FAA
Air Traffic Organization

A Plan for the Future

10-Year Strategy for the Air Traffic Control Workforce 2009-2018

Table of Contents

Executive Summary

Safety is the top priority of the Federal Aviation Administration (FAA) as it manages America's National Airspace System (NAS). Thanks to the expertise of people and the support of technology, tens of thousands of aircraft are guided safely and expeditiously, every day, through the NAS to their destinations.

Workload

An important part of managing the NAS involves actively aligning resources with demand. The FAA "staffs to traffic." This provides the FAA the flexibility to match the number of air traffic controllers at its facilities with traffic volume and workload. The FAA's staffing needs are dynamic due to the dynamic nature of workload and traffic volume.

Traffic

In the past decade, system-wide air traffic demand has declined significantly. Since 2000, the peak year for traffic, volume has declined by 17 percent and overall traffic volume is not expected to return to year 2000 levels in the near term. In contrast, system-wide controller headcount is at the same level as the year 2000. We continue to hire in advance of need because this allows sufficient training time for our new hires that will replace retiring controllers. On a per-operation basis, the FAA has more fully certified controllers on board today than in 2000.

While the FAA is managing today's air traffic, we must also integrate new technologies into air traffic operations. As the air traffic system evolves into a more automated future, the FAA is working diligently to ensure well-trained controllers continue to uphold the highest safety standards.

Retirements

Fiscal year 2008 was expected to be a high year for controller retirements, but they were actually below projections, and lower than the previous year. In addition, current year retirements are trending even lower than last year. The FAA carefully tracks actual retirements and projects future losses to make sure its recruitment and training keep pace.

Hiring and Training

The agency continues to be proactive in its hiring and training programs and we are on target to meet our future requirements. In the last three years, the FAA has hired more than 5,500 new air traffic controllers. The Department of Transportation's Inspector General recently stated that the FAA has "done what I can only say is a remarkable job in hiring replacements for controllers who have decided to leave."

As the agency brings thousands of new air traffic controllers on board, the training of these new employees continues to be closely monitored at all facilities. The FAA will also continue to take action at the facility level should adjustments become necessary due to changes in traffic volume, unanticipated retirements or other attrition.

As the FAA continues to bring these new employees on board, we must carefully manage the process to ensure that our trainees progress in a timely manner and are hired in the places we need them. In FY 2008, the agency implemented a controller credentialing program as part of the overall safety oversight function. For the first time, almost 15,000 credentials were issued for air traffic controllers. Credentialing helps ensure continuous operational safety through regulated standards for training, testing, currency and proficiency.

The FAA's national trainee percentage has averaged 26 percent over the last 40 years, but has ranged from 15 to 50 percent. With the large number of new hires since 2005, the national average is back to 26 percent. While this figure may be higher at some individual facilities, the FAA reviews this information with other indicators so we can manage training and daily operations at each facility.

While the agency is focused on a small subset of facilities with particular staffing needs, the FAA achieved critical hiring and training milestones in FY 2008.

Hiring Milestones

- Exceeded controller hiring targets for FY 2008, enabling the FAA's controller workforce to reach 15,381. Of the 2,196 controllers hired in FY 2008, 823 were graduates of Collegiate Training Initiative (CTI) schools while an additional 720 had previous air traffic control experience.

- Expanded Pre-Employment Processing Centers (PEPCs), where final interviews are conducted and medical and security screenings performed, allowing the FAA to get qualified applicants into training at a faster pace.

Training Milestones

- Awarded a contract for the Air Traffic Control Optimum Training Solution (ATCOTS) to Raytheon. ATCOTS will improve training times, both at the FAA Academy and when developmental controllers get to their facilities.

- Added eight new CTI schools, which have provided more qualified controller applicants for the FAA. Thirty-one colleges and universities are now accredited to teach air traffic control as part of a college degree.

Ongoing hiring and training initiatives, as well as increased simulator use, are helping the FAA meet its goals.

This annual update to the FAA's original 2004 controller workforce plan reflects changes in traffic forecasts, retirements and other factors. In addition, this update provides the authorized staffing ranges for all of the FAA's air traffic control facilities and actual on-board controllers as of September 27, 2008.

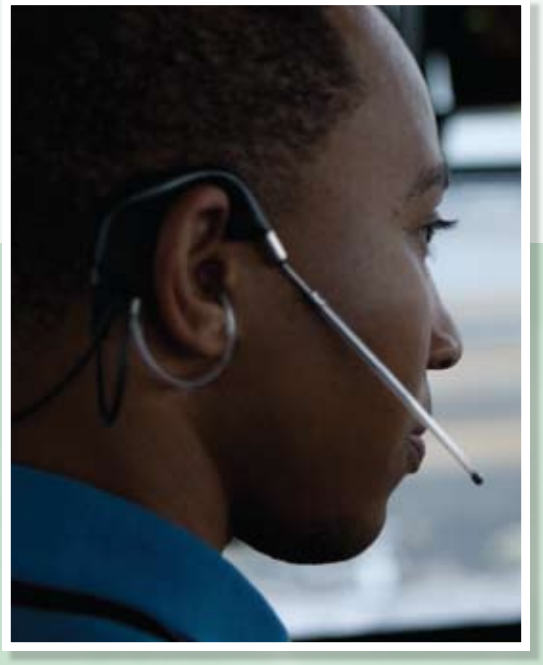
The FAA's goal is to ensure that the agency has the flexibility to match the number of controllers at each facility with traffic volume and workload. Staffing to traffic is just one of the ways we manage America's National Airspace System.

Chapter 1

Introduction

Staffing to Traffic

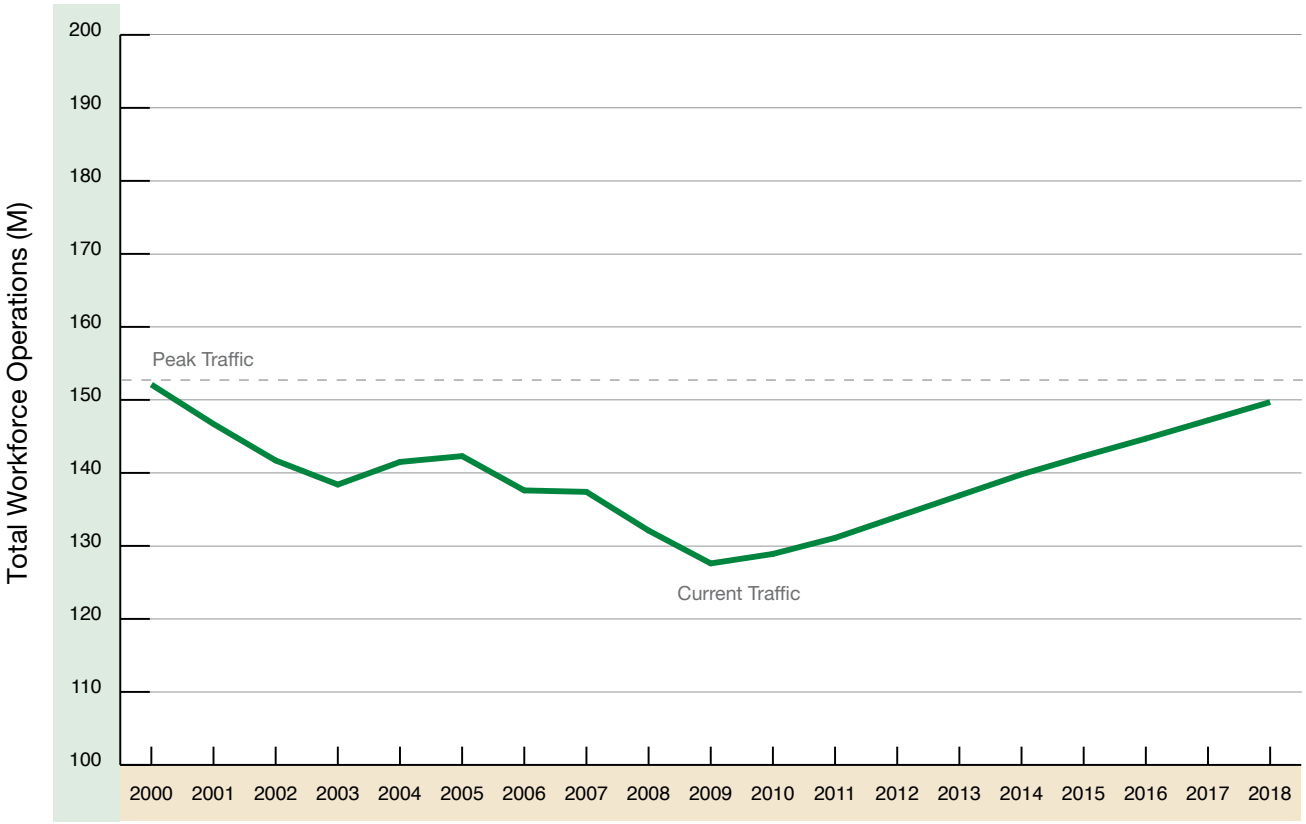
Air traffic controller workload and traffic volume are dynamic and so are staffing needs. One of the primary factors affecting controller workload is the demand created by air traffic. This means that an adequate number of controllers must be available to cover the peaks in traffic caused by weather and daily, weekly or seasonal variations. FAA continues to "staff to traffic." This practice exercises the flexibility to match the number of controllers at each facility with traffic volume and workload.



A controller works traffic at Ronald Reagan Washington National Airport. Photo: ATO

System-wide, traffic has declined by about 17 percent since 2000. Figure 1.1 shows that traffic volume is not expected to return to peak levels in the near term.

