, the agency hired an average of 2,655 controllers per year. This hiring wave created the likelihood that a large portion of the controller workforce would reach retirement age in roughly the same period of time.

The agency currently employs nearly 15,000 controllers. It is estimated that nearly 10,500 controllers (about 70 percent of the workforce) will become eligible to retire through FY 2015.

1.2 Controller Workforce Age Distribution

Figure 1.1 shows the controller workforce age distribution as of September 2005.

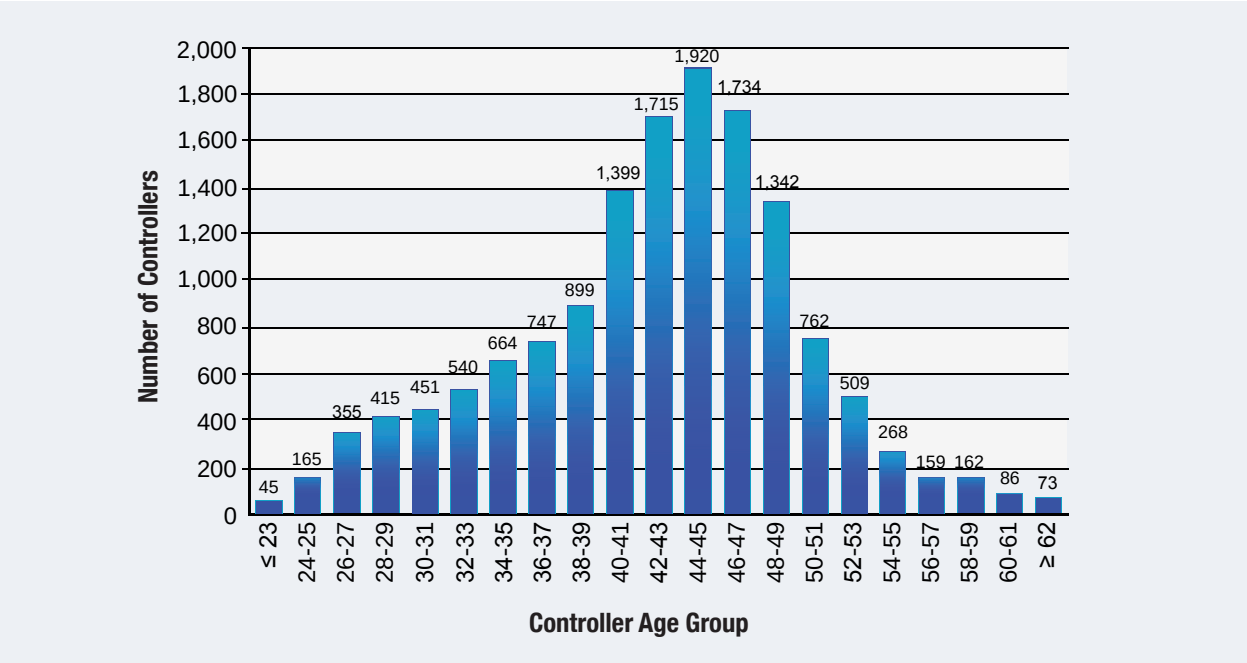


Figure 1.1: Controller Age Distribution as of September 2005

As of September 2005, there were 2,019 controllers age 50 or greater, compared to 2,008 controllers in September 2004.

1.3 Controller Retirement Eligibility

The numbers of controllers currently eligible (CE) as of September 2005 and those who will become retirement eligible over the period FY 2006 to FY 2015 are shown in Figure 1.2. Most controllers become retirement eligible at 50 years of age with 20 years of service or at any age with 25 years of service.

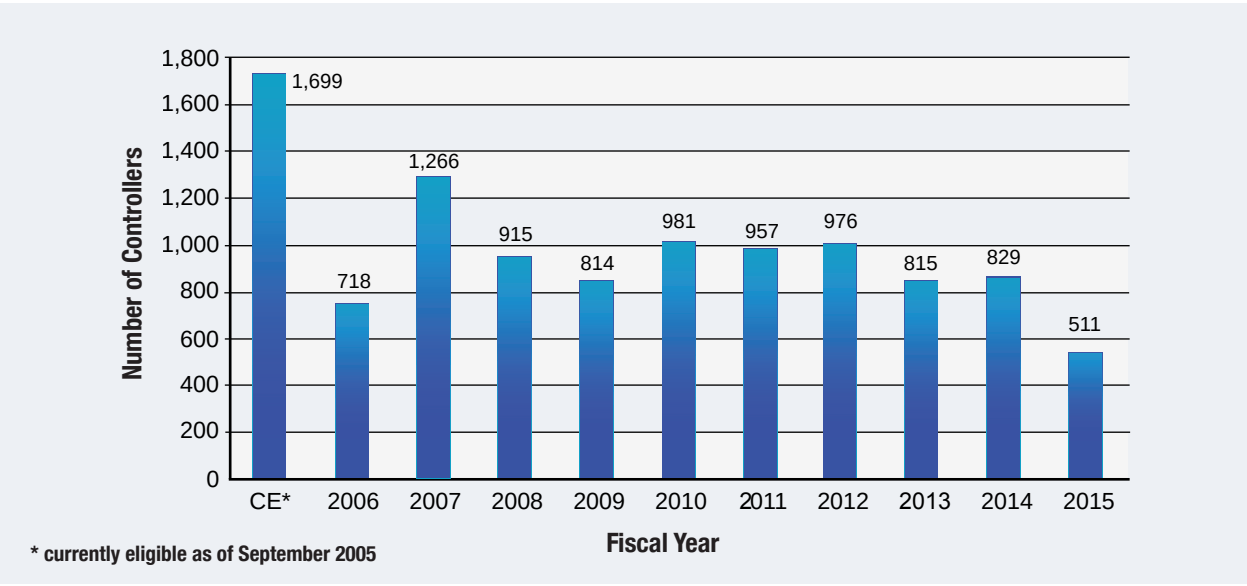


Figure 1.2: Controller Retirement Eligibility

1.4 Estimated Controller Losses

Through FY 2015, approximately 10,500 air traffic controllers will become eligible to retire. However, not all controllers retire within the first year of eligibility. Retirement figures from FY 2004 indicate that approximately 77 percent of controllers retire within the first six years of eligibility.

Based on this historical data, the FAA estimates that 6,700 controllers will retire by FY 2015. This is lower than reported in the December 2004 report, primarily due to refinement in the forecasting of retirements and a correction in the treatment of mandatory retirements to avoid double counting. In addition to retirements, controllers are lost due to promotions, internal transfers, resignations, training failures, removals and death. These losses are estimated to be 3,600 controllers through FY 2015. All categories of controller losses are included in the FAA's hiring estimate and workforce plan. The FAA anticipates losing almost 10,300 controllers through FY 2015.

Managing the upcoming wave of controller losses will pose significant management challenges due to a heavier than normal training workload in the en route centers and terminals. The remainder of this document provides an update of the FAA's initial strategy for hiring, training and certification of controllers to ensure that there are no gaps in the provision of air traffic services due to the growing controller losses projected through FY 2015.

Chapter 2
Air Traffic Services and Control Facilities

Chapter 2:
Air Traffic Services and Control Facilities

There has been no change in air traffic controller positions, phases of flight and controller positions from last year's report. Reference Chapter 2 of the December 2004 plan for a description of controller position responsibilities for each phase of flight.

2.1 FAA Air Traffic Control Facilities

As of January 2006, the FAA operated 316 air traffic control facilities and the Air Traffic Control System Command Center in the United States. Table 2.1 lists the type and number of these FAA facilities.

Type	Name	Number	Description
1	Tower Without Radar	2	An airport traffic control terminal that provides service using direct observation primarily to aircraft operating under visual flight rules (VFR). These terminals are located at airports where the principal user category is low performance aircraft.
2	Terminal Radar Approach Control (TRACON)	22	An air traffic control terminal that provides radar-control service to aircraft arriving or departing the primary airport and adjacent airports, and to aircraft transiting the terminal's airspace.
3	Combination Radar Approach Control and Tower with Radar	138	An air traffic control terminal that provides radar control services to aircraft arriving or departing the primary airport and adjacent airports, and to aircraft transiting the terminal's airspace. This terminal is divided into two functional areas: radar approach control positions and tower positions. These two areas are located within the same facility, or in close proximity to one another, and controllers rotate between both areas.
4	Combination Non-Radar Approach Control and Tower without Radar	2	An air traffic control terminal that provides air traffic control services for the airport at which the tower is located and without the use of radar, approach and departure control services to aircraft operating under Instrument Flight Rules (IFR) to and from one or more adjacent airports.
6	Combined Control Facility	5	An air traffic control facility that provides approach control services for one or more airports as well as en route air traffic control (center control) for a large area of airspace. Some may provide tower services along with approach control and en route services.
7	Tower with Radar	122	An airport traffic control terminal that provides traffic advisories, spacing, sequencing and separation services to VFR and IFR aircraft operating within the vicinity of the airport using a combination of radar and direct observations.
8	Air Route Traffic Control Center (ARTCC)	21	An air traffic control facility that provides air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.
9	Combined TRACON Facility	4	An air traffic control terminal that provides radar approach control services for two or more large hub airports, as well as other satellite airports, where no single airport accounts for more than 60% of the total Combined TRACON Facility's air traffic count. This terminal requires such a large number of radar control positions that it precludes the rotation of controllers through all positions.
-	Air Traffic Control System Command Center (ATCSCC)	1	ATCSCC is responsible for the strategic aspects of the National Airspace System (NAS). ATCSCC modifies traffic flow and rates when congestion, weather, equipment outages, runway closures or other operational conditions affect the NAS.

Table 2.1: Types and Number of FAA Air Traffic Control Facilities

2.2 Airports

As of December 2005, there were 19,815 airports within the national airspace system. Of this total, approximately 5,288 are public use airports, with the remainder classified as private use airports. The FAA certificates public use airports that serve air carrier operations with aircraft seating nine or more passengers. As of December 2005, there were 599 certificated airports. There are 263 FAA towers located at public use airports and an additional 231 Federal Contract Towers (described below) at other airports. The FAA also provides terminal air traffic control services to approximately 3,134 non-towered public use airports from remote FAA air traffic control facilities. Table 2.2 summarizes the number of airports at which air traffic control (ATC) services are provided.

Airports	Number	Air Traffic Control Service
Private Use Airports	14,501	None
Private Use Airports	26	ATC services provided by Non-Federal Towers
Public Use Airports (FAA towered)	263	FAA ATC Services
Public Use Airports (Military towered)	164	ATC services provided by military air traffic controllers
Public Use Airports (Federal towered)	231	Contractor-provided ATC services
Public Use Airports (Non-towered)	3,134	Remote FAA ATC services
Public Use Airports (Non-towered)	1,496	None

Table 2.2: Air Traffic Control Services Provided to Airports
Includes civil and joint-use civil-military airports, heliports, short takeoff and landing ports, and seaplane bases in the U.S. and its territories.

2.3 Federal Contract Towers

In 1982, Congress authorized the FAA to begin a pilot program to contract for air traffic control services for five visual flight rule (VFR) towers that were closed as a result of the controller strike in August 1981. Since then, the contract tower program has been expanded to include additional FAA-operated VFR towers and to include towers at airports that never had an FAA-operated tower. Congress added a cost-sharing provision to the program in FY 1999. This provision allowed airports that would not normally qualify to be in the FAA's Contract Tower Program to enter the program by paying for a portion of the tower's operating cost. Contract controllers providing ATC services in towers that are in the Contract Tower Program must meet the same controller certification requirements as FAA controllers and are certified by the FAA. As of December 2005, there were 231 contract towers providing ATC services by contract controllers.

2.4 Military Towers

There are 164 military towers located at military installations throughout the United States or where there is a heavy military presence at a combination civilian and military airport. Military controllers provide ATC services to civilian aircraft as well as military aircraft at those airports. Military controllers must meet the same qualification criteria as FAA controllers.

2.5 Non-Federal Towers

There are 26 non-federal towers located at private use airports. Controllers operating in these towers must meet the same qualification criteria as FAA controllers. The FAA does not provide funding or ATC services at these towers.

Chapter 3
Air Traffic Controller Staffing Requirement

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Air Traffic Controller Staffing Requirement

This chapter presents the air traffic controller staffing levels the FAA estimates it will need by individual fiscal year, through FY 2015, to manage air traffic demands. These staffing levels will be updated annually to reflect changes in the traffic forecasts, productivity, and other factors. An updated report will be issued every April.

3.1 Air Traffic Staffing Standard Review and Reassessment

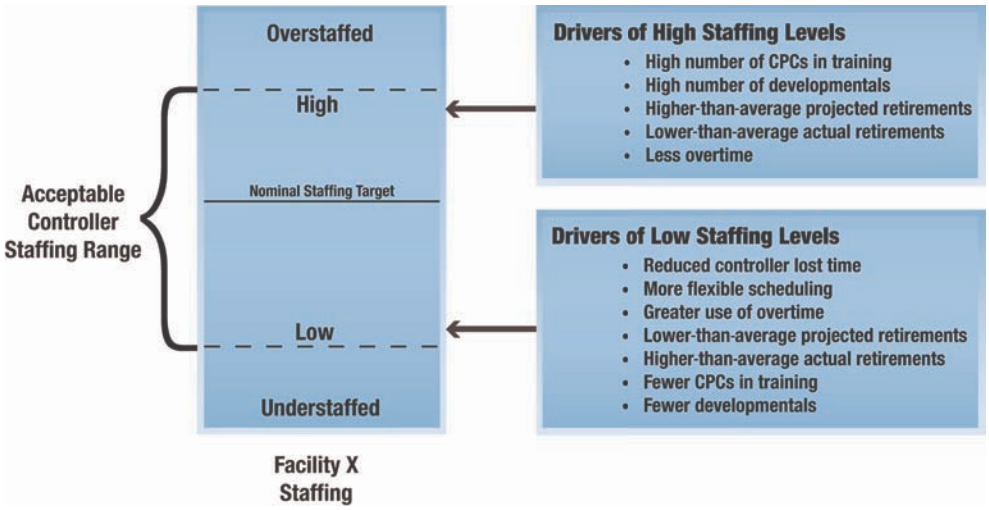
The FAA has used air traffic staffing standards to determine national controller staffing levels since the 1970s. The staffing standards were geared to the development of a national staffing level and were not expected to determine exact staffing requirements at the individual facility level. In 2005, the FAA began an air traffic staffing standard review and reassessment with the expectation of developing staffing targets at the facility level.

Initiative: Reassess Staffing Models

Status: The existing terminal and en route staffing models are being used, along with assumptions on productivity, to provide tentative targets at the facility level.

Future Milestones: Efforts are underway with MITRE to quantify sector complexity at all en route facilities. This activity will be completed during FY 2006.

The FAA is studying the establishment of a controller staffing range at the facility level to better reflect the variability of drivers of actual staffing levels at individual facilities. A nominal staffing target with an acceptable range may better match the reality of staffing at a facility. The staffing range would be established to allow for maintaining a safe operation at any point within the range. The staffing range concept is depicted in the graphic below:



3.2 Air Traffic Controller Annual Staffing Targets

The most recent traffic growth forecast was used with the air traffic staffing standards to generate an updated 10-year controller staffing projection. A 2004 management review identified initiatives that have the potential to yield modest controller productivity savings of approximately 10 percent over the next five years relative to the staffing standard projection. Staff savings goals were established at 3 percent in FY 2005, an additional 2 percent in FY 2006 through FY 2008 and a 1 percent savings in FY 2009. Applying these savings against the staffing standard projections provided the annual staffing targets. The 2004 management review applied the staff savings equally among all facilities over the five-year period. We will maintain the overall staffing targets depicted in this plan. We now believe, however, that there will be more potential in the en route centers and large TRACONs and less potential in the smaller terminal facilities. Technology introduced into en route has allowed us to realize efficiencies. Larger facilities also should benefit more from scheduling and work force management improvements than the smaller towers. In many smaller towers, staffing is set more by required positions than volume of workload, making efficiencies harder to achieve. A comparison of the annual staffing targets and actual on-board staffing versus the staffing standard projections is shown in Figure 3.1. Because the hiring profile provides training lead-time for new hires, the actual on-board staffing exceeds the annual staffing targets.