Figure 1.1 Traffic Forecast



Total Workforce Operations = Tower + TRACON + Aircraft Handled by En Route Centers

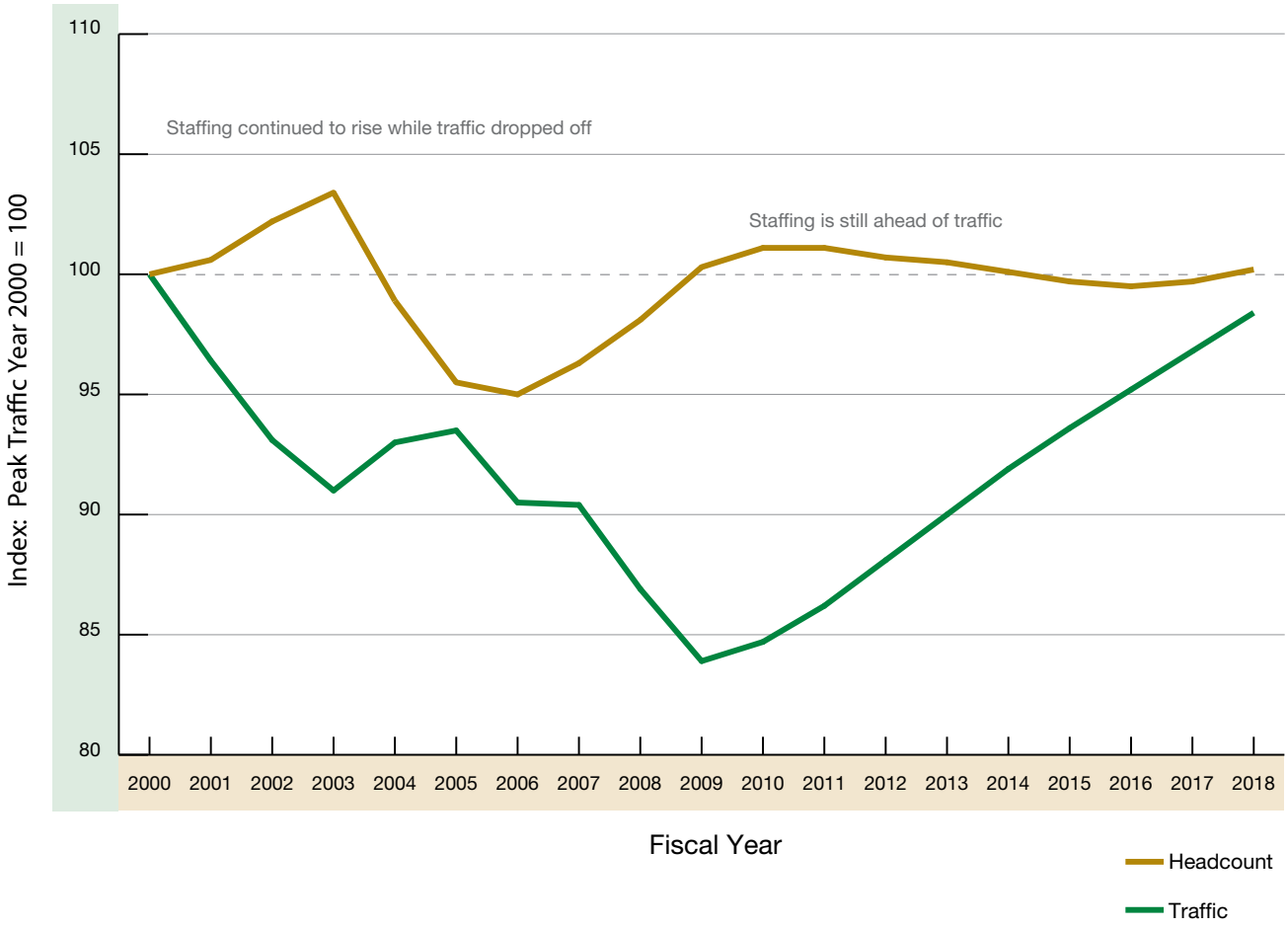
Despite the decline in traffic, “staffing to traffic” also requires us to anticipate controller attrition, so that we plan and hire new controllers in advance of need. This is one reason staffing remains ahead of traffic.

The chart below shows system-wide controller staffing and traffic, indexed from 2000 and projected through 2018. Despite the fall off in traffic since the peak in 2000, total headcount is back at the same level as 2000.

The FAA's challenge is to make sure newly hired controllers are effectively placed in the facilities where we will need them.

Figure 1.2 System-wide Traffic and Total Controller Trends

Indexed from 2000



Meeting the Challenge

The FAA has demonstrated over the past several years that it can effectively manage the long predicted wave of expected controller retirements from the controllers that were hired as a result of the controller strike of 1981. For example, in 2005, the FAA began hiring again in anticipation of the retirements expected this decade. That year, the agency began hiring more controllers than the number that retired each year, in order to make sure enough trained controllers were on board when the retirement wave began to swell.

As veteran controllers retire, controllers hired since 2005 are completing training and are replacing retirees as Certified Professional Controllers (CPCs). Similarly, controllers hired in the 1990s may move from mid-level facilities into the higher-paying, higher-workload facilities. The transition through the ranks will continue to provide increased career growth opportunities for the workforce.

The current hiring plan has been designed to phase-in new hires as needed. This will avoid another major spike in retirement eligibility like the current one experienced as a result of the 1981 controller strike.

Systematically replacing air traffic controllers, where we need them, as well as ensuring the knowledge transfer required to maintain a safe NAS, is the focus of this plan.

Chapter 2

Facilities and Services

America's NAS is a network of people, procedures and equipment. Pilots, controllers, technicians, engineers, inspectors and supervisors work together to make sure millions of passengers move through the airspace safely every day.

More than 15,000 federal air traffic controllers in airport traffic control towers, terminal radar approach control facilities and air route traffic control centers guide pilots through the system. An additional 1,250 civilian contract controllers, and more than 9,000 military controllers, also provide air traffic services for the NAS.

These controllers provide air navigation services to aircraft in domestic airspace and in 24.6 million square miles of international oceanic airspace delegated to the United States by the International Civil Aviation Organization.

Terminal and En Route Air Traffic Services

Controller teams in airport towers and radar approach control facilities watch over all planes traveling through the "terminal" airspace. Their main responsibility is to organize the flow of aircraft into and out of an airport. Relying on visual observation and radar, they closely monitor each plane to ensure a safe distance between all aircraft and to guide pilots on the ground during takeoff and landing. In addition, controllers keep pilots informed about changes in weather conditions.

Once airborne, the plane quickly departs the terminal airspace surrounding the airport. At this point, controllers in the radar approach control notify "en route" controllers who will next take charge in the vast airspace between airports.

There are 21 air route traffic control centers located around the country. Each en route center is assigned a block of airspace, which contains many defined routes. Airplanes fly along these designated routes to reach their destination.

The en route airspace is further divided into smaller, more manageable blocks of airspace called sectors. A sector is operated by a sector team, consisting of one to three controllers, depending on traffic.

En route controllers use radar to ensure that a safe distance is maintained between aircraft. En route controllers also provide weather advisory and traffic information to aircraft under their control. As the aircraft nears its destination, en route controllers transition the aircraft to the terminal environment, where terminal controllers guide the aircraft to a safe landing.

FAA Air Traffic Control Facilities

As of October 1, 2008, the FAA operates 314 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. More than one type of facility may be collocated in the same building.

Table 2.1 Types and Number of FAA Air Traffic Control Facilities

Type	Name	Number of Facilities	Description
1	Tower Without Radar	1	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	134	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	4	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	126	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 percent 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	1	The Air Traffic Control System Command Center is responsible for the strategic aspects of the NAS. The Command Center modifies traffic flow and rates when congestion, weather, equipment outages, runway closures, or other operational conditions affect the NAS.

Each type of FAA facility has several classification levels that are based on numerous factors, including traffic volume, complexity and sustainability of traffic. In an effort to account for changes in traffic and the effect of investments that reduce complexity, as well as to compensate controllers at facilities that work the highest and most complex volume of traffic, facilities are monitored continuously for downward and upward trends.

Table 2.2 shows the facility classification actions for the past three fiscal years.

Table 2.2 Facility Reclassifications

Action	FY 2006	FY 2007	FY 2008
Reclassified Higher	6	2	2
Reclassified Lower	60	17	0

Chapter 3

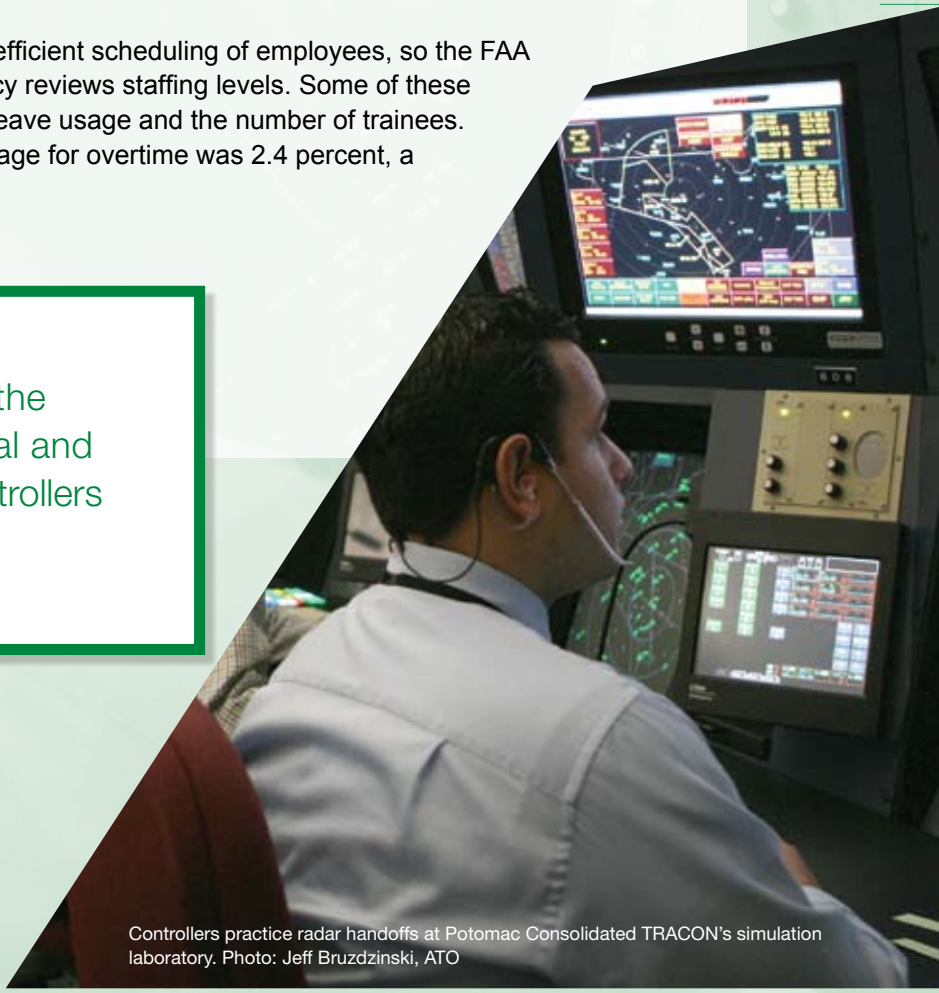
Staffing Requirements

The FAA issued the first comprehensive controller workforce plan in December 2004. *A Plan for the Future: A 10-Year Strategy for the Controller Workforce* detailed the resources needed to keep the controller workforce sufficiently staffed. This report is updated each year to reflect changes in traffic forecasts, retirements and other factors.