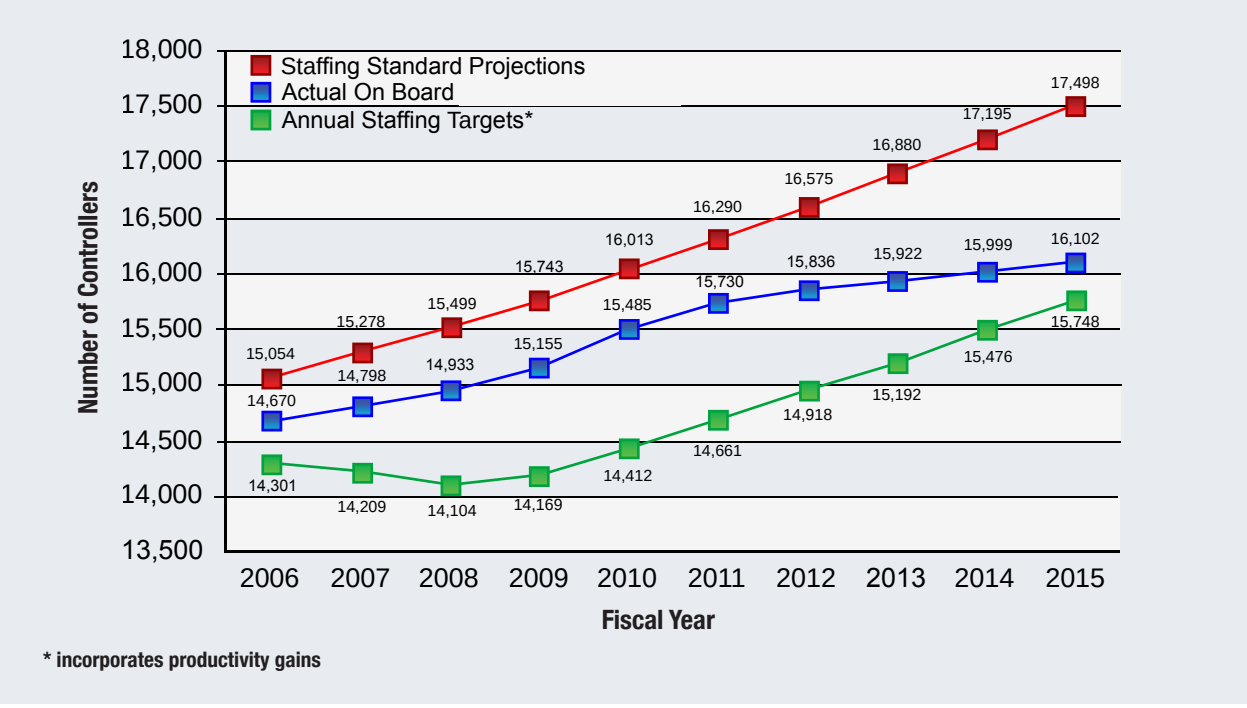


Figure 3.1: End of Year Controller Staffing Targets

The annual staffing targets have been updated from last year's plan to reflect changes in traffic forecasts.

3.3 Controller Staff Savings

The FAA has undertaken several initiatives designed to achieve improved controller productivity. This section presents the progress that has been made to date and revisions to the initial planning.

3.3.1 Increased Work Efficiency

The FAA established a goal to achieve a controller staff savings of 10 percent by FY 2010. Increasing efficiency involves better matching of staffing to traffic workload. Routine traffic activity at most facilities occurs with ebbs and flows during the shifts. All operating positions are required to be open during peak traffic. However, during slower periods, positions are combined and controllers are usually provided with breaks. Therefore, maximum staffing levels typically are not required at all times during the work shift. In our en route facilities, credit hour agreements have been reduced and work schedules reviewed. These actions provide air traffic managers more flexibility to match staffing to traffic demand.

Initiative: Increasing Work Efficiency

Status: During FY 2005, the FAA implemented the Facility Activity Tool (FAT) in its en route centers. This automated tool provides air traffic managers with the capability to obtain detailed shift activity for CPC and developmentals.

Future Milestone: The data collected will be used to determine how traffic demand aligns to on-position staffing data.

Results: Data is preliminary and has not been collected over a sufficiently long period. Consequently, no firm conclusions will be reached until later in FY 2006. It is expected, however, that the resulting analysis will show how additional traffic can be handled within existing staffing levels. This view is supported by actual experience during FY 2005, when the FAA handled more traffic with fewer people and no increase in overtime.

3.3.2 Flexible Work Schedules

Use of part-time/job sharing during peak traffic periods has potential to save on labor costs and, in some instances, encourage retention of employees by offering them additional job flexibility.

A change in work assignments in field facilities has the potential to reduce costs by better matching staffing to traffic. If controllers were permitted to work three or four hours to cover a peak in workload, then leave and return later in the day when traffic returns to complete their workday, the need for additional personnel on specific shifts could be reduced. In the terminal option where airports serve hub/spoke operations by a major service provider, the utilization of split shifts offers significant resource savings. In the en route environment where areas of specialization are primary feeder sectors or departure sectors, improvements to staffing could also be realized through the use of split shifts.

Initiative: Flexible Work Schedules

Status: Pending union negotiations.

3.3.3 Management of Overtime

Several years ago, the FAA established a goal to reduce operational overtime costs. While this effort was successful, it had an unintended consequence of increasing staffing costs. To reduce overtime, air traffic managers developed staffing estimates based on the number of hours that the various controller positions were active, which, in turn, was based on traffic demand scheduling. Several facilities have constrained resources, and the impact of training increased levels of developmentals as well as airspace changes will in some cases result in increased use of overtime. This will be a short-term effect, and overtime usage will normalize in future years.

Initiative: Management of Overtime

Status: Air traffic managers are authorized to use overtime to reduce overall staffing costs when scheduling requires a position to be open a fraction (0.5 or less) of an eight-hour shift (or a fraction beyond an eight-hour shift). This new practice is expected to result in savings in both costs and staffing.

Results: Despite reduced staffing in FY 2005, the FAA was able to hold overtime to FY 2004 levels.

3.3.4 Sick Leave Usage

A September 2004 Office of Inspector General (OIG) report, AV-2004-081, "Report on FAA's Actions To Address Allegations of Leave and Overtime Abuse at Five Locations," found that FAA management "had taken effective actions to determine if allegations were valid and to address them as appropriate." While encouraged by management actions at these facilities, the OIG recommended that the FAA provide better information on leave usage to all agency managers. The FAA established a goal to reduce sick leave usage by 8 percent by FY 2006 through addressing sick leave abuse. Should the FAA be able to achieve that goal, the savings would equal the cost of 59 controllers.

Initiative: Sick Leave Usage

Status: Detailed procedures and a data collection mechanism were implemented in ATC facilities. These tools provide air traffic managers with the capability to detect patterns of sick leave use that are indicative of abuse.

Results: Sufficient sick leave usage data has not been collected at this point to draw firm conclusions about the effectiveness of the program. FY 2005 sick leave usage in our air traffic control facilities was slightly below the FY 2004 sick leave usage.

3.3.5 Worker's Compensation

The FAA strives to ensure that Office of Workers' Compensation Program (OWCP) benefits are used appropriately. The FAA has adopted a proactive approach to help return disabled and temporarily medically restricted personnel to work and more effectively manage new cases by:

- Better management of traumatic injury claims involving Continuation of Pay (COP).
- Providing initial and continuing education to managers, supervisors and support staff on appropriate actions surrounding employee claims, including how to better controvert claims when appropriate.
- Maintaining an active "Return-to-Work" (RTW) program.
- Creating and maintaining a reporting system to track the number of claims, nature of injury and related costs associated with traumatic injury claims and COP costs as recommended by the OIG in report AV-2003-011, dated January 17, 2003.

Initiative: Workers' Compensation

Status: The scope of the consolidated workers' compensation program has been expanded to include all claims from the Southwest Region and the Central Region. Approximately 54 percent of the FAA's total population and 62 percent of its OWCP costs are being managed under the consolidated approach. Incremental expansion will continue with plans for all of the FAA to be managed centrally by FY 2007.

During FY 2005, more than 817 new claims (Headquarters, Southern, Great Lakes, Southwest and Central regions) were processed. Of these, the FAA facilitated 104 resolutions that included return to duty and benefit terminations, and challenged approximately 50 claims of questionable veracity that led to 43 case denials by the Department of Labor. The other 670 claims were either "no time lost" cases with little or no associated medical costs or cases in which the employee returned to work prior to the case being referred to an OWCP Specialist.

In the RTW program for FY 2005, 12 longer-term OWCP claims recipients that were air traffic controllers and medically eligible RTW recipients returned to work. An additional three air traffic controllers that had been receiving compensation were removed from the Department of Labor OWCP list for reasons such as retirement, non-acceptance of FAA RTW job, or claimant deceased.

Future Milestones: The FAA will continue management and monitoring of OWCP claims and the RTW program during FY 2006.

Results: Management of new claims realized an estimated one-year cost avoidance of $5.4 million. The RTW program for longer-term claims realized an estimated one-year cost avoidance of $1 million. These savings will continue into later years.

3.3.6 Official Time

An OIG report, "Using Cru-X To Capture Official Time Spent On Representational Activities" (AV 2004-033), dated February 10, 2004, observed that the FAA includes as official time both time granted for traditional representational activities and time spent as a facility representative. In response, the FAA established an Official Time Task Force to identify strategies to facilitate the recording, monitoring and reduction of official time used FAA-wide for union representational duties. The Task Force made recommendations to the Administrator early in FY 2005.

Initiative: Official Time

Status: Official Time Task Force recommendations were implemented during the first half of FY 2005. The FAA is using an automated official time reporting system to collect and analyze official time data. This has provided the Air Traffic Organization with the ability to identify all official time use that is not authorized by statute or contract.

Future Milestones: The FAA will continue data collection and monitoring of official time during FY 2006.

Results: 10 full-time persons involved with representational activities were released back to the facilities to perform air traffic control duties.

3.3.7 Controller Participation in Workgroups, Meetings and Conferences

Each year, air traffic controllers attend workgroups, meetings, conferences or other activities where management decides their expertise is needed. Though it is recognized that their contribution to such projects is valuable, the time air traffic professionals spend on non-traffic control activities affects costs.

When controllers are participating in workgroups, meetings and conferences, backfill overtime is used to cover their traffic control responsibilities. A more judicious use of controller participation in non-traffic control activities will result in decreased backfill overtime costs.

In FY 2005, the FAA implemented a plan to ensure that requests for controller participation in workgroups are assessed for benefit and cost. Controller participation need is validated on a monthly basis and a database is used to track controller workgroup participation and costs. Controller participation in workgroups, meetings and conferences was reduced by 23,400 hours from the previous year.

Initiative: Controller Participation in Workgroups, Meetings and Conferences

Status: The FAA's plan to assess requests for labor representation in terms of benefit, financial impact and return on investment has been implemented in all air traffic facilities.

Future Milestones: Continue monitoring and reporting on the progress of this initiative.

Results: In FY 2005, controller participation in workgroups, meetings and conferences was reduced by 23,400 hours, a reduction of 37 percent from the previous year. Direct labor cost in FY 2005 was a savings of almost one million dollars from the previous year.

3.3.8 Processing of Unsuccessful Developmentals

Over the past several years, executing the provisions of Federal Aviation Personnel Manual (FAPM) Letter 330-1, Employment Program for Developmental Air Traffic Control Specialists, which provides guidance for making employment and placement decisions about controllers who fail to progress to the Certified Professional Controller (CPC) level, has contributed to staffing imbalances within the system. It has been the FAA's practice to place developmentals who have progressed up through some significant phases of en route training but did not achieve CPC in the terminal option at a facility level that might ensure their success. Currently, because of this practice, the terminal option is overstaffed relative to the staffing standards while en route remains below the staffing standards. While en route unsuccessful developmentals do not account for the entire staffing imbalance, they are a significant contributor to the problem. The FAA will be more selective and more strictly enforce the provisions of this policy and prohibit movement from the en route to terminal option when vacancies do not exist.

During FY 2005, the FAA began development of a supplement employment policy for air traffic control specialist in training (EMP-1.14-ATS # 1). This new policy is currently undergoing internal review. EMP-1.14 has been designed to update, clarify and improve the implementation of the FAA's Air Traffic Control Specialist in Training employment policy.

Initiative: Processing of Unsuccessful Developmentals

Status: EMP-1.14-ATS # 1 is currently in the final phase of the internal review process.

Future Milestones: FY 2006 – Finalize and implement EMP-1.14.

Results: Developmental performance results to be determined in FY 2006.

3.3.9 Scheduling Tool

In FY 2005, the FAA began developing a request for proposal toward use of an advanced, computer-based, shift-scheduling tool that can accommodate part-time and split shifts to improve controller utilization. The goal is to develop shift-staffing schedules that match controller staffing to traffic

workload demands. This will enable air traffic managers to determine cost-effective controller scheduling with much greater accuracy than is presently possible using manual methods.

Initiative: Scheduling Tool

Status: A market survey for commercially available scheduling tools was completed in May 2005. A request for proposal was issued to three qualified sources in June 2005. A vendor was selected in April 2006.

Future Milestones: A pilot evaluation began in May 2006 to determine utility and a business case to support acquisition and national deployment in FY 2007 and beyond.

3.3.10 Deployment of Cru-X/ATO Resource Tool (ART)

Cru-X/ART is a computer-based tool to record time and attendance, and labor distribution, for operational controllers and supervisors. Its implementation consisted of four phases. Phase 1 implemented Cru-X in 27 terminal facilities in December 2004. Phase 2 implemented Cru-X at 40 additional terminal control facilities in January 2005. Phase 3 implemented Cru-X in the remaining terminal facilities by April 2005. Phase 4 implemented Cru-X in en route centers by the end of FY 2005. Cru-X provides information on controller time and activity distribution that, in turn, can be used to determine more efficient controller utilization.

Initiative: Deployment of Cru-X/ART

Status: Deployment of Cru-X/ART to all terminal and en route control facilities was completed.

Results: Air traffic managers have the ability to collect data for monitoring controller activity distributions, including time on position, sick leave, overtime, official time and workgroup participation. Cru-X also supports, in conjunction with other tools, matching controller staffing to traffic demand.

3.3.11 Changing National Airspace System Technologies

Since the mid 1990s, the FAA has fielded a number of modern communications, display and weather systems for controller use. The underlying automation system was updated to cope with Y2K concerns. Availability, reliability and maintainability of critical systems have been improved. More information, especially related to weather, is now available to aid in the controller's decision-making process.

The FAA has made good progress in deploying systems in FY 2005. Advanced Technologies and Oceanic Procedures (ATOP) for oceanic air traffic control, the User Request Evaluation Tool (URET), Traffic Management Advisor (TMA), and Airport Movement Area Safety System (AMASS)/Airport Surface Detection Equipment (ASDE-X) continue to be installed in facilities

throughout the national airspace system. En Route Automation Modernization (ERAM), the new automation system for en route, remains on schedule and within budget. As experience is gained with new automation, the FAA will adjust staffing practices accordingly.

Initiative: Changing National Airspace System Technologies

Status: ATOP – In FY 2005, ATOP was fielded at both New York Center and Oakland Center, with both sites using the system to control traffic at all oceanic sectors by October 2005. On March 15, 2006, Anchorage Center began operational use of ATOP on a limited basis.

ERAM – During FY 2005, the ERAM program implemented Enhanced Backup Surveillance (EBUS), replacing the existing Host backup system at the first three of 20 en route centers, delivered the national baseline of En Route Information Display System (ERIDS) software to the three prototype sites, and completed system design and over one million lines of software for ERAM Release 1. Deployment was completed in April 2006.

URET – Prior to FY 2005, the FAA had completed placement of URET for daily use at ten of its 21 en route centers. In FY 2005, the FAA completed placement of URET at five more facilities.

TMA – TMA is operational at eight centers: Minneapolis, Denver, Los Angeles, Atlanta, Miami, Oakland, Houston and Chicago.

Future Milestones: ATOP – Anchorage Center is planned to expand operational use of ATOP in the spring of 2007.

ERAM – July 2006 – ERIDS is expected to achieve initial operational capability at Salt Lake City Center.

URET – September 2006 – URET operational at all 20 en route centers.

AMASS/ASDE-X – Three ASDE-X systems to achieve operational readiness demonstration (ORD) in FY 2006.

TMA – TMA will be operational at Boston, Albuquerque, Seattle and Memphis during calendar year 2006. TMA is planned to be operational at the last seven sites during calendar year 2007: Salt Lake City, Jacksonville, Leesburg, Cleveland, New York, Indianapolis and Kansas City.

Results: ATOP – Service efficiencies with associated cost savings to the users are being realized at New York and Oakland Centers since full ATOP operations began. ATOP will allow the handling of increased oceanic traffic without additional staffing.

ERAM – ERIDS delivered two months ahead of schedule, operational results to be determined.

URET – URET became available to controllers at five additional centers. Controller efficiency improved when electronic flight data replaced manually handled paper flight strips.

AMASS/ASDE-X – Two ASDE-X systems successfully achieved the ORD in FY 2005.

TMA – 3 percent increase in airport peak capacity at the eight operational sites.

In December 2004 the Joint Planning and Development Office (JPDO), formed to define the future global air transportation system, published a description of the next generation air transportation system. In comparing today's system with the system envisioned in 2025, several distinctions emerge that will increase controller efficiency. The future system will rely heavily on automation for routine tasks, and the role of pilots, controllers, flow managers and dispatchers will progress from routine tasks to managing exceptions and the unexpected. Human performance and efficiency enhancements will enable the same number of decision-makers to accommodate a larger number of operations. Automation aids will use intelligent agents and other computer decision support techniques to augment the role of decision-makers. In addition, air traffic management operational procedures will be tailored to aircraft system performance and less tied to geographical airspace differences.

3.3.12 Other Efficiencies

The FAA expects that new automation technologies and changes supported by the JPDO will result in a more automated system over time that will allow controllers to handle more traffic and may decrease the number of controllers the FAA plans to hire and train (see "2005 Progress Report To The Next Generation Air Transport System Integrated Plan": http://www.jpdo.aero/site_content/pdf/ngats-np_progress-report-2005.pdf). However, we do not yet have enough data to factor the technologies into our hiring and staffing targets.

Further, there are other initiatives that have not yet been developed which may also impact the number of controllers that the FAA plans to hire as outlined in this plan. These initiatives include facility consolidations and the expansion of the Contract Tower Program. The FAA has pursued these options in the past with mixed success. Even so, the FAA intends to study these options and work with its customers and owners if it finds that any or all of the options will significantly assist the FAA in meeting its future requirements and lowering its operating costs.

3.3.12.1 Facility Co-locations and Realignments

As the FAA examines modernization efforts at its smaller terminal sites, there may be opportunities for the FAA to uncouple certain tower/TRACON facilities and co-locate the terminal radar approach control positions into a larger TRACON facility where staffing can be flexibly employed and the system can operate more efficiently.

Co-locating several facilities of differing grade levels will allow employees to progress to higher grade levels without having to relocate. This has the dual benefit of providing employees better opportunities for career progression while dramatically decreasing the agency's operating, maintenance, infrastructure and permanent change of station costs.

Other potential areas of air traffic control realignments include regional offices and en route air traffic control centers, and other functions, all of which will lower future operating costs and decrease overhead.

Initiative: Facility Co-locations and Realignments

Status: Terminal and en route facility co-location and realignment studies are in progress, including realignment of service area regional offices.

Future Milestones: The realignment of service areas is anticipated for completion by year-end 2006.

3.3.12.2 Contract Tower Program

For over 20 years, the FAA's Contract Tower Program has provided safe and efficient air traffic control services at towered airports throughout the continental United States as well as in Alaska, Hawaii, Guam, Puerto Rico and Saipan. The Contract Tower Program is a key component of our nation's aviation system and provides important air traffic services to communities, businesses and travelers. Without the program, many communities would not be able to afford these services.

Initiative: Contract Tower Program

Status: During FY 2005, five new contract towers began providing air traffic services. The five new towers are located at Provo Municipal Airport, Utah; Olive Branch Airport, Miss.; Rogers Municipal Airport, Ark.; Front Range Airport, Colo.; and Scholes International Airport, Galveston, Texas.

Future Milestones: Projected to be started in the second half of FY 2006 are six new towers. The locations are Double Eagle II Airport, N.M.; Cut and Shoot Airport, Texas; Arlington Municipal Airport, Texas; Georgetown Municipal Airport, Texas; Stennis International Airport, Miss.; and Leesburg Regional Airport, Fla.

Results: Provision of air traffic control services at five newly built towers.

Chapter 4
Air Traffic Controller Losses

Chapter 4:
Air Traffic Controller Losses

This chapter presents the FAA's estimate of the number of controllers who will be lost over the next 10 years. There are several categories of controller loss. These include retirements, resignations, removals, deaths, internal transfers and Academy training failures. Total controller losses during FY 2005 were slightly higher than projected in the 2004 Plan. The number of controller retirements exceeded the 2004 estimate while the number of internal promotions and transfers were lower than the 2004 estimate. As a result, the FAA refined its controller loss models by incorporating the actual FY 2005 controller loss data. The refined controller loss models were used to generate the controller loss estimate in this plan.

4.1 Controller Loss Summary

Table 4.1 shows the total estimated number of controllers that will be lost, by loss category, over the period FY 2006–FY 2015.

Loss Category	Controller Losses FY 2006 – FY 2015
Retirements	6,722
Resignations, Removals and Deaths	881
Academy Training Failures	593
Operational Supervisor Promotions & Other Internal Transfers	2,095
Total	**10,291**

Table 4.1: Projected Controller Losses

4.2 Controller Retirements

Figure 4.1 shows the number of controllers who are currently retirement eligible (CE) as of September 2005 and those projected to become retirement eligible through FY 2015.

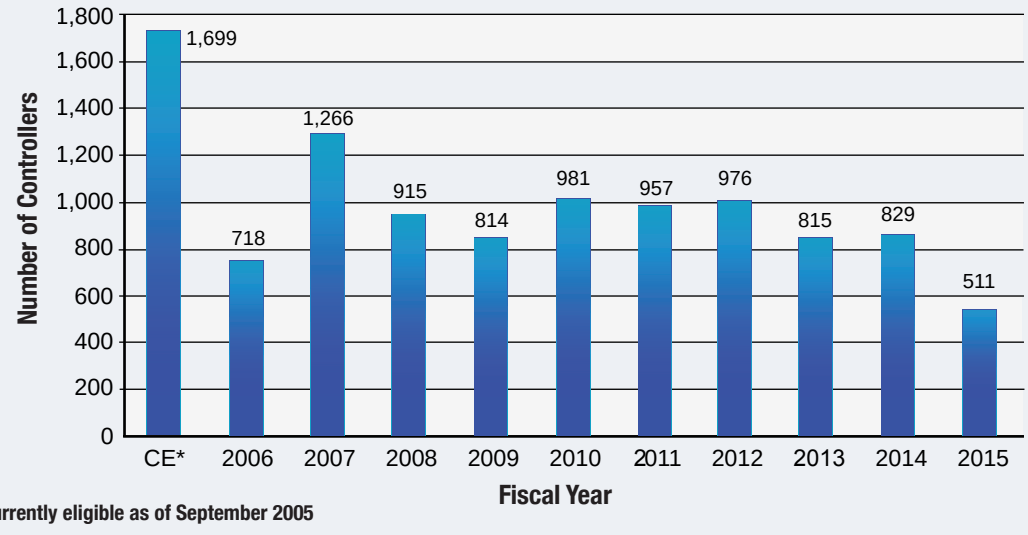


Figure 4.1: Controller Retirement Eligibility

Controller retirement eligibility data and the FY 2005 controller retirement patterns were used to estimate future controller retirements. The large numbers of controllers who presently qualify to retire reveals the fact that not all controllers retire when they first become eligible. Figure 4.2 shows the FY 2005 controller retirement pattern used to generate current controller retirement estimates. Only 1.3 percent of the retirement-eligible controllers remain beyond their thirteenth year of retirement eligibility. This methodology has been refined since the first plan and should be more accurate in projecting actual retirements. The methodology was also updated to correct the treatment of mandatory retirements that resulted in overestimating retirements in later years.

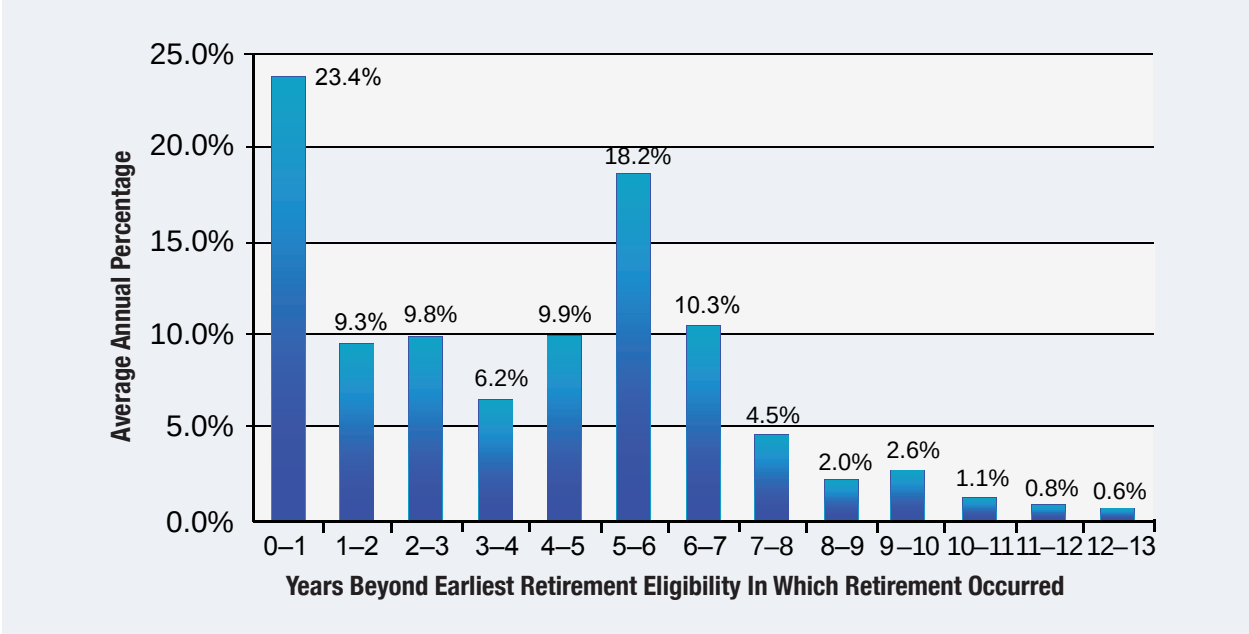


Figure 4.2: FY 2005 Controller Retirement Pattern

Figure 4.3 shows actual and projected retirements for the period 2002 through 2015. Applying yearly retirement percentages from Figure 4.2 to the yearly retirement eligibility data yielded the projected controller retirements.

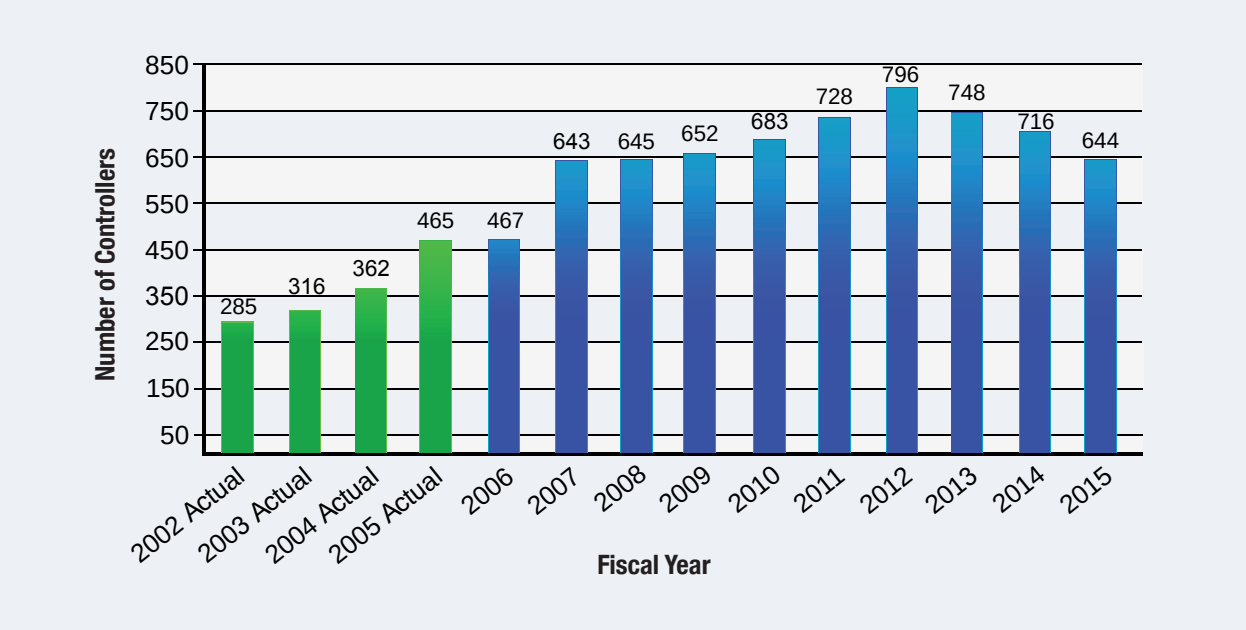


Figure 4.3: Controller Retirement Projections

Last year the FAA projected that 341 controllers would retire in FY 2005. The actual FY 2005 retirement number was 465. The actual FY 2005 retirement pattern was used to update the controller retirement projection through FY 2015.

4.3 Controller Losses Due To Resignations, Removals and Deaths

The estimated controller losses due to resignations, removals (including developmental failures) and deaths are shown in Figure 4.4.

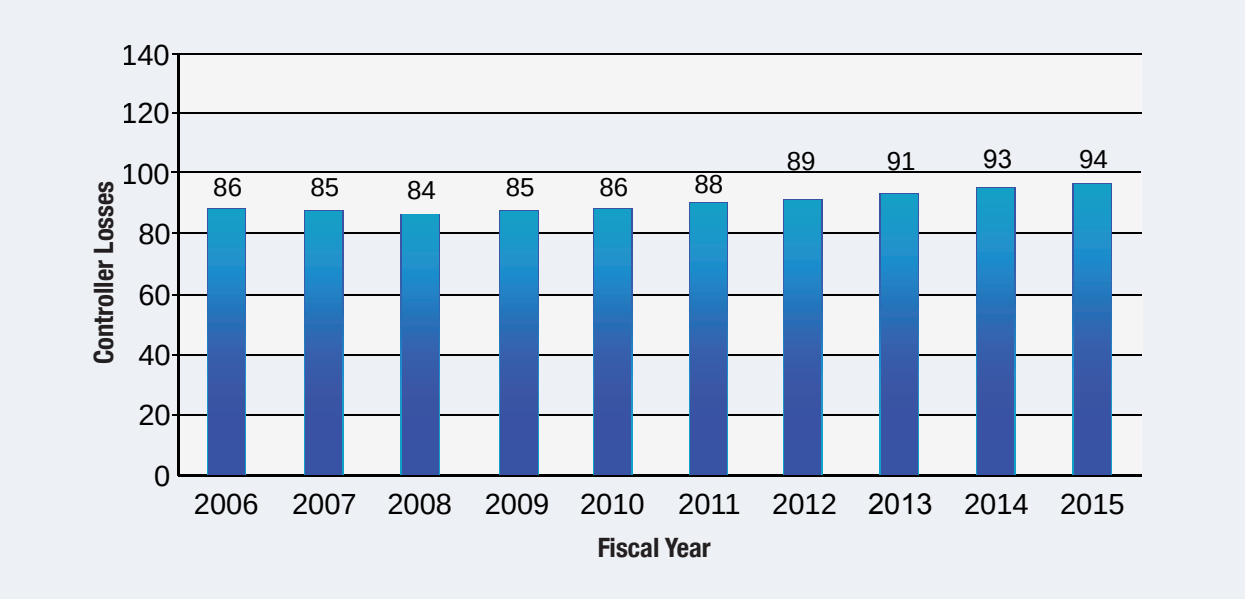


Figure 4.4: Projected Controller Losses Due to Resignations, Removals and Deaths

4.4 Controller Losses Due To Promotions to OS and Other Transfers

This section presents our estimates of controller loss due to internal transfers to other positions and controller losses due to promotions to Operational Supervisor (OS).