"Staffing to traffic" requires the FAA to consider many facility-specific factors. They include traffic volumes based on FAA forecasts and hours of operation, as well as individualized forecasts of controller retirements and other attrition losses. In addition, staffing at each location can be affected by unique facility requirements such as temporary airport runway construction, seasonal activity and the number of controllers currently in training. Staffing numbers will vary as the requirements of the location dictate.

Proper staffing levels also depend on the efficient scheduling of employees, so the FAA tracks a number of indicators as the agency reviews staffing levels. Some of these indicators are overtime, time on position, leave usage and the number of trainees. For example, in FY 2008, the system average for overtime was 2.4 percent, a slight increase from the FY 2007 level.

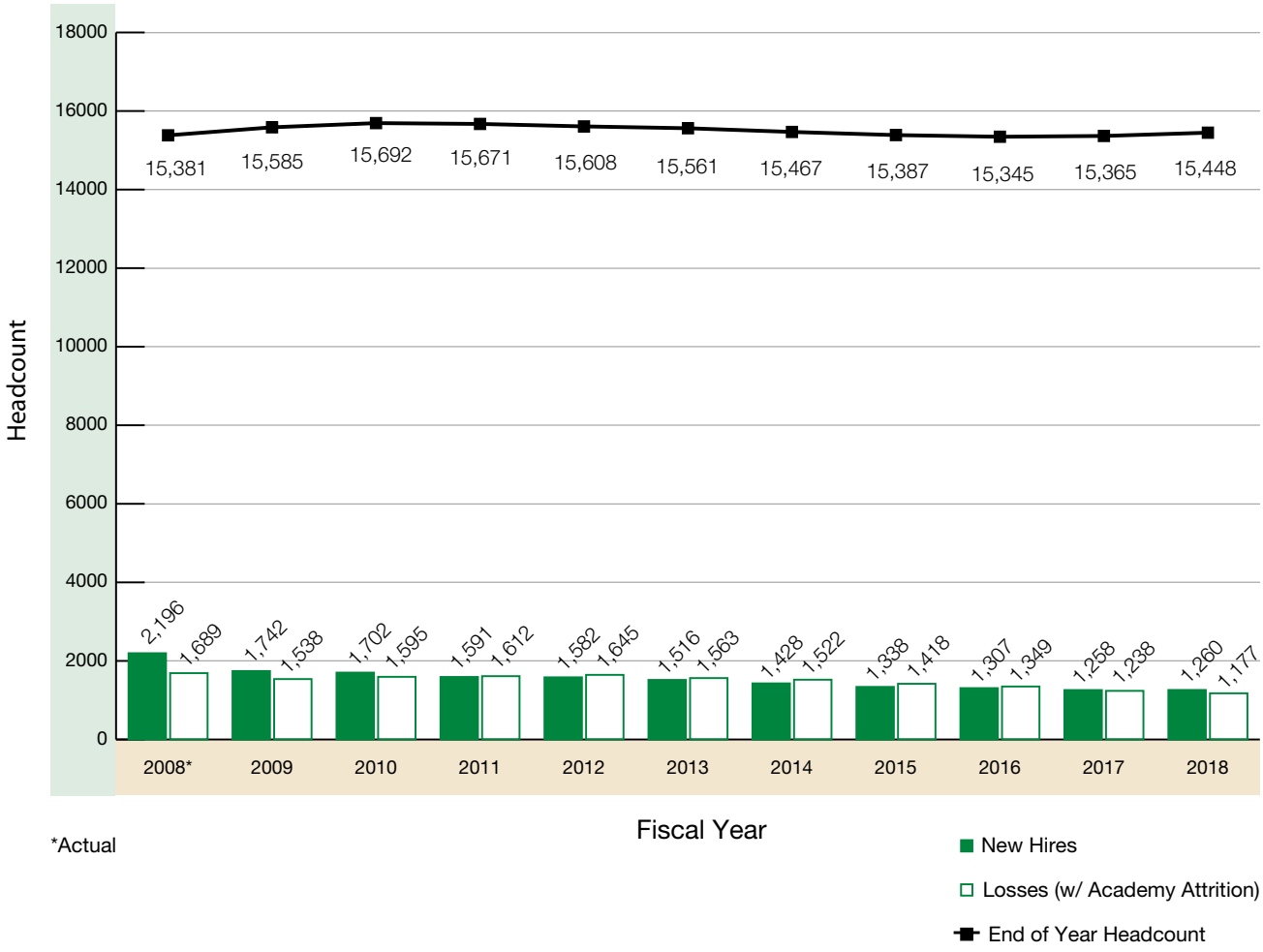
Trainees are defined as the number of developmental and certified professional controllers in training (CPC-IT)



Controllers practice radar handoffs at Potomac Consolidated TRACON's simulation laboratory. Photo: Jeff Bruzdzinski, ATO

Figure 3.1 shows the expected end-of-year headcount, losses and new hires by year through FY 2018. Figures for FY 2008 represent actual end-of-year headcount, losses and hires.

Figure 3.1 Projected Controller Workforce



NOTE: *Annual hires and losses are a relatively small proportion of the controller workforce.*

Authorized Staffing Ranges

Because traffic and other factors are dynamic at individual facilities, the FAA established facility-level controller staffing ranges. These ranges ensure that there are enough controllers to cover operating positions every day of the year. The process for establishing controller ranges by facility involves the use of several data sources. In developing these ranges, the FAA considered past facility performance, the performance of other similar facilities, productivity improvements, staffing standards and recommendations from the National Academy of Sciences, along with input from managers in the field, overtime trends, time-on position data and expected retirements and other losses. Each facility is reviewed to evaluate headcount, operational activity and productivity trends. Productivity trends are then compared with specific facility history as well as appropriate peer facilities. These peers are determined by the facility type and level.

FAA uses four data sources to calculate staffing ranges. Three are data driven, the other based on field judgement. They are:

1. Staffing standards – mathematical models that are used to relate controller workload and air traffic activity.

2. Past productivity – the headcount required to match the historical best productivity for the facility, based on its type. Productivity is defined as operations per controller. Facility productivity is calculated using operations and controller data from the years 1998 to 2008. If any annual point falls outside +/- 5 percent of the 1998 to 2008 average, it is thrown out. From the remaining data points, the highest productivity year is then used.

3. Service Unit input – including field manager input.

4. Peers (the headcount required to match peer group productivity) – like facilities are grouped by type and level and their corresponding productivity is calculated. If the facility being considered is consistently above or below the peer group, the peer group figure is not used in the overall average and analysis.

The average of this data is calculated, rounded to the nearest whole number, multiplied by plus 10 percent and minus 10 percent and then rounded again to determine the high and low points in the staffing range.

Exceptional situations, or outliers, are removed from the averages (for example, if a change in the type or level of a facility occurred over the period of evaluation). By analyzing the remaining data points, staffing ranges are generated for each facility.

The Agency's hiring and staffing plans consider all of these inputs as well as other considerations such as time on position and overtime. All of these data points are reviewed collectively and adjustments are made continuously to facility staffing plans during the year as necessary.

In this report we present authorized staffing ranges for each of the FAA's 314 air traffic control facilities across the country. Most facilities will be in a period of transition over the next few years and will be staffing with a combination of CPCs, Certified Professional Controllers in Training (CPC-IT) and a large number of position-qualified developmental controllers who are proficient or checked out in specific sectors or positions. Developmentals have always handled live traffic and, in fact, this is a requirement to maintain proficiency as they progress towards CPC status.

The authorized ranges for 2009 are published in Appendix A of this report.