Because virtually all OS hires come from controller staff, the filling of OS vacancies needs to be accounted for in determining the number of controllers lost. An estimate of the OS retirements was developed using the FY 2005 OS historical retirement trends.

The estimated controller losses due to internal transfers and promotions to OS are shown in Table 4.2.

Fiscal Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Promotions to OS	110	133	132	128	122	123	124	112	95	85
Other Transfers	90	90	89	90	91	93	94	96	98	100
Total	200	223	221	218	213	216	218	208	193	185

Table 4.2: Controller Losses Due to Promotions to Operational Supervisor and Other Transfers

4.5 Academy Training Failures

Estimated loss figures from new hires who are not successful in the Academy training program are shown in Table 4.3.

Fiscal Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Academy Training Failures	46	57	57	62	69	67	64	60	57	54

Table 4.3: Academy Training Failures (New Hires)

4.6 Total Controller Losses

Figure 4.5 shows the total estimated number of controllers that will be leaving the workforce over the period FY 2006 to FY 2015 due to retirements, resignations, removals, deaths, Academy training failures, internal transfers and OS promotions.

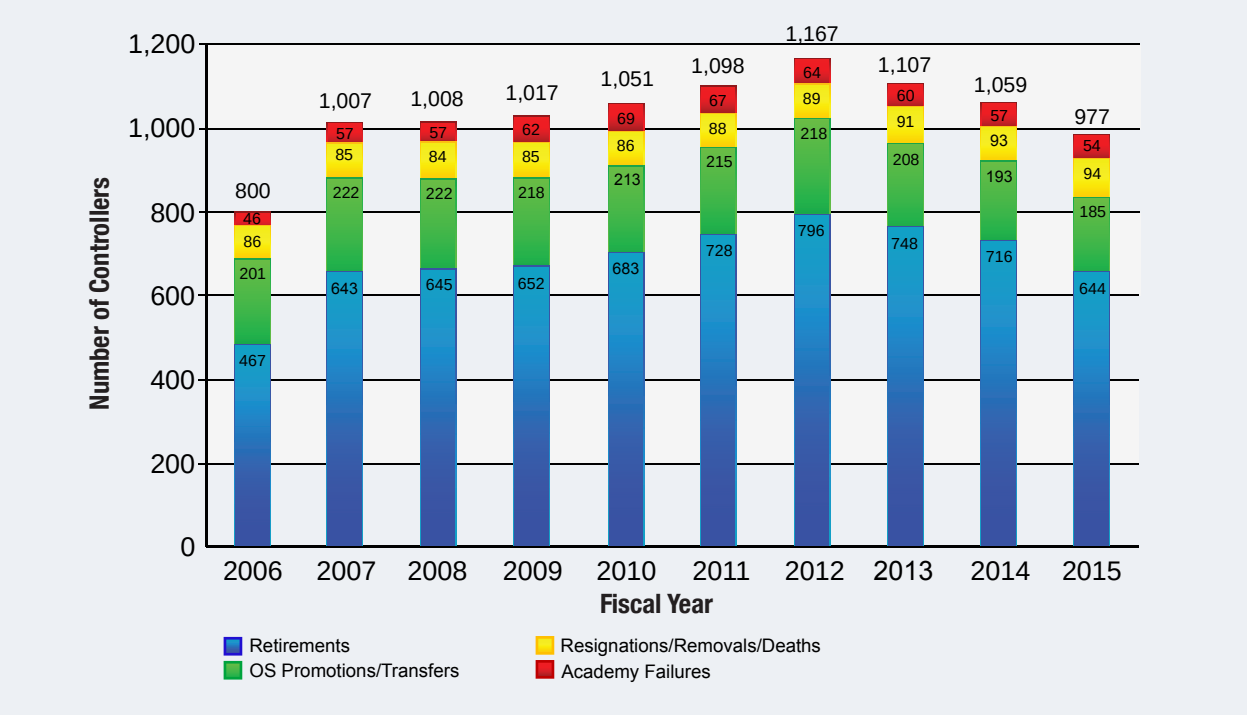


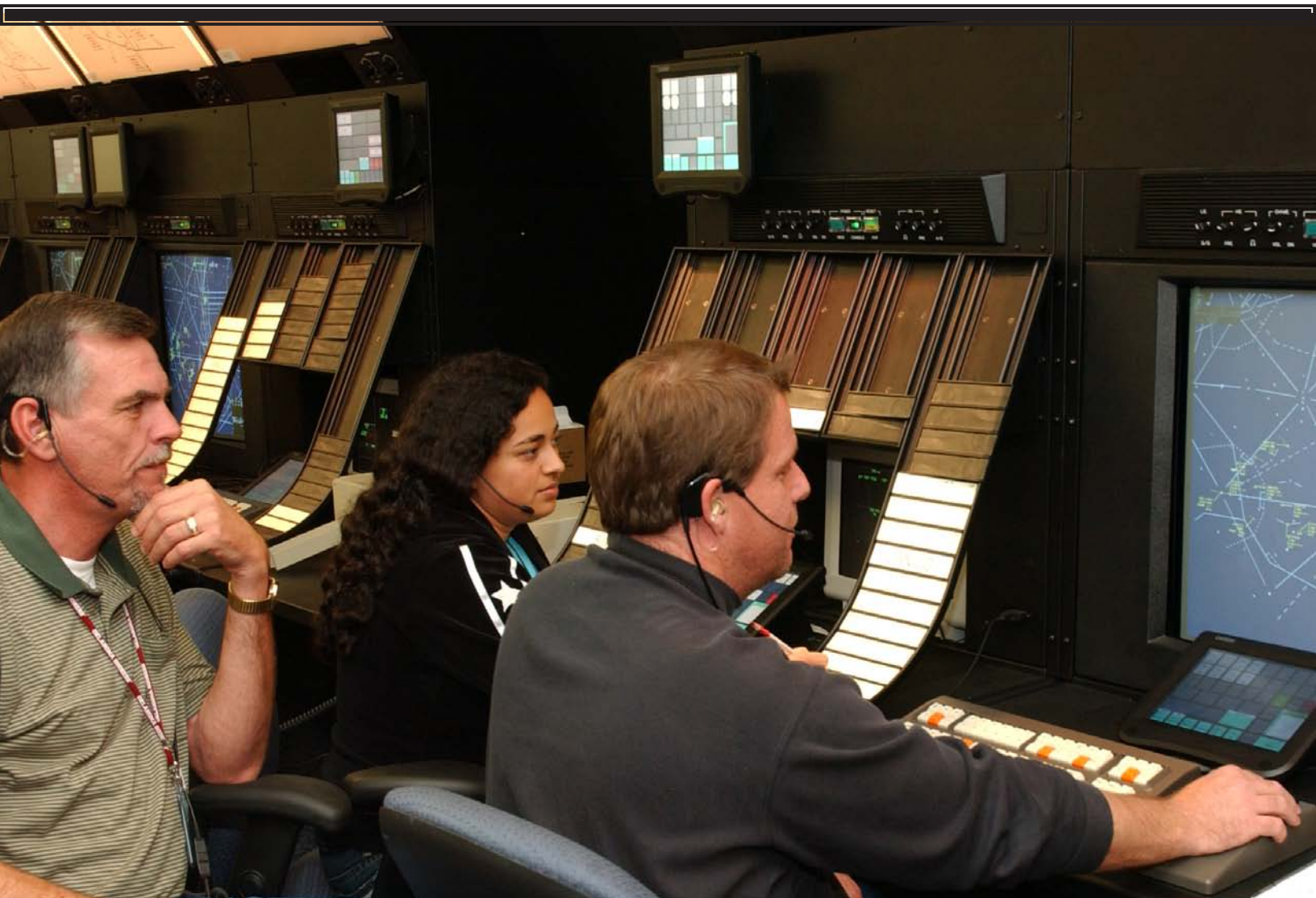
Figure 4.5: Total Controller Losses

The total controller loss through FY 2015 is estimated to be 10,291.

4.7 Controller Losses by Facility

With a lead-time of two to three years to certify a controller, projecting controller losses at the facility level is required to further facilitate planning. Applying the same methodology discussed in Section 4.2, retirements were projected from FY 2006 through FY 2009 at the facility level. Estimates were also made for other losses. Total expected losses by facility are provided in Appendix A.

Chapter 5
Air Traffic Controller Hiring Plan



Chapter 5:
Air Traffic Controller Hiring Plan

In developing this first update to the Controller Workforce Plan, the FAA relied on a number of key assumptions:

- Training lead-time is three years for en route controllers and two years for terminal controllers.
- Developmental to total controller ratio continued at an acceptable level.
- The FAA did not exceed Academy training capacity for the duration of the plan.

5.1 Controller Hiring Profile

The selected controller hiring profile is shown in Figure 5.1 along with the updated controller loss estimates. The total number of controllers projected to be hired through FY 2015 is 11,851.

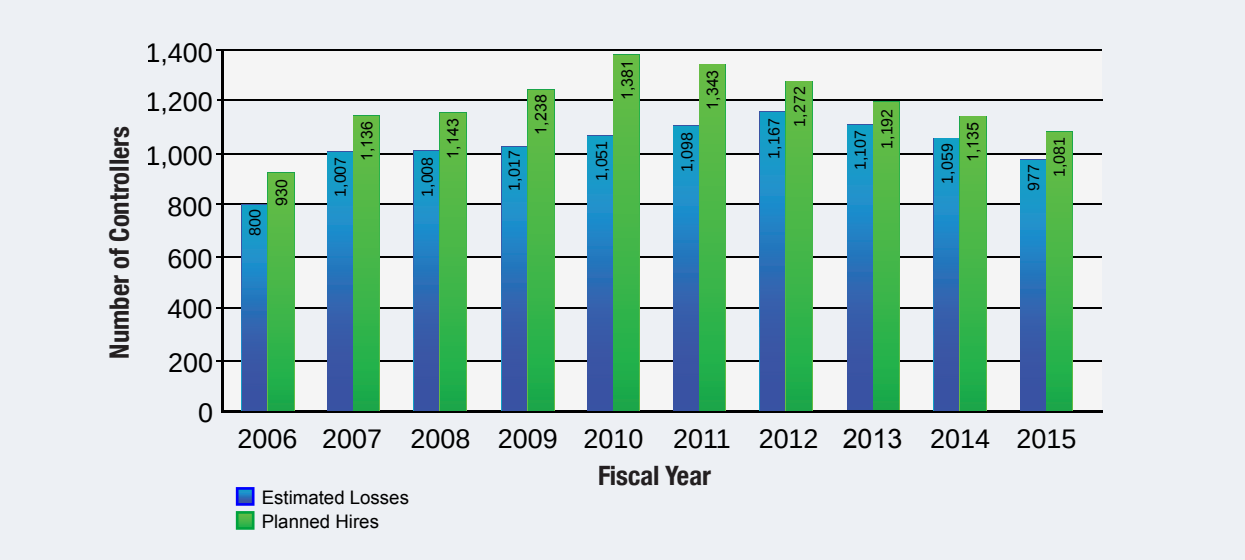


Figure 5.1: Controller Hiring Profile

The hiring profile exceeds the estimated losses through FY 2015 to provide training lead-time while maintaining an acceptable ratio of developmentals to total controllers. Thus, the projected actual on-board staffing will exceed the annual staffing targets because hiring is being done in advance of when the controllers will actually be needed to allow time for training and to keep the developmental ratio at a manageable level.

5.2 Actual On-Board (AOB) Staffing

Figure 3.1 compares the existing staffing standard projections with the annual staffing targets (assuming efficiency gains are realized) and the actual on-board for each fiscal year through FY 2015. Under this hiring plan, the AOB staffing remains below the staffing standard projection and begins to converge with the annual staffing target projections in FY 2015.

The developmental to total controller ratio for terminal and en route controller groups achieved with this hiring plan is shown in Figure 5.2. For example, a ratio of 25 percent would mean an average of one developmental out of every four controllers. The ratios include not only the new hires but also internal transfers who are also in training. This plan maintains the developmental to total controller ratio at a manageable level.

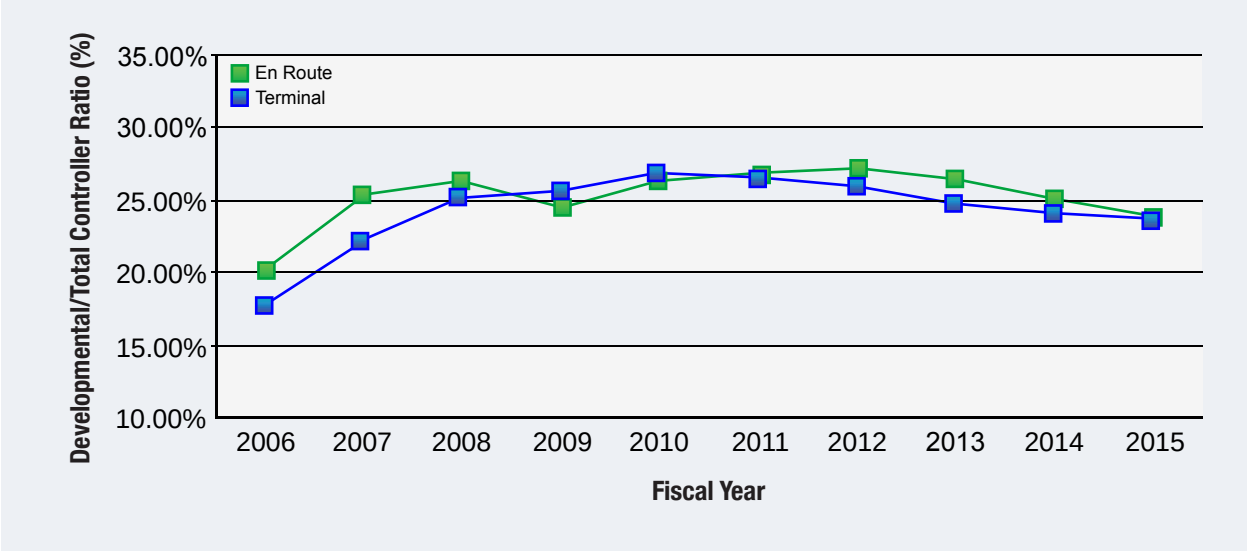


Figure 5.2: Developmental to Total Controller Ratio

5.3 Potential Adjustments to Controller Hiring Targets

In addition to the various initiatives and management reforms being considered, the controller hiring numbers may also be adjusted downward due to waivers of the mandatory Age 56 rule and the potential movement of qualified personnel from Flight Service to the controller ranks. These two ongoing activities are discussed in the following subsections.

5.3.1 Flight Service Station Personnel

As a result of last year's A-76 Flight Service Station outcome, the FAA made offers to qualified personnel for controller positions.

Initiative: Flight Service Station Personnel

Status: During FY 2005, 134 Flight Service Station Specialists were placed into terminal facilities under the Preferred Placement Program.

Future Milestones:

- An additional 77 Flight Service Station Specialists have been identified for placement during FY 2006.
- FSS hiring preference ends in FY 2007.

Results: Well qualified Flight Service Station Specialists with previous radar experience were able to transition into controller positions at terminal facilities. Due to their experience, many of these controllers did not require initial qualifications training at the FAA Academy. These factors aided in reducing the number of outside hires for FY 2005 and FY 2006.

5.3.2 Age 56 Rule

The FAA believes that waivers to the Age 56 rule may be of value for targeted locations where there may be a critical staffing shortage or where the ratio of developmental controllers to CPCs approaches a level where training could be severely impacted.

Initiative: Age 56 Rule

Status: Special Federal Aviation Regulations SR 103 was implemented in April 2005. SR 103 provides authority to the FAA Administrator to grant waivers to the mandatory retirement age of 56 years for air traffic controllers. As of January 2006, 16 individual waiver requests had been submitted for consideration. The Administrator approved six of the waiver requests.

Future Milestones: Provide timely consideration of waiver requests as they are received.

Results: Retained qualified controller staff at targeted locations.

Chapter 6
Air Traffic Controller Hiring Process

Chapter 6:
Air Traffic Controller Hiring Process

6.1 Controller Hiring Sources

The FAA has three categories of controller hiring sources.

Previous Controllers: These individuals have prior FAA or Department of Defense (DOD) (civilian or military) air traffic control experience.

Collegiate Training Initiative Program: These individuals have successfully completed an aviation-related program of study from a school under FAA's collegiate training initiative (CTI) program.

General Public: These individuals may apply for vacancies announced by the FAA, or are already on a list of candidates from prior Office of Personnel Management (OPM) announcements.

There are currently more than 3,700 applicants from numerous sources who have expressed an interest in becoming an air traffic controller. The specific hiring sources within each of these categories and the candidates identified to date are shown in Table 6.1.

Hiring Source	Current Number of Available Candidates*
Previous Controllers	
Veterans Readjustment Appointment (VRA)	1,328
DOD civilian controllers	5
Retired military controllers (RMC)	210
Former Professional Air Traffic Control Organization (PATCO) controllers	588**
Reinstatements	24
Collegiate Training Initiative	
Air Traffic Collegiate Training Initiative	1,260
OPM	
Former applicants through the OPM process	22
Job Fairs (General Public)	
Tests administered at five sites to date	355
TOTAL	3,792

Table 6.1: Hiring Sources

****Includes applicants waiting for their names to be issued to FAA Human Resource offices from the central inventories and those already under consideration in FAA Regions as of November 30, 2005.***

*****In FY 2005 a survey was sent to the 3,653 former PATCO controllers. 588 responded that they were still interested in a controller position.***

6.2 Controller Hiring Strategies

The Agency plans to continue improving the hiring process to ensure its ability to hire at the magnitude required over the next decade. Detailed information about each strategy follows.

6.2.1 Recruitment

The FAA will continue to engage in broad-based outreach and recruitment efforts. The FAA's goal is to have the best qualified workforce. Expanding the applicant pool increases our chance of achieving that goal.

The FAA will conduct some recruitment as necessary to reach its hiring goals. The FAA will also engage in targeted recruiting in communities served by hard-to-staff facilities. The FAA does not envision any problems finding qualified applicants from all sources to meet the increased need for controller personnel. In the unlikely event that an overall shortage of qualified candidates does develop, the FAA will recruit for applicants nationwide.

Finally, the FAA will be developing a single process so that candidates from different sources can apply on the Internet.

Initiative: Recruitment

Status: During FY 2005 the FAA established a team to identify broad-based recruitment strategies for the controller workforce and prepare a proposal to implement these strategies. Development of the recruitment outreach proposal is ongoing.

The FAA conducted five job fairs to meet the hiring needs of five hard-to-staff en route facilities (Oakland, Los Angeles, Albuquerque, Indianapolis and Kansas City en route centers).

Also in FY 2005, the FAA provided access for RMC candidates and VRA candidates to apply online for available positions. The Automated Staffing and Application Process (ASAP) provided instant certification of qualified candidates for employment. ASAP generates vacancy announcements and automatically posts them to the FAA jobs web site and allows online application submittal, screening and notification, eligibility list placement and referral for interviews.

Future Milestones:

- Recruitment Outreach – Dependent upon outcome of the proposal decision process.
- June 2006 – The automated application process will be available to the general public and air traffic controllers eligible for reinstatement.

Results:

- Automated Application Process – improved application submittal process for VRA and RMC candidates.
- 355 air traffic control candidates identified at the five job fairs.

6.2.2 Examine the Clearance Process

It is important to ensure that our hiring process will effectively handle the number of people to be hired in the coming years. The FAA examined that process to look for ways to make it more efficient, i.e., reducing the time needed to obtain medical clearances and background investigations.

In FY 2003, the median time to hire new controllers was 151 days. The FAA relies on the Federal Bureau of Investigaion and Office of Personnel Management (OPM) to perform background investigations for all potential controllers, and on the Office of Aviation Medicine's Regional Flight Surgeons and Aviation Medical Examiners for medical clearances. The Agency relies on similar resources for drug screening for all potential controllers. In FY 2003, the median time required for completing the background investigation on controller candidates was 67 days, and the median time of the concurrent process to obtain medical clearances was 97 days. As a result, the FAA formed a team from the Air Traffic Organization, the Office of Aerospace Medicine, the Office of Security and Hazardous Materials and the Office of Human Resource Management to review each step of the clearance process. The team's objective was to determine if a more efficient process would reduce the overall clearance time. The team completed its report in March 2005.

Initiative: Examine the Clearance Process

Results: Completed implementation of the centralized hiring process for air traffic controllers under the Aviation Careers Division in Oklahoma City.

6.2.3 Track Applicants

A new controller applicant-tracking system has been developed. The Agency developed and implemented an effective, integrated system that provides an automated tracking tool for referral, selection, pre-hire activities and placement. This activity was completed in March 2006.

Initiative: Track Applicants

Results: The applicant tracking computer program, a component of ASAP, was completed in March 2006.

6.2.4 Institute Even-Flow Hiring

In the past, the FAA's strategy for replacing controllers has generally been to hire new controllers only when current, experienced controllers leave. Additionally, hiring was often delayed until the end of the fiscal year due to budget constraints. Because the FAA must now hire a large number of controllers, the agency cannot wait until the end of the fiscal year. Doing so would choke the hiring and training pipelines. One of the key strategies for improving the hiring process is to even out the flow of new hires. This will eliminate the existing issue of staffing requirements maximizing virtually overnight. These spikes are costly to the human

resources organization and to the facilities. The even-flow hiring strategy will allow the FAA to systematically plan for human resource staffing and facility support requirements.

The FAA will institute even-flow hiring in concert with even-flow training. Each summer, the FAA will identify the number of controllers to be hired in the coming fiscal year. These new hires will be spread out over the fiscal year with a target number of new hires set for each quarter. The human resources support staff, field managers and training staff will be provided with the targets to ensure that sufficient resources are available to hire and train the new hires.

Expected outcomes from even-flow hiring include the following:

- Maintain more effective and efficient use of resources.
- Eliminate choked hiring and training pipelines.
- Allow for annual and/or multi-year planning.

Initiative: Institute Even-Flow Hiring

Status: Hiring targets were used to drive the establishment of training class dates that commence every other week at the FAA Academy in Oklahoma City. All new hires who must attend the Academy are brought on board to coincide with class dates. By hiring in concert with the class schedules, we were able to maintain an even flow during FY 2005.

Results: Training bottlenecks are avoided at the Academy and air traffic control facilities.

6.2.5 Leverage and Expand Hiring Sources

The FAA planned to leverage the existing inventory of potential candidates in FY 2006 to meet the demand for new hires. These include applicants with previous military experience, CTI, OPM and former PATCO controllers.

The FAA expects that the CTI schools will increase their enrollment in anticipation of increased controller hiring. The CTI schools will most likely become an even more important source of candidates between the years 2007 and 2015. The OPM list will be depleted by then, and it is unlikely that the FAA will be permitted to cause a critical draw-down of military controllers to meet the peak hiring needs in those years.

The CTI schools have several advantages. They produce candidates with college degrees and a broad knowledge of the aviation industry. These candidates have at least a basic level of training in air traffic control and have shown a sincere interest in the career field by the investment they have made in their own training.

Depending on need, the agency will also supplement its hiring through vacancy announcements open to the general public in the FY 2007 to FY 2015 time period. The FAA will also examine the option of expanding the FAA Intern and Student Career Experience Programs to include the air

traffic control occupation. The FAA will revisit the use of these sources in the coming years and modify this plan as appropriate.

Initiative: Leverage and Expand Hiring Sources

Status: We continue to maintain an inventory of air traffic control specialist applicants consisting of VRA, RMC, CTI students, PATCO and the general public. The FAA has actively recruited candidates through job fairs and the CTI program. To better match qualified candidates with available job vacancies, the VRA, RMC and PATCO inventories were updated to reflect the applicants' geographic preferences for employment.

Future Milestones: Continue to expand hiring sources and the available pool of candidates.

Results: A sufficient pool of candidates is available to meet air traffic controller staffing needs for several years.

6.2.6 Build Central Inventory

In last year's plan, the FAA envisioned that a central inventory system would be needed to have better control and tracking over the numbers of available general public candidates. Further analyses indicated that current procedures are adequate for maintaining the general public inventory, given that the general public candidate list is small.

Initiative: Build Central Inventory

Status: This initiative is no longer required. Current procedures are adequate for maintaining the general public inventory. This initiative will not be reported in future updates.

6.2.7 Fully Implement AT-SAT

The FAA planned to begin administering the AT-SAT examination to all potential candidates except those whose hiring program is based on prior air traffic experience.

Initiative: Fully Implement AT-SAT

Status: Completed — AT-SAT is being administered to all candidates who lack prior air traffic control experience.

Results: Elimination of nine-week screen at the Academy.

6.2.8 Evaluate the Effectiveness of the AT-SAT for Placement

The Uniform Guidelines on Employee Selection Procedures (29 CFR 1607) require that the FAA evaluate the effectiveness of AT-SAT over the long term. The Civil Aerospace Medical Institute (CAMI) has launched a study to meet this requirement. As part of this, the FAA is studying the use of the AT-SAT examination to aid in placement of newly hired controllers. For example, the test might be used to determine whether individuals are better placed in the terminal or en route options or at facilities of higher or lower levels of complexity. This study will help the FAA determine if this examination might be used to predict more accurately a candidate's success for the various levels of complexity across facilities.

Initiative: **Evaluate the Effectiveness of the AT-SAT for Placement**

Status: **During FY 2005, CAMI continued to work toward a validity study for tower controllers. Also during FY 2005, CAMI continued archiving AT-SAT data from newly hired terminal and en route controllers for eventual comparison to performance at the Academy and during on-the-job training (OJT).**

Future Milestones: **During FY 2006, CAMI will participate in awarding the contract for, and commencement of, the concurrent validity study for tower controllers.**

Chapter 7
Air Traffic Controller Training

Chapter 7:
Air Traffic Controller Training

The FAA faces many training challenges to place the right number of controllers in the right facilities when we need them. Our ability to train the number of controllers required in this plan is dependent upon several factors, including even-flow hiring, reducing the time it takes to hire a controller and reducing the length of time it takes to train a controller. Currently, because of a long training time, we must hire en route controllers an average of three to five years in advance of when we need them. We believe that optimizing the controller training program, in order to reduce the time to CPC, is a key factor in responding to facility staffing needs in a timely manner.

7.1 Initiatives to Improve Training

While the FAA currently has the capacity to train the number of controllers required in this plan, we continually look for ways to ensure that it is as effective and efficient as possible. The FAA has made significant improvements to the training process over the past 12 years. The Multi-Path Hiring and Training Model was designed to replace the old nine-week screen used during the strike recovery period. The Multi-Path Hiring and Training model is a more efficient and effective training program, with a pass rate currently estimated at 95 percent, compared to the 57 percent pass rate of the old nine-week screen. The significant increase in the forecasted pass rate of 95 percent is due in part to the AT-SAT testing that replaces the old nine-week screen.

Although the FAA has implemented increasingly effective methods of screening and training controllers, more remains to be done. The facility training process is the longest part of controller training. Therefore, facility training is where the greatest gains in efficiency can be made. Several of the initiatives described in this section work toward the goal of decreasing the time it takes to reach the CPC level while still providing the highest quality training possible.

The FAA plans to meet its goal to reduce the average time to CPC from three to five years to two to three years. Preliminary FAA data indicate that developmentals completing training in FY 2005 took an average of 2.99 years to reach full certification in an en route facility. To date, in FY 2006, developmentals completing training have taken an average of 2.76 years. This lower average reflects improvements made in initial qualification training at the FAA Academy and efficiencies gained during on-the-job training (OJT).

Additional initiatives described in this section are targeted to developing more effective and efficient training methods.

7.1.1 Establish National OJT Data Tracking System

The first step in making efficiency gains is a thorough understanding of where the system is currently inefficient. At this time, detailed OJT data are maintained at the facility level. The FAA is taking steps to collect, maintain and analyze these data at a national level.

An effort is underway to take a snapshot of the current training process and examine relationships between facilities and regions. National baseline data will provide statistics for the time it takes a controller to certify, delays in the on-the-job training process, where and when training failures occur, differences between hiring sources and differences between regions and facilities.

This study will provide the foundation for ongoing tracking of the OJT process. These statistics will help us understand how well the OJT process is performing and determine its cost. We expect to identify specific areas where efficiencies can be gained, while ensuring that developmental controllers have the requisite skills and seasoning before becoming certified.

The expected impacts of this initiative are:

- Allows analysis of OJT performance at a national level.
- Provides data to identify where efficiencies can be gained.
- Identifies areas where the process is broken and where it is currently efficient.

Initiative: National OJT Data Tracking System

Status: Implementation of the National OJT Data Tracking System was completed in January 2006.

The data for the OJT snapshot study was collected from all en route facilities in December 2005. Data analysis was completed in March 2006 and statistics were produced for the time it takes a controller to certify, delays in the on-the-job training process, where and when training failures occur, differences between hiring sources and differences between facilities. Recommendations based on best practices were made in April 2006, with plans to begin implementation of those practices in May 2006.

7.1.2 Expand Simulation

The FAA, the military and the aviation community have been using simulation to aid in the development of pilots and air traffic controllers for years. As technology improves, the FAA looks for ways to leverage these improvements and increase the fidelity of simulation. Currently, the use of simulation is woven throughout both initial qualifications training at the Academy and training at field facilities. This section summarizes the FAA's plan for expansion at both the Academy and in the facilities.

The expected impacts of this initiative are:

- Completes the upgrade of Academy simulation systems to allow for more effective and realistic training.
- Expands use of simulation in the field to reduce time to CPC and provide for an efficient use of resources.
- Reduces ground and airborne delays by allowing development, testing and training on new procedures through simulation.
- Is expected to reduce runway incursions, as evidenced by U.S. Air Force simulation program.

7.1.2.1 FAA Academy Simulation

Terminal Simulation (Tower Cab)

In November 2004, we completed installation of four new tower simulators at the Academy. These simulators doubled the training capacity from the previous simulation technology. These simulators provide a realistic tower environment in which to teach new controllers. These high-fidelity simulators, combined with existing medium-fidelity simulation and practitioner instruction, are expected to produce a developmental controller better prepared to begin training in the facility. The need for additional high-fidelity simulators at the Academy to offload a portion of field facility site-specific training will be researched. This project has requested funding through FY 2007.

Initiative: FAA Academy Simulation – Terminal

Status: The planned upgrade to the Academy terminal simulation capability was completed during FY 2005.

Results: Increased terminal training capacity with improved fidelity of the operational environment.

En Route Simulation

The installation of an Initial Academy Training System (IATS) lab was completed in March 2005. This 20-sector Display System Replacement (DSR) lab is state-of-the-art, reflecting the current technology in the field as well as possessing unique training characteristics. The commissioning of the DSR lab coincided with a completely new airspace and procedures for the en route option. The new DSR lab and airspace was ready for students in September 2005. We expect that this significant change to en route initial qualification training will increase student performance and will contribute to a reduced time to CPC. Future simulation initiatives include the acquisition and implementation of User Request Evaluation Tool (URET) at the Academy. Academy training capabilities and solutions are being examined to determine the feasibility of including centralized Radar Associate training and/or Site Specific Training at the Academy.

Initiative: FAA Academy Simulation – En Route

Status: The planned upgrade to the Academy en route simulation capability was completed during FY 2005. Also in FY 2005, URET was approved for implementation at the Academy to expand en route simulation capability. URET installation at the Academy was completed in April 2006.

Results: Increased operational fidelity in the en route training environment.

7.1.2.2 Facility Simulation

Reducing the time required to attain CPC and achieving increasing levels of certification will reduce training costs as well as provide for other benefits such as increased flexibility in scheduling, more rapid response to facility staffing needs and reduced stress on training resources, such as OJT instructors. The enhanced process and inherent simulation capabilities also provide for more standardized instruction, unbiased assessment of performance, mitigation of weaknesses and useful remedial and proficiency training.

Terminal Simulation (Tower Cab)

The FAA has initiated an effort to expand the use of tower simulators to field facilities. This effort is unprecedented in the FAA but has been proven to reduce training time and increase safety in the Air Force. The FY 2006 appropriations bill includes $5 million for the procurement of simulators in the facilities and equipment (F&E) account. The FAA is identifying airports and developing an implementation plan in anticipation of additional funding.