Figure 3.2 Controller Staffing Range

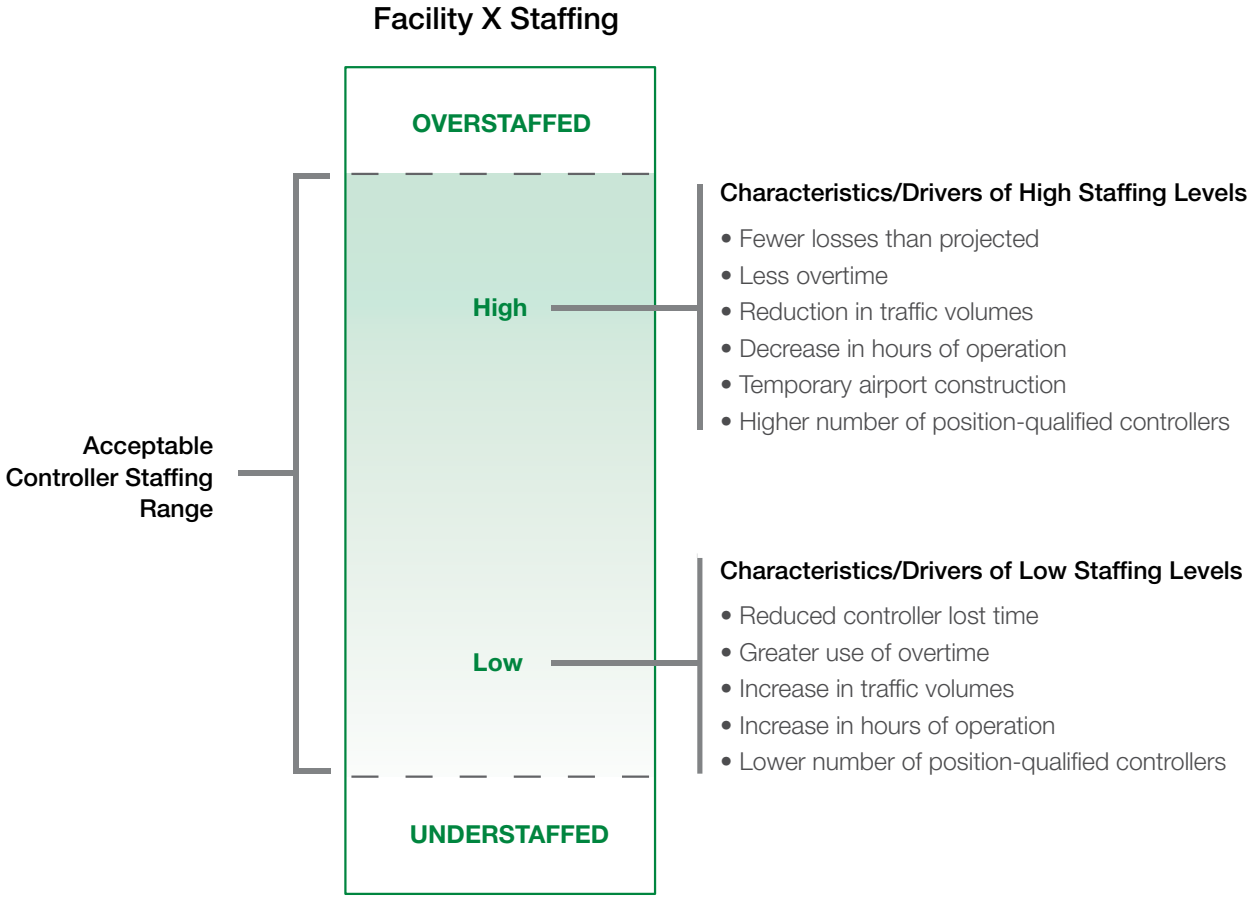


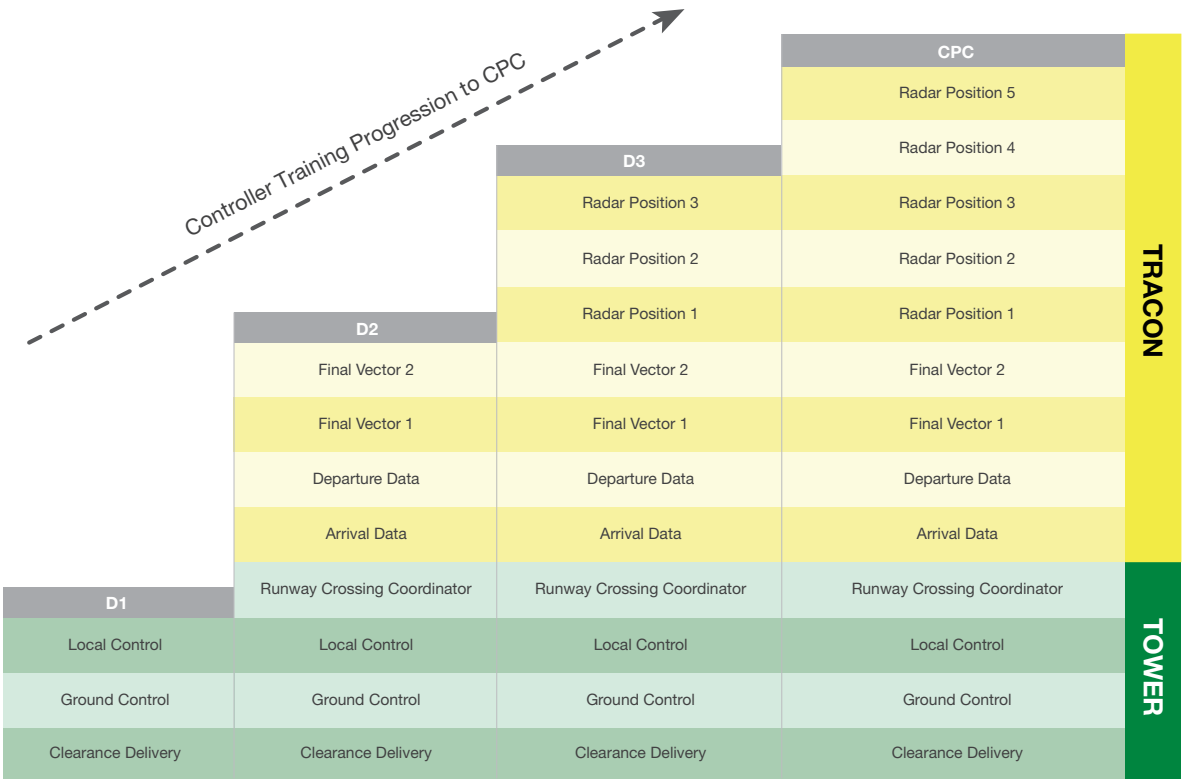
Figure 3.3 depicts an example of a large, Type 3 FAA facility. This Combination Radar Approach Control and Tower with Radar facility is one in which controllers work in the tower cab portion and in the radar room (also known as a TRACON). In order to be a CPC in these types of facilities, the controllers must be checked out on all positions in both the tower and the TRACON.

Trainees are awarded "D1" status (and the corresponding increase in pay) after being checked out on several positions. The levels of responsibility (and pay) gradually increase as trainees progress through training.

Once controllers are checked out at the D1 level, they can work several positions in the tower (Clearance Delivery, Ground Control and Local Control). Once checked out on the Runway Crossing Coordinator position, the controller would be considered tower certified, but still not a CPC, as CPCs in this type of facility must also be certified on positions in the radar room.

The levels of responsibility continue to increase as one progresses towards CPC status, but trainees can and do control traffic much earlier in the training process. Historically, the FAA has used these position-qualified controllers to staff operations and free up CPCs for more complex positions as well as to conduct training.

Figure 3.3 Controller Training Progression



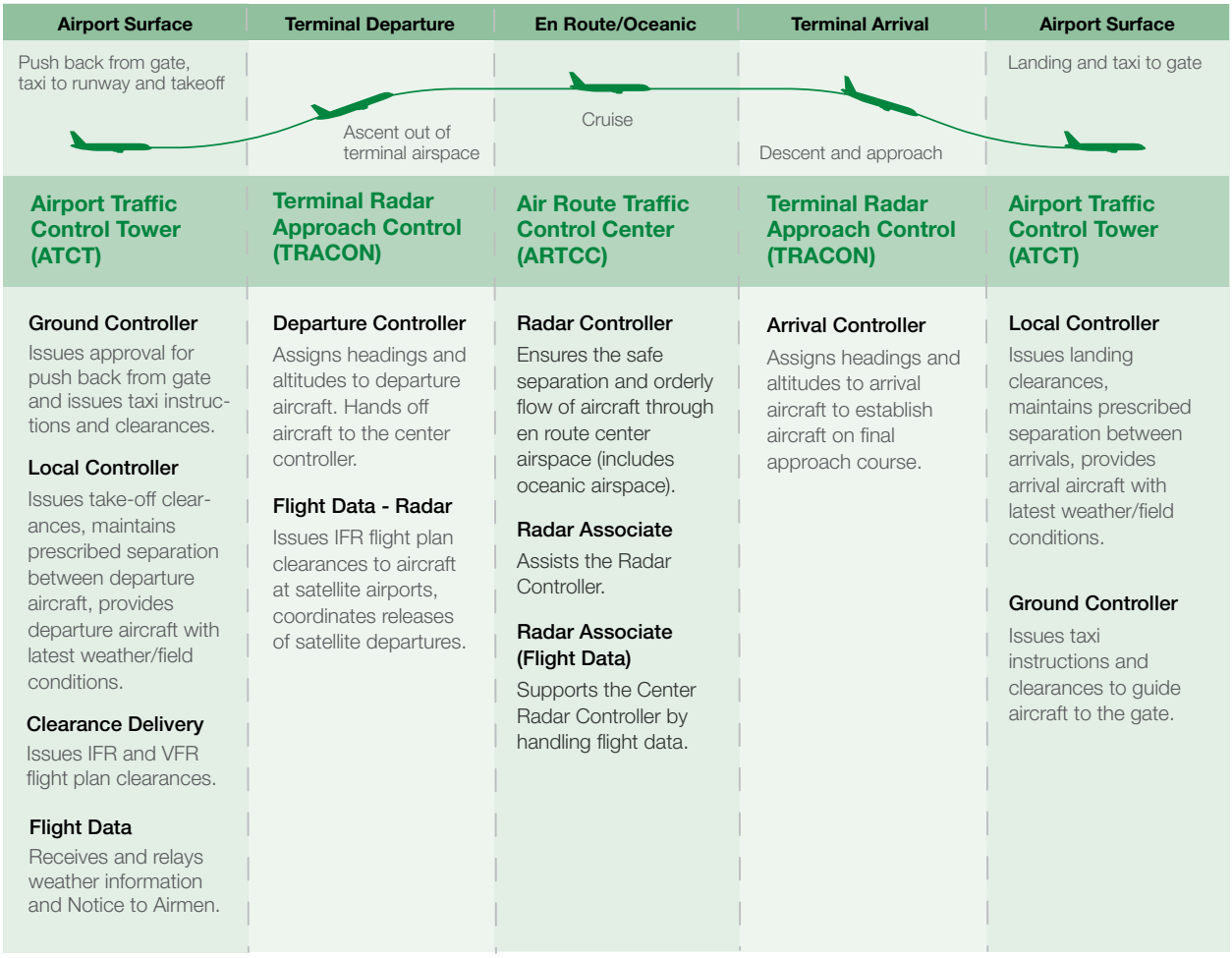
One key benefit of having the majority of the workforce checked out as a CPC is that it makes the job of scheduling much easier at the facility. CPCs can cover all positions in their assigned area, while position qualified developmentals require the manager to track who is qualified to work which positions independently.

Air Traffic Staffing Standard Review and Assessment

The FAA has used air traffic staffing standards to determine controller staffing levels since the 1970s. In 2005, the FAA began an air traffic staffing standard review and assessment with the expectation of developing staffing ranges at the facility level.

FAA facilities are currently identified and managed as either "terminal" facilities where airport traffic control services are provided, including the immediate airspace around an airport, or "en route" facilities where high altitude separation services are provided using computer systems and surveillance technologies. Terminal facilities are further designated as Tower Cabs or TRACONs. These terminal facilities may be collocated in the same building, but because of differences in workload, their staffing requirements are modeled separately.