Initiative: Terminal Facility Simulation

Status: Terminal Simulation (Tower Cab) – Chicago O'Hare, Ontario and Miami installations have been completed.

Future Milestones: October 2006 – Complete initial evaluation of the three simulators. If results are positive, recommend procurement of seven tower simulators for initiation in FY 2007.

Voice Recognition/Response Technology (Terminal/En Route)

The FAA has initiated an effort to expand the use of Voice Recognition and Response Technology (VRR) into terminal and en route field simulation capabilities. This effort is unprecedented in the FAA's field facilities and is expected to reduce training resources, training time and training costs associated with facility certification training. The FY 2006 appropriations bill includes $5 million for the procurement of simulators in the F&E account.

Initiative: Voice Recognition/Response Technology (VRR)

Status: VRR integration into STARS ATCoach Terminal Simulator
- – Boston Consolidated TRACON (A90) Installation complete
- – Completed product installation
- – Began evaluation period

Future Milestones: September 2006 – Complete initial evaluation. If results are positive, recommend procurement for future integration into fielded STARS terminal and en route simulation systems.

En Route Facility Simulation

Facility training for en route controllers is the longest portion of any air traffic training program. The average length of time to reach full certification for an en route controller is over three years and can vary up to five years or more depending upon many variables, including:

- Facility complexity
- Staffing requirements and instructor availability
- Using qualified developmentals for staffing rather than training
- Scheduling of classes in order to have a core number of students
- Traffic level and complexity to get effective and quality OJT time
- Developmental aptitude and motivation
- Seasoning time

Research indicates that increased use of high-fidelity simulation has the potential to reduce training time. The FAA is exploring the use of high-fidelity simulation in en route facilities as a key strategy to reduce training time. This strategy includes a long-term solution and an interim proposal.

The long-term solution to high-fidelity simulation capability is included within the En Route Automation Modernization (ERAM) program. ERAM is scheduled for deployment in 2008 and will replace the current host computer system software/hardware, Direct Access Radar Channel (DARC) software/hardware and other associated interfaces, communications and support infrastructure. ERAM also includes an enhanced, combined test and training system, or simulator, which replicates ERAM and operates independent of the live operational system. Upon ERAM completion, every en route facility will have state-of-the-art training capability on full-fidelity simulators. This training system will allow scenario generation from actual radar data. The enhanced training capability provided by ERAM will make significant contributions to reduced training time.

While ERAM provides a long-term solution for high-fidelity simulation in the en route environment, the FAA believes interim steps are needed to ensure adequate resources to train the number of controllers required in this plan. The FAA is researching viable methods to meet this need. Examples of interim solutions include:

- Acquisition and deployment of the Initial Academy Training System (IATS) for field use
- Early deployment of the ERAM Test and Training system

While high-fidelity simulation is important to this plan, it is only one tool in the delivery of meaningful and effective training. The success of any simulation solution will be dependent upon concurrent development and validation of training concepts and policies. The FAA is committed to sound instructional practices that take full advantage of available technology.

Initiative: En Route Facility Simulation

Status:

- A bottleneck was identified in the quantity of simulation workstations available to train newly hired developmentals in nine en route centers.
- A business case was developed to justify the development of an interim en route simulation system to mitigate the bottleneck. The business case verified that an interim solution was investment worthy.
- Several possible solutions to this problem were explored, and a decision on the best course of action was reached in March 2006. After that, complete evaluation of the Initial Academy Training System (IATS) for field use was also achieved.
- Evaluation of the ERAM Test and Training system was completed in April 2006.

Future Milestones:

- June 2006 – Interim solution strategy finalized.
- 2008 – Scheduled deployment of ERAM that includes high-fidelity training simulation.

7.1.3 Convert Air Traffic Academics to Web-Based Delivery

Only newly hired controllers without any previous experience or specialized education are required to attend the first five weeks of Initial Qualification training at the FAA Academy. The first five weeks of Academy training, called Air Traffic Academics, provides the fundamental aeronautical knowledge essential to both en route and terminal controllers.

It has been determined that most of this course could be redeveloped for web-based delivery. The portions of the course inappropriate for web-based delivery (teamwork scenarios, etc.) would be incorporated into the resident part-task training and skills building courses.

The Air Traffic Academics course consists of 200 classroom hours and covers a wide variety of topics and objectives. This course is the equivalent of six college courses. It is envisioned that a blended approach to methods and media would provide the student not only the same curriculum, but in an interesting and challenging manner. Methods and media may include online, computer-based instruction, video streaming, correspondence courses and others.

The expected impacts of this initiative are:

- Eliminates salary and per diem costs for five weeks of training at the Academy.
- Improves student preparedness even when they are eligible to bypass academics.
- Provides an objective measure of student knowledge prior to reporting to the Academy.

Initiative: Web-Based Air Traffic Academics

Status: Approximately 200 hours of classroom training is being converted to web delivery. Conversion consists of storyboard development, audio recording and web programming. Storyboards were completed in March 2006 with a complete review by May 2006.

Future Milestones:

- July 2006 – Complete audio
- September 2006 – Complete programming

7.1.4 Redesign Academy Airspace for En Route

A key component to optimizing the time to CPC is providing field facilities with high-quality developmentals prepared to begin training. The ability to provide high-fidelity, realistic training at the FAA Academy is critical to this goal. The Initial Qualification Training program at the Academy has undergone significant changes in the past 12 years in terms of both curriculum and simulation. Another major change completed in FY 2005 is the conversion of the airspace used to train en route controllers. The expected impacts of this initiative are:

- Updates old Aero Center to reflect current airspace.
- Replicates actual airspace to allow for more realistic training.
- Potentially raises the performance level of students at the end of training.

Initiative: Academy En Route Airspace

Status: Completed

Results: High-fidelity operational-like airspace validated and in use for en route training at the Academy.

7.1.5 Evaluate and Redesign Facility Training Program

A seamless training program from start to finish is vital to reducing controller training time. It is important to ensure that training curriculum and objectives flow smoothly from initial qualification training at the Academy to certification training at the facility. It is also important that facility training programs be designed to take full advantage of the skills and abilities attained by developmental controllers at the FAA Academy.

Considering the magnitude of changes to the Initial Qualification Training program, facility training has changed little. Facility managers have the latitude to modify portions of the field training programs to meet local needs, but more can be done. The FAA will conduct a thorough review of facility training to ensure that it begins where the Academy ends. This review will take into consideration other efficiency gains identified in this plan and will result in facility training programs tailored to meet the needs of developmental controllers of the future. This effort will contribute to the Agency's goal to reduce the time to CPC.

In addition to linking Academy training and facility training, it is equally important to ensure that the OJT process itself is designed to maximize efficiency and to take advantage of the most effective teaching methods possible. The evaluation of the facility training programs will also explore whether or not the OJT process could be better structured to take advantage of current research regarding training in highly complex, risky technology environments such as a control room. The expected impacts of this initiative are:

- Eliminates overlap between Academy training and facility training.
- Recognizes the higher performance level of Academy students.
- Streamlines OJT process to take advantage of existing research and emerging technologies.

Initiative: Facility Training Program

Status: While the facility training program analysis is still underway, the following actions have been taken to help make progress in the near term.

- **A training overlap was identified in July 2005 between Academy and En Route Training Stage II. A national training waiver was completed to eliminate the overlap. This resulted in saving three weeks of facility training time.**
- **Different methods of controller training delivery are being explored. If these methods are proven successful, we hope to shorten the length as well as increase the quality of controller qualification training. These methods include:**
    1) "Functional Training"– a training waiver has been issued to the en route service area. Three en route facilities (Chicago, Houston and New York) are preparing training staff and supervisory personnel to administer developmental training utilizing the functional training method. Implementation of the functional training method will begin in July 2006.
    2) Evaluation of the MITRE simulator started in December 2005 and will continue through December 2006. Evaluation will include both equipment and training concepts.
- **The snapshot of training data from FY 2005 will be used to develop Stage training goals in each en route facility, supporting the effort to reduce time to achieve CPC status.**
- **Changes were implemented as a result of baseline review and places were identified where the training process could be streamlined regardless of Academy training in March 2006.**

Future Milestones:

- **June 2006 – Begin field trial of MITRE simulator.**
- **July 2006 – Coordinate effort with Academy Airspace Redesign team to anticipate and prepare for student performance improvement.**
- **July 2006 – Begin implementation of the functional training method at three en route centers.**
- **December 2006 – Evaluate first course conduct data from Airspace Redesign and adjust facility training plan as required.**

7.1.6 Implement Academy Instructor Recruitment and Retention Plan

The FAA must ensure that the Academy retains a highly skilled cadre of instructors from among the current controller workforce. Controllers selected for instructor positions are provided training in basic instructional techniques and are placed in an intern program that will ultimately qualify them to become air traffic instructors. These instructors bring current experience into the training environment and ensure that students are exposed to current operational practices and procedures. This is a key factor in reducing controller training time.

The expected impacts of this initiative are:

- Increases number and quality of controller applicants for instructor positions.
- Ensures effectiveness of initial qualification training program.

Initiative: Academy Instructor Recruitment and Retention

Status: A proposal to implement an Academy instructor recruitment and retention plan has been received and is currently under review.

Future Milestones: Final decision on proposal will be made by the end of FY 2006.

7.1.7 Leverage Training Sources

The FAA will ensure that it makes the most effective use possible of its existing partners who provide air traffic control training programs. To further enhance its ability to train the necessary volume of air traffic controllers, the agency will expand its use of contractor instructors at the Academy and in the field.

The FAA already partners with the academic community to leverage undergraduate education in the field of aviation. Individuals who complete collegiate requirements under the Air Traffic Collegiate Training Initiative (AT-CTI) bypass the first five weeks of initial training required for controllers. The Agency currently has agreements with 13 schools for the AT-CTI program.

The FAA has established two contracts to support training new hires, reducing the number of on-board air traffic controllers who must be pulled from operations to serve as instructors.

- The University of Oklahoma (OU) provides support to the FAA Academy for instructional services, curriculum development and revision, and distance learning support and maintenance.
- A commercial contractor provides support to field facilities for classroom and simulation instructional services and administrative support for record maintenance and reporting.

The FAA expects to increase the number of contract instructors over the next 10 years to meet the increased demand. This should work to the FAA's advantage as well as provide recently retired controllers with a bridge to full retirement.

This initiative requires no new funding. Leveraging training sources allows all contributors to the training pipeline to be prepared to address the requirements to hire and train the controllers required in this plan. The expected impacts of this initiative are:

- Reduces the drain on internal resources as trainers.
- Reduces the cost of delivering training.

Initiative: Training Sources

Status: Completed. The purpose of this initiative was to communicate the goals and initiatives in the Air Traffic Controller Workforce Plan to training support providers and stakeholders. The plan was provided to major training support providers, including OU and AT-CTI colleges. Communication is ongoing about the status of hiring and training issues.

Results: Leveraging our training resources through clear communication of the FAA's hiring and training goals enabled our key training providers and stakeholders to prepare for the increased workload:

- OU increased instructor recruiting and hiring to meet the training demands at the Academy. The FY 2006 production schedule for instructional support at the FAA Academy requires over 100 contract instructors during certain months of the year to accommodate the student workload.
- The commercial contractor also increased instructor recruiting and hiring to keep pace with increased demands for facility training.
- In general, AT-CTI colleges report that enrollment in air traffic curricula is increasing. Many colleges report that they are taking steps to increase capacity in their AT-CTI programs to keep pace with the demand reported by the FAA.

7.2 The Training Plan

This plan assumes that the strategies outlined above are effectively implemented and have the anticipated impacts in the expected year. Any savings resulting from future actions as well as any changes to training content will be taken into consideration as this plan is reviewed and updated.

7.2.1 FAA Academy Training

Training the number of controllers required in the next decade will require close coordination among hiring sources, the Academy, the air traffic facilities and the contractors who support the controller training program.

Table 7.1 lists the training capacity of the FAA Academy per fiscal year. There is no change in the Academy training capacity from last year.

Option	Total Capacity
Terminal	840
En Route	1,240

Table 7.1: Academy Training Capacity

The current number of instructors and support personnel at the FAA Academy is 83, with an annual total adjusted salary of $8.19 million. Table 7.2 describes the current number of instructors and support personnel at the FAA Academy.

Organization	Management Supervision	Office Administrator	Support *(ISS/ISD*, Training Specs, Training Techs, Editor Specs, Computer Techs)*	2152 Series *(Instructors, Developers, SMEs†)*
Division Management	2	2	2	
Initial Qualifications Branch (AMA-510)	1			
En Route Section (AMA-511)	1	1	2	11
Terminal Radar Section (AMA-512)	1		0	5
Tower Section (AMA-513)	1		2	10
Air Traffic Staff (AMA-514)	1		2	5
Specialized Training Branch (AMA-520)	1			
Staff Training Section (AMA-521)	1			6
Technical Training Section (AMA-522)	1		1	8
Systems Support Branch (AMA-530)	1	1	9	5
Total	**11**	**4**	**18**	**50**

Table 7.2: Current Academy Staffing
**** Instructional System Specialist / Instructional System Design***
† Subject Matter Experts

The FAA Academy staff is supplemented by an Air Traffic Instructional Services contract. This contract provides support for classroom instructional services, curriculum development and revision, and distance learning support and maintenance. The flexibility of this contract allows the Academy to maintain a core number of FAA instructors and supplement them with contractor personnel as training requirements change.

Table 7.3 details the number of FAA instructors and contract instructors required to train the planned number of students attending the FAA Academy.

Fiscal Year	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Total FAA Instructors	26	26	26	28	32	34	34	34	34	34
Total Contract Instructors	91	77	86	86	90	85	77	69	61	55
Total Instructors	117	103	112	114	122	119	111	103	95	89
Student Input Total	849	912	976	1,010	1,144	1,116	1,060	1,002	946	899

Table 7.3: Academy Instructor Training Resources Required by Fiscal Year

Differences between current Academy staff versus required staff will be corrected by the use of contract instructors. It is desirable to have a core FAA staff to ensure field currency and promote the concept of a "practitioner" delivered training program. The en route training course is 53 training days and the terminal training course is 37 training days. The number of instructors required per training class is dependent upon the phase of training. For example, during en route academic training there will be three instructors, increasing to 19 instructors during high-fidelity radar associate training for a class size of 18 trainees. For terminal academic training the number of instructors would be two, increasing to 17 for high-fidelity tower simulator training for a class size of 16 trainees.

Table 7.4 details the Academy contract costs for the 2005 controller-hiring plan.

Fiscal Year	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Total Hiring	930	1,136	1,143	1,238	1,381	1,343	1,272	1,192	1,135	1,081
Number of Hires to Attend Academy Training	849	912	976	1,010	1,144	1,116	1,060	1,002	946	899
Total Academy Cost ($ in Millions)	$8.8	$8.3	$9.6	$10.0	$11.9	$12.1	$11.9	$11.7	$11.3	$11.0

Table 7.4: Academy Contract Costs for Hiring Plan

A review of existing FAA Academy training facilities and equipment did not uncover any significant need for additional facilities or equipment to meet the upcoming demand for training.

7.2.2 Facility Training

The majority of facility training is OJT that is conducted by fully certified controllers. If the facility training programs receive new controllers in an even-flow manner, facilities do not require additional resources to conduct OJT.

Currently 54 air traffic facilities utilize contract support to deliver the classroom and simulation portion of facility training. The FAA has an Air Traffic Instructional Services contract in place to support the classroom/simulation training needs of all en route facilities and many large terminals. This contract is extremely cost-effective when its hourly rate is compared to CPC pay. Table 7.5 details the resources required to support the number of new hires required for the next several years. This table reflects the current level of support with expected annual increases. It does not reflect any efficiency gained through the implementation of this plan.

Fiscal Year	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Total Requirement ($ in Millions)	$34.9	$43.6	$49.8	$48.2	$51.3	$52.8	$51.2	$49.1	$47.1	$45.4

Table 7.5: Projected Developmental Training Costs

Projected developmental training costs begin to decrease after FY 2011 as the number of new hires decreases over the FY 2012 to FY 2015 time period.

The FAA will continue to look for ways to improve the training process and will adjust this training plan accordingly.

Chapter 8
Air Traffic Controller Workforce Funding Status

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Air Traffic Controller Workforce Funding Status

The cost of pay and benefits has been growing by over 4 percent per year, primarily due to pay increases and the increased cost of benefits, particularly healthcare. Controller pay and benefits grew by 75 percent between 1998 and 2005. With approximately 75 percent of the operations budget going to payroll and benefits, controlling this increase is critical to the long-term sustainability of operations.

Non-payroll costs have also grown significantly over the last decade as new systems capabilities have come online. The current capital investment portfolio has the potential to continue driving up operating costs over the short term as new functionality to improve system safety and efficiency is implemented in the field. However, productivity and capacity gains are being made with the implementation of new automation.

This situation presents the FAA with a series of significant challenges to control its costs in order to sustain the hiring necessary to meet the controller workforce plan over the long term.

8.1 Funding Status

To be able to sustain the hiring necessary to meet the plan over the long term, the FAA is aggressively managing its costs. We believe it will be challenging to sustain the long term hiring required to meet the plan. The ATO has been covering funding shortfalls for the last several years, mainly by reducing staffing through attrition. This is not a strategy that can be sustained permanently.

In FY 2005, attrition of about 800 non-safety ATO employees was necessary to free up enough payroll funding to cover the cost of the unfunded portion of the pay raise approved by Congress and pay for a significant portion of needed hiring. This allowed the ATO to hire 438 controllers, versus a target of 435.

8.2 Cost Savings

Several of the initiatives that the FAA is undertaking are expected to result in a cost savings to help fund part of this hiring plan. A brief status is provided on each initiative. In future updates, we will not be reporting on those initiatives that are not directly related to the controller workforce plan. Those items are addressed in the Flight Plan and Business Unit Plans. The subsections below discuss the initiatives and provide an estimate of the cost savings.

8.2.1 Converting Air Traffic Academics to Web-Based Delivery

The FAA estimates 30 percent of the total projected new hires will attend the Air Traffic Academic course (Level I). This course is an introductory course for new trainees who are not graduates of CTI programs or former military controllers. It is currently provided in a classroom setting. By converting the Air Traffic Academic course to a web-based delivery, we believe we can save up to $20 million in travel and per diem costs over the next 10 years. Our goal is to develop the web-based program by FY 2007.

Initiative: Web-Based Air Traffic Academics

Status: See section 7.1.3.

8.2.2 Reduce FAA Cost of Initial Air Traffic Controller Training at Academy

The hiring plan indicates that the FAA will be recruiting and training large numbers of candidates at the Academy in Oklahoma City, potentially resulting in substantial increases in training costs. Previously, the FAA paid all expenses for new trainee air traffic controllers attending the Academy for the initial qualifications training (Levels I, II and III). This included a full salary, daily per diem, travel costs, and all costs associated with classroom instruction. The FAA changed the way these trainees are appointed and compensated while at the Academy. The travel and compensation restructuring reduced the average cost per trainee by $20,000. The FAA will realize substantial savings over the term of this plan. Given the long-term salary and career benefits of the air traffic control profession, the FAA does not believe this change will impact its ability to select candidates from a diverse pool of highly qualified applicants. Since implementation of the policy on March 25, 2005, we have not seen any adverse impact on our ability to attract candidates. However, we will continue to monitor changes in our applicant flow and adjust our recruitment efforts if necessary.

Initiative: Reduce FAA Cost of Initial Air Traffic Controller Training at Academy

Status: Completed. A new type of temporary trainee position was created in order to provide the appropriate level of compensation and benefits to new trainees attending the Academy. Trainees who are successful will be converted to permanent positions and assigned to FAA facilities.

Results: Cost savings of $20,000 per trainee.

8.2.3 Reclassification of Air Traffic Control Facilities

The current classifications of some of our air traffic control facilities are outdated because traffic patterns have changed. As of May 2006, the FAA has evaluated 85 terminal facilities in an effort to determine whether today's traffic counts are consistent with the currect facility classification level.

Initiative: Reclassification of Air Traffic Control Facilities

Status: As of May 2006, 85 terminal facilities were evaluated for reclassification based on traffic counts and other factors.

Future Milestones: The FAA plans to continue evaluation of additional terminal air traffic control facilities through the remainder of FY 2006 for those facilities deemed to warrant a reclassification evaluation.

Results: Six facilities were reclassified to a higher level, 56 facilities were reclassified to a lower level, 12 facilities have reclassifications pending and 11 facilities had no change in classification.

8.2.4 Air Traffic Control Facility Hours of Operation

Terminal air traffic control facilities with low or no mid-shift activity (12 p.m. to 5 a.m.) are being reviewed for possible reduction in hours of operation. The FAA is identifying control towers at which the mid-shift activity levels may not support the need to staff the towers at those times. Any flight activity that does occur during a period where the tower is unmanned is handled by the appropriate en route center or TRACON.

Initiative: Air Traffic Control Facility Hours of Operation

Status: This initiative is currently under consideration.

8.2.5 Non-Air Traffic Control Savings

Two other cost-savings initiatives were discussed in the first report that are not directly related to air traffic controller staffing:

- Decommissioning navigation aids
- Office consolidation

These initiatives will be tracked in other FAA strategic plans.

Chapter 9
Key Assumptions

Chapter 9: Key Assumptions

This chapter presents the key assumptions that underlie the controller hiring plan.

9.1 Reduce Facility Training Time to Achieve CPC – Two Years for Terminal Controllers and Three Years for En Route Controllers

To reduce the on-the-job portion of facility training, developmentals need continuous, uninterrupted access to facility training opportunities and resources. However, management practices within the operational environment can have a detrimental effect on these opportunities and may greatly extend this time-to-certification. These practices include, but are not limited to, canceling or delaying OJT to use developmentals to work positions they were previously certified on, as staffing backup behind spot leave, annual leave, work group assignments and a variety of other activities that remove CPCs from the operational environment.

9.2 Controller Hiring Models

The controller hiring model takes into account the controller staffing targets along with the training lead time for en route and terminal controllers, the Academy training capacity in terms of class size, the numbers of terminal and en route controllers who can be trained and even-flow hiring. To have the most efficient Academy training program possible, the following was assumed for each of the elements described below:

- **Optimal Split:** The Academy can train a maximum of 1,240 students for the en route option per year and a maximum of 840 students for the terminal option per year.
- **Even Flow Hiring:** The model assumes even flow hiring as to not exceed class capacity or violate the 35 percent developmental to total controller ratio.

9.3 AT-SAT Performance

The plan assumes that the AT-SAT pass rate of 67 percent will continue in the future and that AT-SAT will be upward compatible with later versions of Windows.

9.4 Clearance Process Capacity

The plan assumes that the clearance process has sufficient capacity to handle the number of applicants dictated by the controller hiring plan, resulting in applicants being cleared in time to be hired on an even-flow basis.

9.5 AT-SAT Testing Success

The training program contained in the plan is predicated on the availability and success of AT-SAT testing.

9.6 Recruitment and Retention of Academy Qualified Instructors

The plan assumes that there will be sufficient qualified instructors at the Academy to handle the large numbers of terminal and en route controllers over the next 10 years.

9.7 Adequate Staffing of Facilities

If the FAA is not able to adequately staff its air traffic control facilities, the system response will be observed in the area of system capacity – not system safety. Managers and supervisors are responsible for maintaining safety first and system efficiency second. Therefore, inadequate staffing levels will result in air traffic control system delays and delays in training.

9.8 Traffic Workload Forecast

The air traffic staffing standards projections are based on traffic workload forecasts. The FAA publishes these forecasts annually around March. Controller hiring numbers will be adjusted if traffic grows faster (or slower) than the traffic forecast of March 2006 that was used as the basis for this plan.

Appendix A
Projected Controller Losses By Facility: FY 2006–FY 2009

Appendix A
Projected Controller Losses By Facility: FY 06–FY 09

Appendix A presents the projected controller loss for en route and terminal air traffic control facilities for the period FY 2006 to FY 2009. These projected losses do not include losses due to Academy training failures since they are not assigned to a facility. Due to rounding, the facility level projections may not equal exactly the controller loss figures portrayed in Figure 4.5. These projections are based on facility demographics and historical data. Consequently, the data are subject to change.

En Route Facility Controller Loss Projections

Air Route Traffic Control Centers	Controller Loss Estimate			
Facility Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Albuquerque, N.M.	11	13	15	17
Anchorage, Alaska	4	6	7	8
Boston-Nashua, N.H.	14	19	17	19
Chicago, Ill.	19	25	23	25
Cleveland, Ohio	18	28	23	27
Denver, Colo.	13	17	17	18
Fort Worth, Texas	17	20	23	23
Guam CERAP	1	1	1	1
Hampton, Ga.	21	25	23	25
Hilliard, Fla.	14	16	16	19
Houston, Texas	16	19	21	22
Indianapolis, Ind.	14	19	18	19
Los Angeles (Palmdale), Calif.	11	13	12	13
Memphis, Tenn.	13	16	16	18
Miami, Fla.	10	11	12	18
Minneapolis, Minn.	12	17	16	18
New York, N.Y.	16	19	18	18
Oakland (Fremont), Calif.	10	12	13	12
Olathe, Kan.	17	20	20	21
Salt Lake City, Utah	6	11	13	11
San Juan Center/RAPCON, Puerto Rico	2	2	2	2
Seattle, Wash.	9	11	15	13
Washington, D.C.	18	21	23	21
Total:	287	360	363	384

Total loss estimates may not match those in Chapter 4 due to rounding.

Terminal Facility Controller Loss Projections

Terminal Air Traffic Control Facilities	Controller Loss Estimates			
Facility Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Birmingham Municipal ATCT, Birmingham, Ala.	2	2	2	2
Huntsville ATCT, Huntsville, Ala.	1	2	2	2
Mobile ATCT, Mobile, Ala.	1	1	1	1
Montgomery RAPCON, Montgomery, Ala.	1	1	1	1
Anchorage Intl. ATCT, Anchorage, Alaska	1	2	2	1
Anchorage TRACON, Anchorage, Alaska	2	3	3	2
Fairbanks Intl. ATCT, Fairbanks, Alaska	1	1	1	1
Juneau Intl. ATCT, Juneau, Alaska	0	0	0	0
Merrill Field ATCT, Anchorage, Alaska	0	0	0	0
Pago Pago ATCT, Tutuila Island, American Samoa	0	0	0	0
Grand Canyon ATCT, Grand Canyon, Ariz.	0	1	1	1
Mesa ATCT, Mesa, Ariz.	1	1	1	1
Phoenix Deer Valley ATCT, Phoenix, Ariz.	1	1	1	1
Phoenix Intl. ATCT, Phoenix, Ariz.	2	4	4	4
Phoenix TRACON, Phoenix, Ariz.	3	5	6	5
Prescott ATCT, Prescott, Ariz.	0	1	1	1
Scottsdale ATCT, Scottsdale, Ariz.	1	0	0	1
Tucson Intl. ATCT, Tucson, Ariz.	1	1	1	1
Tucson TRACON, Tucson, Ariz.	1	2	2	2
Fort Smith TRACAB, Fort Smith, Ark.	1	2	2	2
Little Rock ATCT, Fort Smith, Ark.	1	2	2	2
Bakersfield ATCT, Bakersfield, Calif.	1	1	1	1
Burbank ATCT, Burbank, Calif.	1	1	1	1
Camarillo ATCT, Camarillo, Calif.	0	1	1	1
Carlsbad ATCT, Carlsbad, Calif.	1	1	1	1
Chino ATCT, Chino, Calif.	0	0	0	0
Concord ATCT, Concord, Calif.	1	1	1	1
El Monte ATCT, El Monte, Calif.	1	1	1	0
Fresno ATCT, Fresno, Calif.	2	3	3	3
Gillespie Field ATCT, El Cajon, Calif.	1	1	1	1
Hayward ATCT, Hayward, Calif.	1	1	1	1
High Desert TRACON, Edwards AFB, Calif.	2	2	3	2

Terminal Air Traffic Control Facilities	Controller Loss Estimates			
Facility Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
La Verne Brackett ATCT, La Verne, Calif.	1	1	1	0
Livermore ATCT, Livermore, Calif.	0	0	0	1
Long Beach ATCT, Long Beach, Calif.	2	2	2	2
Los Angeles Intl. ATCT, Los Angeles, Calif.	2	3	3	3
Monterey Peninsula ATCT, Monterey, Calif.	0	0	0	0
Napa County ATCT, Napa, Calif.	0	1	1	1
Northern California TRACON, Sacramento, Calif.	11	14	13	12
Oakland ATCT, Oakland, Calif.	3	2	2	2
Ontario Intl. ATCT, Ontario, Calif.	1	1	1	1
Orange County ATCT, Costa Mesa, Calif.	1	1	2	2
Palm Springs ATCT, Palm Springs, Calif.	1	1	2	2
Palo Alto ATCT, Palo Alto, Calif.	1	1	1	1
Reid Hillview ATCT, San Jose, Calif.	1	1	1	1
Sacramento Metro. ATCT, Sacramento, Calif.	1	1	1	1
San Diego ATCT, San Diego, Calif.	1	2	2	1
San Diego Montgomery ATCT, San Diego, Calif.	1	1	1	1
San Francisco Intl. ATCT, San Francisco, Calif.	1	2	2	2
San Jose Intl. ATCT, San Jose, Calif.	1	1	1	1
Santa Barbara Municipal ATCT, Santa Barbara, Calif.	2	2	2	2
Santa Monica Municipal ATCT, Santa Monica, Calif.	1	2	1	1
Sonoma County ATCT, Santa Rosa, Calif.	0	0	0	0
Southern California TRACON, San Diego, Calif.	14	20	20	18
Stockton ATCT, Stockton, Calif.	1	0	0	0
Torrance Municipal ATCT, Torrance, Calif.	1	1	1	1
Van Nuys ATCT, Van Nuys, Calif.	1	1	1	1
Aspen Pitkin County ATCT, Aspen, Colo.	1	1	1	1
Centennial ATCT, Arapahoe County, Colo.	1	1	1	1
Colorado Springs ATCT, Colorado Springs, Colo.	2	2	3	3
Denver Intl. ATCT, Denver, Colo.	2	3	3	3
Denver TRACON, Watkins, Colo.	4	6	5	4
Jefferson County ATCT, Broomfield, Colo.	1	1	1	1
Pueblo Memorial TRACAB, Pueblo, Colo.	1	1	1	1
Bradley Intl. ATCT, Windsor Locks, Conn.	1	1	2	1

Terminal Air Trafftic Control Facilities	Controller Loss Estimates			
Facility Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Yankee TRACON, Windsor Locks, Conn.	2	4	3	2
Greater Wilmington ATCT, New Castle, Del.	1	1	1	1
Central Florida Regional ATCT, Sanford, Fla.	1	1	1	1
Daytona Beach ATCT, Daytona Beach, Fla.	3	6	6	6
Fort Lauderdale ATCT, Fort Lauderdale, Fla.	2	2	2	2
Fort Lauderdale Executive ATCT, Fort Lauderdale, Fla.	1	1	1	1
Fort Myers ATCT, Fort Myers, Fla.	1	2	2	1
Fort Pierce ATCT, Fort Pierce, Fla.	1	1	1	1
Jacksonville Intl. ATCT, Jacksonville, Fla.	4	6	5	4
Miami Intl. ATCT, Miami, Fla.	4	6	7	7
Orlando Executive ATCT, Orlando, Fla.	1	1	1	1
Orlando Intl. ATCT, Orlando, Fla.	6	9	8	7
Palm Beach Intl. ATCT, West Palm Beach, Fla.	3	3	4	4
Pensacola Regional ATCT, Pensacola, Fla.	1	1	1	1
Pensacola TRACON, Pensacola, Fla.	2	2	2	2
Sarasota ATCT, Sarasota, Fla.	2	1	1	1
St. Petersburg ATCT, St. Petersburg, Fla.	1	1	1	1
Tallahassee ATCT, Tallahassee, Fla.	2	2	2	1
Tamiami ATCT, Miami, Fla.	0	1	0	1
Tampa Intl. ATCT, Miami Fla.	5	7	6	7
Vero Beach Municipal ATCT, Vero Beach, Fla.	1	0	1	1
Atlanta Combined TRACON, Peachtree, Ga.	5	7	6	7
Atlanta Hartsfield ATCT, Atlanta, Ga.	3	4	4	4
Augusta ATCT, Augusta, Ga.	0	1	1	1
Columbus Metro. ATCT, Columbus, Ga.	1	0	1	1
DeKalb Peachtree ATCT, Chamblee, Ga.	0	1	1	1
Savannah Intl. ATCT, Savannah, Ga.	1	1	1	1
Hilo ATCT, Hilo, Hawaii	1	1	1	1
Honolulu Control Facility, Honolulu, Hawaii	6	8	7	6
Kahului ATCT, Kahului, Hawaii	0	1	1	1
Boise ATCT, Boise, Idaho	1	1	2	2
Twin Falls ATCT, Twin Falls, Idaho	0	0	0	0
Aurora Municipal ATCT, Sugar Grove, Ill.	1	1	1	1