Figure 3.4 Air Traffic Control Position and Facility Overview



The dynamic nature of air traffic controller workload coupled with traffic volume and facility staffing needs are all taken into account during the development of FAA staffing standards.

All FAA staffing models incorporate similar elements:

- Controller activity data is collected and processed commensurate with the type of work being performed in the facilities.
- Models are developed that relate controller workload to air traffic activity. These requirements are input into a scheduling algorithm.
- The modeled workload/traffic activity relationship is forecasted for the 90th percentile (or 37th busiest) day for future years for each facility. Staffing based on the demands for the 90th percentile day assures that there are adequate numbers of controllers to meet traffic demands throughout the year.
- Allowances are applied for off position activities such as vacation, training, etc.

In 2007, the FAA completed its efforts to revise the standards for towers and en route centers and, in 2009, completed revised standards for TRACON facilities.

The FAA incorporated recommendations found in the Transportation Research Board special report *Air Traffic Control Facilities, Improving Methods to Determine Staffing Requirements* as a part of the agency's staffing standards review and assessment. These recommendations included significantly expanding the amount of input data and improving the techniques used to develop the standards.

All staffing models went through similar development processes. Some components of the model development phase varied as a function of the work being performed by the controllers. For example, a crew-based approach was used to model tower staffing requirements because the number and type of positions in a tower cab vary considerably as traffic changes when compared to those of a single sector in an en route center.

Terminal Progress

In 2008, the FAA initiated a comprehensive review of its current TRACON staffing standards. An important part of this review was identifying factors that changed since the standards were last updated in order to improve the model's predictive capabilities at the facility level.

Important factors that surfaced during the review included the availability, accessibility and increased reliability of traffic data and controller on-position reporting systems. The FAA was able to analyze much larger quantities of TRACON data at a level of granularity that was previously unattainable.

This latest update improved upon the previous study by:

- Expanding the number of data collection site visits (direct observation of controller functions in 35 TRACONs nationwide)
- Interviewing operational personnel (59 managers and supervisors)
- Collecting extensive data samples (over 171,000 work-sampled observations)
- Accessing new data systems enabling the agency to incorporate actual 90th percentile busy day data from all facilities.

The TRACON standards were completed in early 2009. On-position staffing data and traffic volumes were collected for every facility. Regression analysis was used as the primary method for modeling the relationship between staffing and workload drivers. Cluster analysis techniques were used to group facilities based on level of difficulty. These synergistic efforts enabled the agency to incorporate more facilities than previously possible.

En Route Progress

En route airspace is divided into smaller, more manageable blocks of airspace called centers, areas and sectors. The en route standards were updated in 2008. Work continues to improve modeling of the controller tasks performed in the more than 750 sectors of the 20 continental United States en route centers to provide better input data for the FAA's staffing models.

The FAA's Federally Funded Research and Development Center, operated by The MITRE Corporation, developed a model to generate data needed as input to the FAA's staffing models. Like the tower standards, this approach incorporated actual traffic and more facility specific data as recommended in the Transportation Research Board special report *Air Traffic Control Facilities, Improving Methods to Determine Staffing Requirements.*

MITRE's modeling approach reflects the dynamic nature of the traffic characteristics in a sector to estimate the number of controllers, in teams of one to three people, necessary to work the traffic for that sector in 15-minute intervals. Differences in traffic characteristics in a sector could require different numbers of controllers to handle the same volume of traffic. For example, a sector might at one time have most of its traffic cruising through the sector towards another location with few conflicts between the aircraft. At another time, the same sector may have traffic that is climbing and descending making it more complex and needing more controllers to handle the traffic. The same modeling techniques were applied to all sectors uniformly, providing results based on a common methodology across the country.

The modeling techniques and data provided by MITRE were validated through site visits, interviews with operational personnel, extensive data collection and detailed analysis of a year's worth of aviation traffic data. The FAA used this data as input to its staffing models to calculate how many controllers were needed by facility. The FAA's staffing models incorporate the input data provided by MITRE, run it through shift scheduling algorithms, apply traffic growth forecasts, and then apply factors to cover vacation time, break time, training, etc., to provide the staffing ranges presented in this plan for each en route center.

Technological Advances

The FAA is laying the foundation for the Next Generation Air Transportation System (NextGen) with new satellite-based technologies. When possible, NextGen capabilities are being integrated into existing systems to improve operations today. See The *FAA's NextGen Implementation Plan 2009* at http://www.faa.gov/about/initiatives/nextgen/media/NGIP_0130.pdf

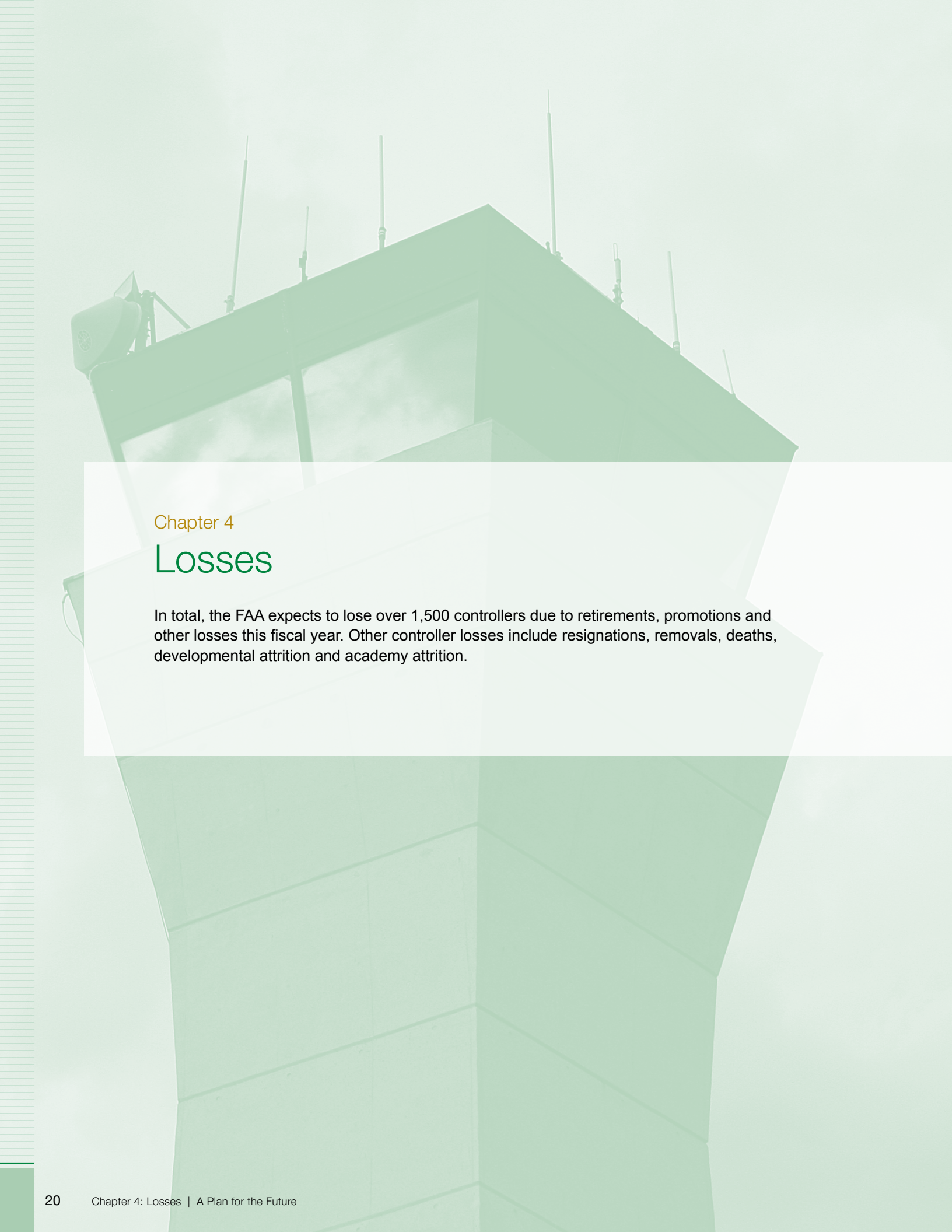
In the last 10 years or so, new technology and procedures have been introduced into the air traffic system that have increased capacity, reduced delays and improved controller productivity. Some of these include the Display System Replacement (DSR), Voice Switching and Control System (VSCS), User Request Evaluation Tool (URET), Reduced Vertical Separation Minimum (RVSM) and Traffic Management Advisor (TMA). These enhancements have enabled controllers to handle additional traffic safer and more efficiently.

The FAA is also expanding the use of current advanced aircraft capabilities to provide safer and more efficient operations. For example, the agency recently deployed a new oceanic air traffic control system that uses satellites and electronic reporting of aircraft positions. The FAA also reduced separation requirements in the West Atlantic for aircraft equipped with advanced avionics and established satellite-based routes on the West Coast.

This evolutionary approach provides for a smooth transition for pilots and controllers. This approach also allows for improvements throughout the NextGen investment period.

The FAA expects that new technologies will result in a more automated system that will, over time, change the role of controllers. The phase-in of these new technologies and the phase-out of older technologies is a long-term gradual process currently under development. The FAA is still determining how the changes in technology will change the controller workload and so the 2009 controller workforce plan does not factor in these changes in determining staffing requirements.

For staffing purposes, the FAA expects to continue to adjust staffing as described in this plan in order to meet the expected changes in air traffic activity.