Terminal Air Traffic Control Facilities	Controller Loss Estimates			
Facility Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Champaign ATCT, Champaign, Ill.	1	1	1	1
Chicago Midway ATCT, Chicago, Ill.	2	2	2	2
Chicago O'Hare Intl. ATCT, Chicago, Ill.	4	5	5	5
Chicago TRACON, Chicago, Ill.	6	8	8	8
Dupage ATCT, West Chicago, Ill.	1	1	1	1
East St. Louis ATCT, East St. Louis, Ill.	1	1	1	1
Greater Peoria ATCT, Peoria, Ill.	1	2	1	2
Moline Quad City ATCT, Milan, Ill.	1	2	1	1
Palwaukee ATCT, Wheeling, Ill.	1	1	1	1
Rockford ATCT, Rockford, Ill.	2	2	2	1
Springfield ATCT, Springfield, Ill.	0	0	0	1
Evansville Dress Regional ATCT, Evansville, Ind.	1	1	1	1
Fort Wayne Municipal ATCT, Fort Wayne, Ind.	2	2	2	3
Indianapolis Intl. ATCT, Indianapolis, Ind.	3	4	4	3
South Bend ATCT, South Bend, Ind.	1	2	2	2
Terre Haute ATCT, Terre Haute, Ind.	3	2	2	1
West Lafayette ATCT, West Lafayette, Ind.	1	1	1	0
Cedar Rapids Municipal ATCT, Cedar Rapids, Iowa	1	1	1	1
Des Moines Municipal ATCT, Des Moines, Iowa	1	2	1	1
Sioux City ATCT, Sioux City, Iowa	0	0	1	1
Waterloo Municipal ATCT, Waterloo, Iowa	1	1	1	1
Wichita Midcontinent ATCT, Wichita, Kan.	1	1	2	2
Greater Cincinnati Intl. ATCT, Hebron, Ky.	4	5	5	6
Lexington ATCT, Lexington, Ky.	2	2	1	2
Louisville Bowman ATCT, Louisville, Ky.	1	1	1	1
Louisville Stanford ATCT, Louisville, Ky.	3	3	3	2
Baton Rouge Metro. ATCT, Baton Rouge, La.	1	2	2	1
Lafayette Regional ATCT, Lafayette, La.	0	1	1	1
Lake Charles TRACAB, Lake Charles, La.	1	0	1	1
Lakefront ATCT, New Orleans, La.	0	1	0	0
Monroe Regional TRACAB, Monroe, La.	1	1	1	1
New Orleans Moisant ATCT, New Orleans, La.	2	1	2	2
Shreveport ATCT, Shreveport, La.	1	1	1	1

Terminal Air Traffic Control Facilities	Controller Loss Estimates			
Facility Name	FY 2006	FY 2007	FY 2008	FY 2009
Bangor Intl. ATCT, Bangor, Maine	1	2	2	2
Portland Intl. ATCT, Portland, Maine	1	2	2	2
Kwajalein ATCT, Kwajalein Atoll, Marshall Islands	0	0	0	0
Andrews AFB ATCT, Camp Springs, Md.	1	1	1	0
Baltimore Intl. ATCT/TRACON, Glen Burnie, Md.	1	1	2	1
Bedford ATCT, Bedford, Mass.	1	1	1	1
Boston Logan ATCT, Boston, Mass.	2	3	3	3
Boston TRACON, Boston, Mass.	2	4	3	4
Cape TRACON, Falmouth, Mass.	2	2	2	2
Nantucket ATCT, Nantucket, Mass.	1	1	1	0
Ann Arbor Municipal ATCT, Ann Arbor, Mich.	1	1	1	1
Detroit Metro. ATCT, Romulus, Mich.	2	2	2	2
Detroit TRACON, Romulus, Mich.	3	4	4	5
Flint ATCT, Flint, Mich.	1	1	1	1
Grand Rapids ATCT, Grand Rapids, Mich.	2	2	2	1
Kalamazoo County ATCT, Kalamazoo, Mich.	1	2	2	2
Lansing ATCT, Clinton County, Mich.	1	1	1	1
Muskegon County ATCT, Muskegon, Mich.	1	2	2	1
Pontiac ATCT, Oakland County, Mich.	1	1	1	1
Saginaw ATCT, Freeland, Mich.	1	1	1	1
Traverse City ATCT, Traverse City, Mich.	1	1	1	1
Willow Run ATCT, Belleville, Mich.	1	1	1	1
Duluth Intl. ATCT, Duluth, Minn.	1	1	1	1
Flying Cloud ATCT, Eden Prairie, Minn.	1	1	1	1
Minneapolis Crystal ATCT, Crystal, Minn.	1	1	0	0
Minneapolis St. Paul ATCT, Minneapolis, Minn.	2	3	3	3
Minneapolis TRACON, Minneapolis, Minn.	2	4	4	4
Rochester Municipal TRACAB, Rochester, Minn.	1	1	1	1
St. Paul Downtown ATCT, St. Paul, Minn.	1	1	1	1
Gulfport Biloxi Regional ATCT, Gulfport, Miss.	1	1	1	1
Jackson Intl. ATCT, Jackson, Miss.	1	2	1	1
Meridian NAS RATCF, Meridian, Miss.	1	1	1	1
Kansas City Downtown ATCT, Kansas City, Mo.	1	1	1	1

Terminal Air Traffic Control Facilities	Controller Loss Estimates			
Facility Name	FY 2006	FY 2007	FY 2008	FY 2009
Kansas City Intl. ATCT, Kansas City, Mo.	3	4	4	4
Spirit of St. Louis ATCT, Chesterfield, Mo.	0	1	1	1
Springfield Regional ATCT, Springfield, Mo.	1	2	1	1
St. Louis Lambert Intl. ATCT, Bridgeton, Mo.	1	2	2	2
St. Louis TRACON, Bridgeton, Mo.	5	5	5	5
Billings Intl. ATCT, Billings, Mont.	1	2	2	2
Great Falls Intl. ATCT, Helena, Mont.	1	1	1	1
Helena Regional ATCT, Helena, Mont.	1	1	1	1
Lincoln Municipal ATCT, Lincoln, Neb.	1	1	1	1
Omaha ATCT, Omaha, Neb.	0	0	0	0
Omaha TRACON, Bellevue, Neb.	1	1	1	1
Las Vegas Intl. ATCT, Las Vegas, Nev.	2	3	4	3
Las Vegas TRACON, Las Vegas, Nev.	2	3	3	3
North Las Vegas ATCT, Las Vegans, Nev.	1	1	1	1
Reno ATCT, Reno, Nev.	2	2	2	2
Manchester ATCT, Manchester, N.H.	1	1	1	1
Atlantic City ATCT, Atlantic City, N.J.	2	2	2	2
Caldwell ATCT, Fairfield, N.J.	1	1	0	1
Morristown Municipal ATCT, Morristown, N.J.	0	1	1	1
Newark Intl. ATCT, Newark, N.J.	2	2	2	2
Teterboro ATCT, Teterboro, N.J.	0	0	0	0
Albuquerque ATCT, Albuquerque, N.M.	2	3	3	3
Roswell ATCT, Roswell, N.M.	1	1	1	1
Albany County ATCT, Albany, N.Y.	1	2	2	2
Edwin A. Link ATCT, Binghamton, N.Y.	1	0	1	1
Elmira ATCT, Elmira, N.Y.	0	0	1	1
Greater Buffalo Intl. ATCT, Buffalo, N.Y.	3	3	3	4
Griffiss AFB ATCT, Rome, N.Y.	1	2	1	1
John F. Kennedy Intl. ATCT, Queens, N.Y.	2	3	3	3
LaGuardia ATCT, Queens, N.Y.	1	1	1	1
Long Island Macarthur ATCT, Islip, N.Y.	2	2	2	2
New York TRACON, Garden City, N.Y.	11	14	13	12
Poughkeepsie ATCT, Wappingers Falls, N.Y.	1	1	1	1

Terminal Air Traffic Control Facilities	Controller Loss Estimates			
Facility Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Republic ATCT, East Farmingdale, N.Y.	2	1	1	1
Rochester Monroe County ATCT, Rochester, N.Y.	1	1	2	1
Syracuse Intl. ATCT, Syracuse, N.Y.	2	3	3	2
Westchester County ATCT, White Plains, N.Y.	0	1	0	0
Asheville Regional ATCT, Asheville, N.C.	1	1	1	1
Charlotte ATCT, Charlotte, N.C.	4	7	6	6
Fayettesville Municipal ATCT, Fayettesville, N.C.	1	1	2	1
Greensboro ATCT, Greensboro, N.C.	1	1	1	1
Raleigh Durham ATCT, Raleigh, N.C.	2	4	4	4
Wilmington ATCT, Wilmington, N.C.	1	1	2	2
Bismarck TRACAB, Bismarck, N.D.	1	1	1	1
Fargo ATCT, Fargo, N.D.	1	1	1	1
Grand Forks ATCT, Grand Forks, N.D.	0	1	1	1
Akron Canton Regional ATCT, North Canton, Ohio	2	2	1	1
Cleveland Hopkins ATCT, Cleveland, Ohio	3	5	5	4
Dayton Intl ATCT, Dayton, Ohio	3	2	3	3
Mansfield Municipal ATCT, Mansfield, Ohio	2	1	1	1
Port Columbus Intl. ATCT, Columbus, Ohio	4	5	4	5
Toledo Express ATCT, Swanton, Ohio	1	2	2	1
Youngstown Municipal ATCT, Vienna, Ohio	2	2	2	2
Oklahoma City ATCT, Oklahoma City, Okla.	2	3	4	3
Tulsa Intl. ATCT, Tulsa, Okla.	1	2	3	2
Tulsa Jones ATCT, Tulsa, Okla.	1	1	1	1
Eugene ATCT, Eugene, Ore.	1	1	2	2
Portland Hillsboro ATCT, Hillsboro, Ore.	1	1	1	1
Portland Intl. ATCT, Portland, Ore.	1	1	2	2
Portland TRACON, Portland, Ore.	2	2	2	2
Allegheny County ATCT, West Mifflin, Pa.	1	1	1	0
Allentown ATCT, Allentown, Pa.	1	2	2	2
Erie Intl. TRACAB, Millcreek Township, Pa.	1	2	2	2
Harrisburg Intl. Airport ATCT, Middletown, Pa.	1	2	1	1
Northeast Philadelphia ATCT, Philadelphia, Pa.	1	1	1	2
Philadelphia Intl. ATCT, Tinicum, Pa.	4	6	6	6

Terminal Air Traffic Control Facilities	Controller Loss Estimates			
Facility Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Pittsburgh Intl. ATCT, Coraopolis, Pa.	3	5	5	5
Reading Municipal ATCT, Reading, Pa.	2	1	2	1
Wilkes-Barre ATCT, Avoca, Pa.	1	2	2	1
San Juan Intl. ATCT, San Juan, Puerto Rico	0	0	1	1
Providence ATCT, Warwick, R.I.	3	5	4	4
Charleston Intl. ATCT, Charleston, S.C.	2	1	2	2
Columbia Metro. ATCT, West Columbia, S.C.	2	2	2	2
Florence City County ATCT, Florence, S.C.	0	1	1	1
Greer ATCT, Greer, S.C.	0	1	1	1
Myrtle Beach ATCT, Myrtle Beach, S.C.	1	0	1	1
Sioux Falls ATCT, Sioux Falls, S.D.	0	0	1	1
Chattanooga ATCT, Chattanooga, Tenn.	1	2	2	2
Knoxville ATCT, Knoxville, Tenn.	2	3	2	1
Memphis Intl. ATCT, Memphis, Tenn.	2	3	4	4
Nashville Metro. ATCT, Nashville, Tenn.	3	4	5	5
Tri-City Regional ATCT, Bristol, Tenn.	1	1	1	2
Abilene Dyess RAPCON, Abilene, Texas	2	1	1	1
Addison ATCT, Addison, Texas	1	1	1	1
Amarillo ATCT, Amarillo, Texas	1	1	1	2
Austin ATCT, Austin, Texas	3	4	4	4
Corpus Christi ATCT, Corpus Christi, Texas	3	4	3	3
Dallas Fort Worth ATCT, Fort Worth, Texas	3	4	4	5
Dallas Fort Worth TRACON, Fort Worth, Texas	6	9	10	9
Dallas Love Field ATCT, Dallas, Texas	2	3	3	3
El Paso Intl. ATCT, El Paso, Texas	1	1	1	1
Fort Worth Alliance ATCT, Fort Worth, Texas	1	1	1	1
Fort Worth Meacham ATCT, Fort Worth, Texas	1	1	2	1
Gregg County TRACAB, Longview, Texas	1	1	1	1
Houston Hooks ATCT, Tomball, Texas	1	1	1	1
Houston Intl. ATCT, Houston, Texas	2	2	3	3
Houston TRACON/ATCT, Houston, Texas	5	5	5	5
Jefferson County ATCT, Beaumont, Texas	1	1	1	0
Lubbock ATCT, Lubbock, Texas	1	1	1	2

Terminal Air Traffic Control Facilities	Controller Loss Estimates			
Facility Name	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
Midland Regional ATCT, Midland, Texas	1	1	2	2
San Antonio ATCT, San Antonio, Texas	4	5	6	5
Waco ATCT, Waco, Texas	0	1	1	1
William P. Hobby ATCT, Houston, Texas	0	1	1	1
Salt Lake City Intl. ATCT, Salt Lake City, Utah	2	3	3	3
Salt Lake City TRACON, Salt Lake City, Utah	2	2	2	2
Burlington Intl. ATCT, Burlington, Vt.	1	2	2	2
St. Thomas ATCT, St. Thomas, Virgin Islands	0	1	0	0
Dulles Intl. ATCT, Loudon County, Va.	2	2	2	2
Manassas ATCT, Manassas, Va.	0	0	1	1
Norfolk Intl. ATCT, Norfolk, Va.	2	4	3	3
Patrick Henry Intl. ATCT, Norfolk, Va.	1	1	1	1
Potomac TRACON, Prince William County, Va.	9	12	11	11
Richmond Intl. ATCT, Sandston, Va.	1	1	1	1
Roanoake Regional ATCT, Roanoke, Va.	3	4	4	3
Washington National ATCT, Arlington, Va.	2	2	2	2
Boeing Field ATCT, Seattle, Wash.	1	1	2	1
Everett ATCT, Everett, Wash.	1	1	1	1
Grant County ATCT, Moses Lake, Wash.	1	1	1	1
Seattle Tacoma Intl. ATCT, Seattle, Wash.	3	3	3	3
Seattle Tacoma TRACON, Seattle, Wash.	5	5	5	4
Spokane Intl. ATCT, Spokane Intl. Airport, Wash.	2	2	2	2
Tri-Cities ATCT, Pasco, Wash.	1	1	1	1
Charleston ATCT, Charleston, W. Va.	1	1	1	2
Clarksburg ATCT, Clarksburg, W. Va.	1	1	1	1
Huntington ATCT, Huntington, W. Va.	1	1	1	1
Green Bay ATCT, Green Bay, Wis.	2	2	2	3
Madison ATCT, Madison, Wis.	1	2	1	1
Milwaukee Mitchell ATCT, Milwaukee, Wis.	2	4	4	4
Casper ATCT, Casper, Wyo.	0	0	1	1
Total:	467	591	588	571

Total loss estimates may not match those in Chapter 4 due to rounding.