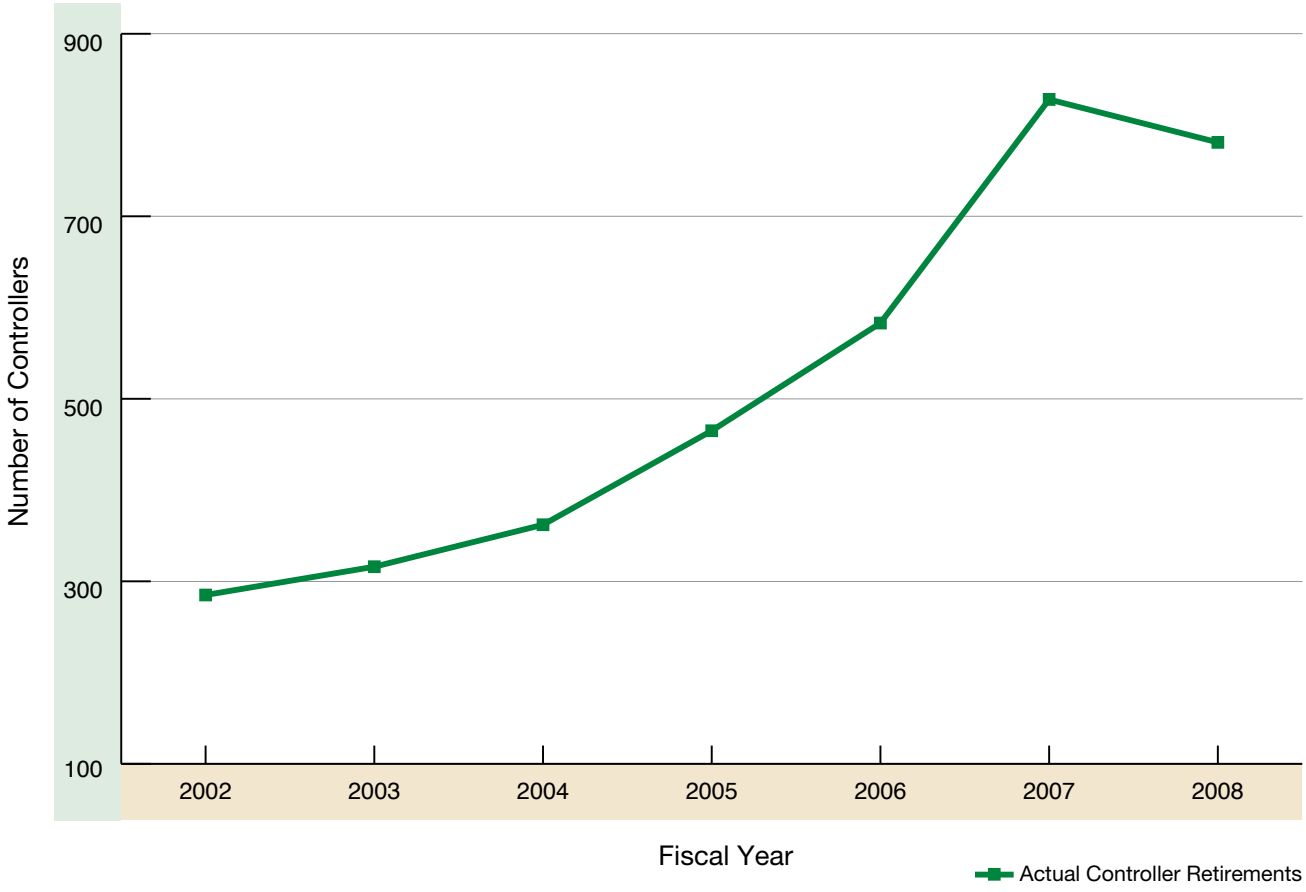
Chapter 4

Losses

In total, the FAA expects to lose over 1,500 controllers due to retirements, promotions and other losses this fiscal year. Other controller losses include resignations, removals, deaths, developmental attrition and academy attrition.

Fiscal year 2007 was correctly projected to be a peak year for retirements of controllers hired in the early 1980s. Agency projections show that an additional 746 controllers will become eligible to retire in FY 2009.

Figure 4.1 Actual Controller Retirements



2008 had fewer retirements than 2007. 2009 is expected to be even lower.

Controller Loss Summary

In addition to retirements, the agency loses controllers to resignations, removals, deaths, developmental attrition, promotions, transfers and academy attrition.

Table 4.1 shows the total estimated number of controllers that will be lost, by loss category, over the period FY 2009 through FY 2018.

Table 4.1 Controller Loss Summary

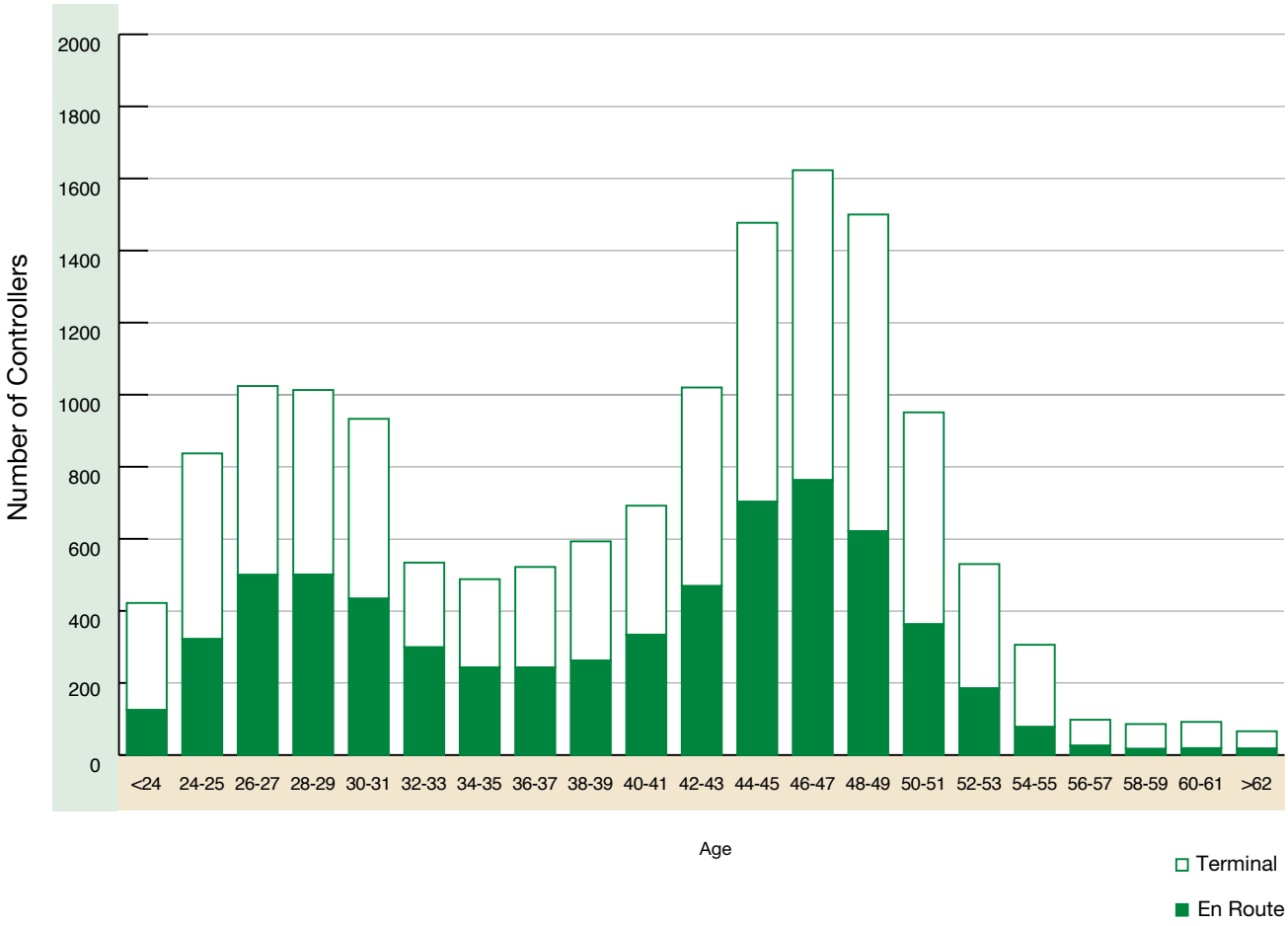
Loss Category	Losses: 2009 - 2018
Retirements	6,719
Resignations, Removals and Deaths	1,087
Developmental Attrition	2,615
Promotions/Transfers	3,749
Academy Attrition	487
Total	14,657

Controller Workforce Age Distribution

The agency hired a substantial number of controllers in the few years following the 1981 strike. This hiring wave created the situation whereby a large portion of the controller workforce would reach retirement age in roughly the same period of time.

Figure 4.2 shows the controller workforce age distribution as of the pay period ending September 27, 2008.

Figure 4.2 Controller Workforce Age Distribution as of September 27, 2008



The spike in controller age is directly attributable to the hiring done after the 1981 controller strike.

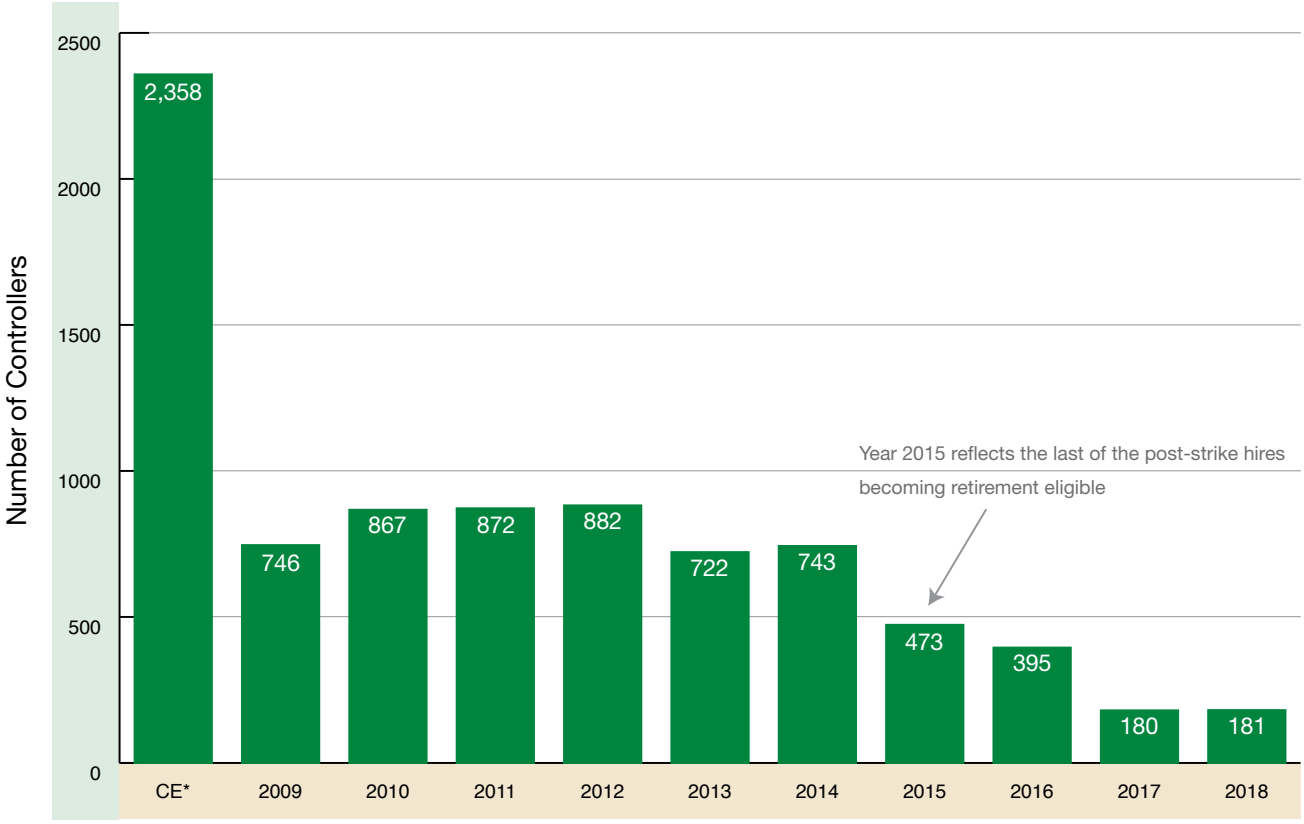
Controller Retirement Eligibility

In addition to normal civil service retirement criteria, controllers can become eligible under special retirement criteria for air traffic controllers (age 50 with 20 years of "good time" service or any age with 25 years "good time" service). "Good time" is defined as service in a covered position, as defined in Public Law 92-297.

After computing eligibility dates using all criteria, the FAA assigns the earliest of the dates as the eligibility date. Eligibility dates are then aggregated into classes based on the fiscal year in which eligibility occurs.

Figure 4.3 shows the number of controllers who are currently retirement eligible as of September 2008 and those projected to become retirement eligible by class year through FY 2018.

Figure 4.3 Retirement Eligibility

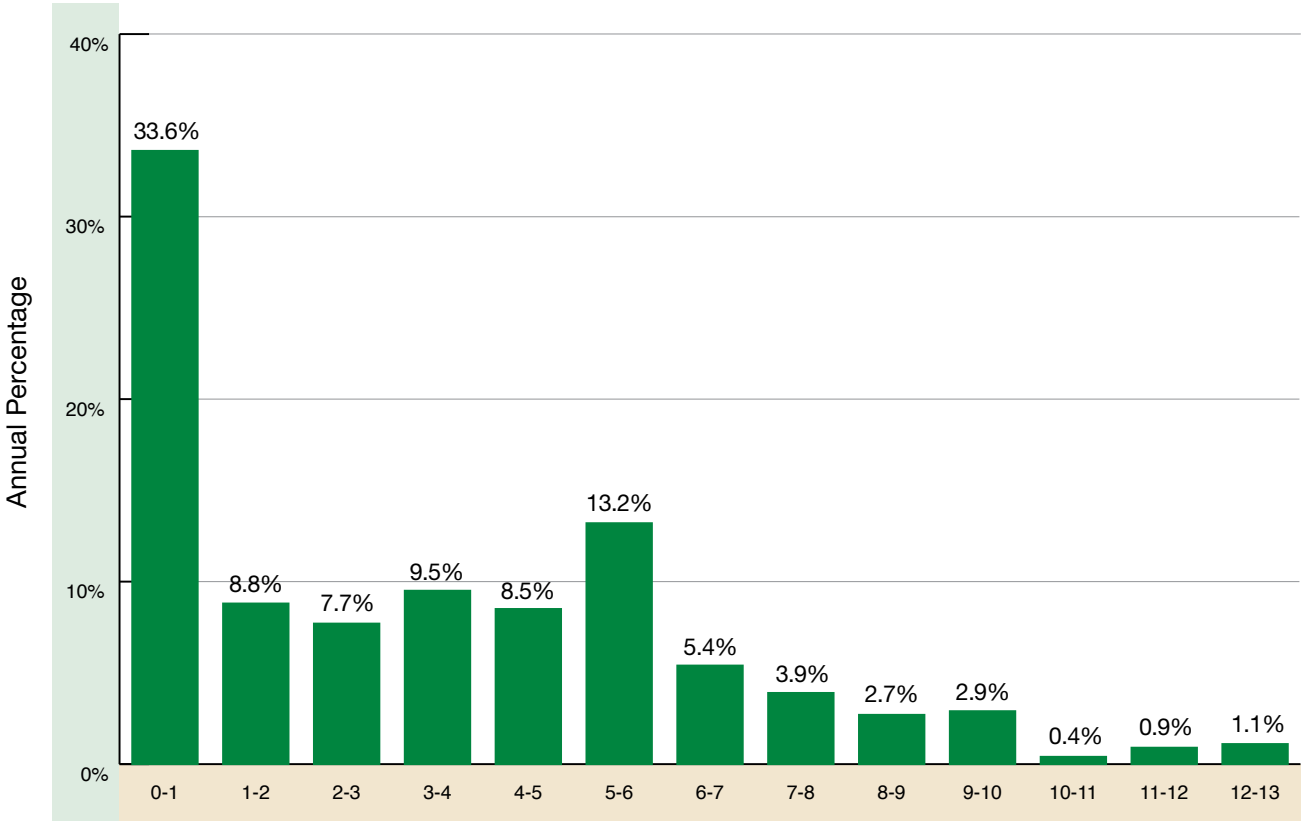


*Currently Eligible

Controller Retirements

History shows that not all controllers retire when they first become eligible. In 2008, only 33.6 percent of controllers retired the first year they were eligible. We used last year's actual retirement pattern to generate future controller retirement estimates. Figure 4.4 shows this pattern.

Figure 4.4 Percent of Controllers Retiring in their Nth Year of Eligibility



Controller Losses Due to Retirements

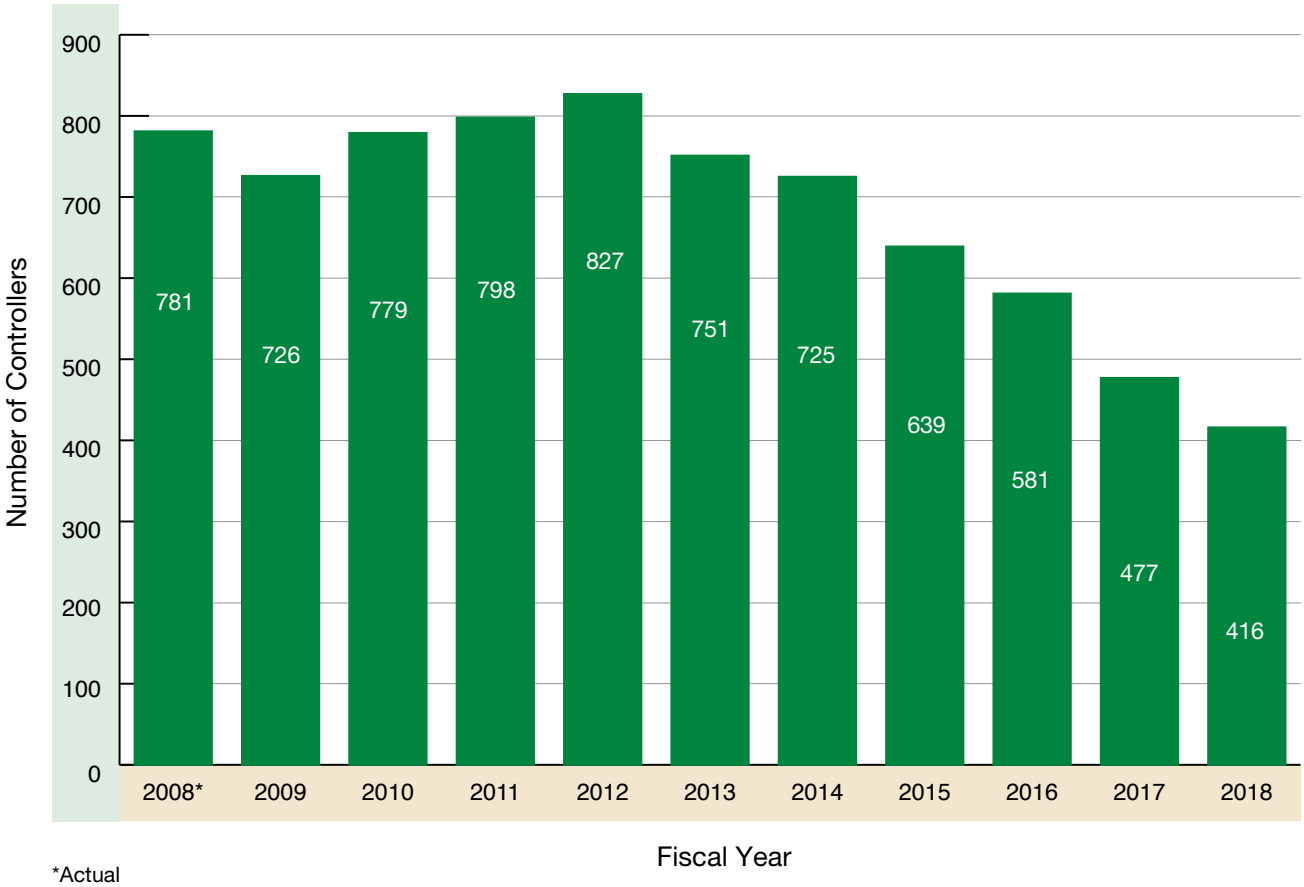
For the FY 2009 plan, the agency incorporated the most recent year of retirement data into the retirement histogram used for FAA projections.

As in prior years, the FAA projected future retirements by analyzing both the eligibility criteria of the workforce (Figure 4.3) and the pattern of retirement based on eligibility (Figure 4.4).

For each eligibility class (the year the controller first becomes eligible to retire), the agency applied the histogram percentage to estimate the retirements for each class by year.

In FY 2008, there were 781 controller retirements, versus a plan of 809. Year-to-date retirements for 2009 are also trending below plan.

Figure 4.5 Retirement Projection



*Actual

Controller Losses Due to Resignations, Removals and Deaths

The estimated controller losses due to resignations, removals (excluding developmental attrition) and deaths are shown in Table 4.6 below.

Table 4.6 Controller Losses Due to Resignations, Removals and Deaths

2008*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
117	105	104	105	106	108	109	111	112	113	114

*Actual

Developmental Attrition

The large number of new hires since FY 2005 represents an opportunity to study developmental attrition rates more closely, and the agency has incorporated this information into the latest FAA forecasts.

Table 4.7 Developmental Attrition

2008*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
324	328	291	283	278	272	256	241	228	221	217

*Actual

Academy Attrition

Estimated loss figures from new hires who are not successful in the FAA Academy training program, before they ever reach an air traffic control facility, are shown in the table below.

Table 4.8 Academy Attrition

2008*	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
66	58	56	53	52	50	47	44	43	42	42

*Actual

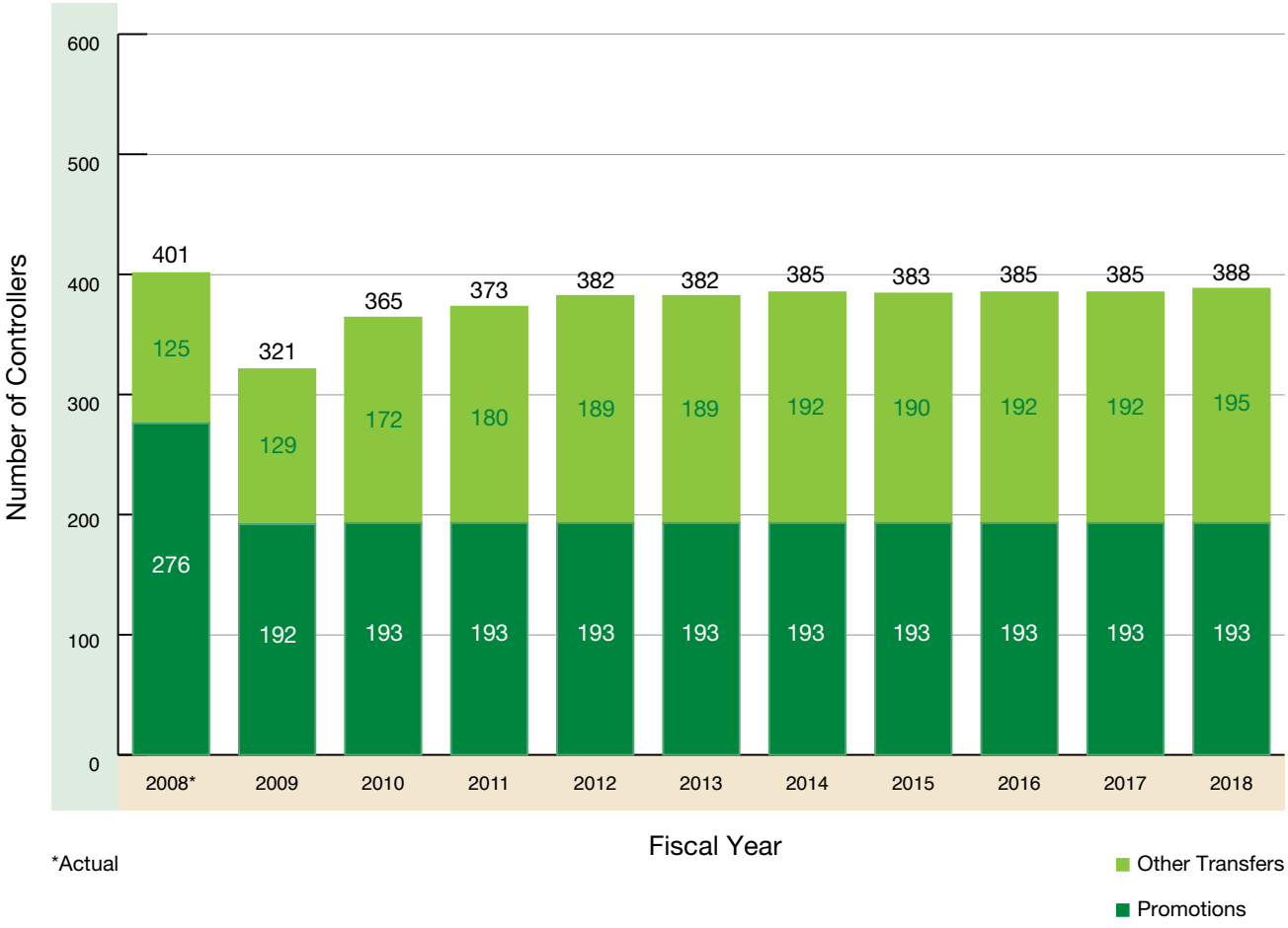
Controller Losses Due to Promotions and Other Transfers

This section presents FAA estimates of controller losses due to internal transfers to other positions (staff support specialists, traffic management coordinators, etc.) and controller losses due to promotions to operational supervisor.

In addition to backfilling for supervisory attrition (retirements, promotions, etc.) the FAA expects that the supervisor workforce will likely grow along with the controller workforce, and these additional supervisors will also come from the controller population.

For the FY 2009 plan, the agency has incorporated the most recent year of attrition data into FAA projections.

Figure 4.9 Controller Losses Due to Promotions and Other Transfers

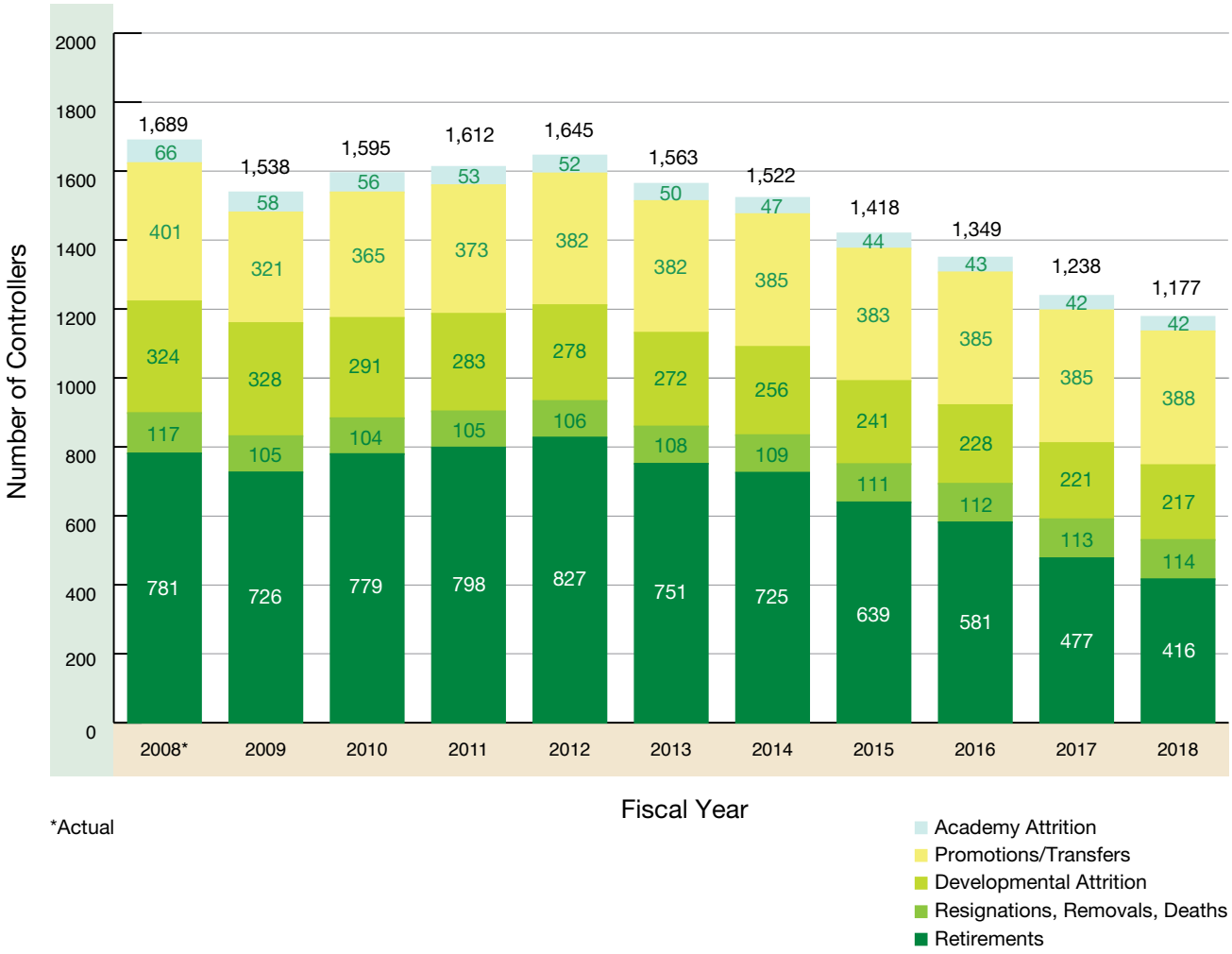


Total Controller Losses

The FAA projects a total loss of 14,657 controllers over the next 10 years, as follows.

Should losses outpace projections for FY 2009 the FAA will hire additional controllers to reach the end-of-year goal of 15,585 air traffic controllers on board. However, based on FY 2009 data to date, losses appear to be trending below these projections.

Figure 4.10 Projected Total Controller Losses



*Actual

Chapter 5:

Hiring Plan

The FAA safely operates and maintains the NAS because of the combined expertise of its people, the support of technology and the application of standardized procedures. Every day tens of thousands of aircraft are guided safely and expeditiously through the NAS to their destinations.

Deploying a well-trained and staffed air traffic control workforce plays an essential role in fulfilling this responsibility. In order to staff the right number of people in the right places at the right time, the FAA is responsive to changes in traffic or changes in the number of losses from the controller workforce.

Staffing is and will continue to be monitored at all facilities and the agency will continue to take action at the facility level should adjustments become necessary due to changes in traffic volume, anticipated retirements or other attrition. The FAA has demonstrated this flexibility in previous years by proactively increasing the hiring pipeline in order to compensate for increased losses.

There are thousands of qualified controller candidates eager to be hired. Through various hiring sources, the FAA will maintain a sufficient number of applicants to achieve this hiring plan.

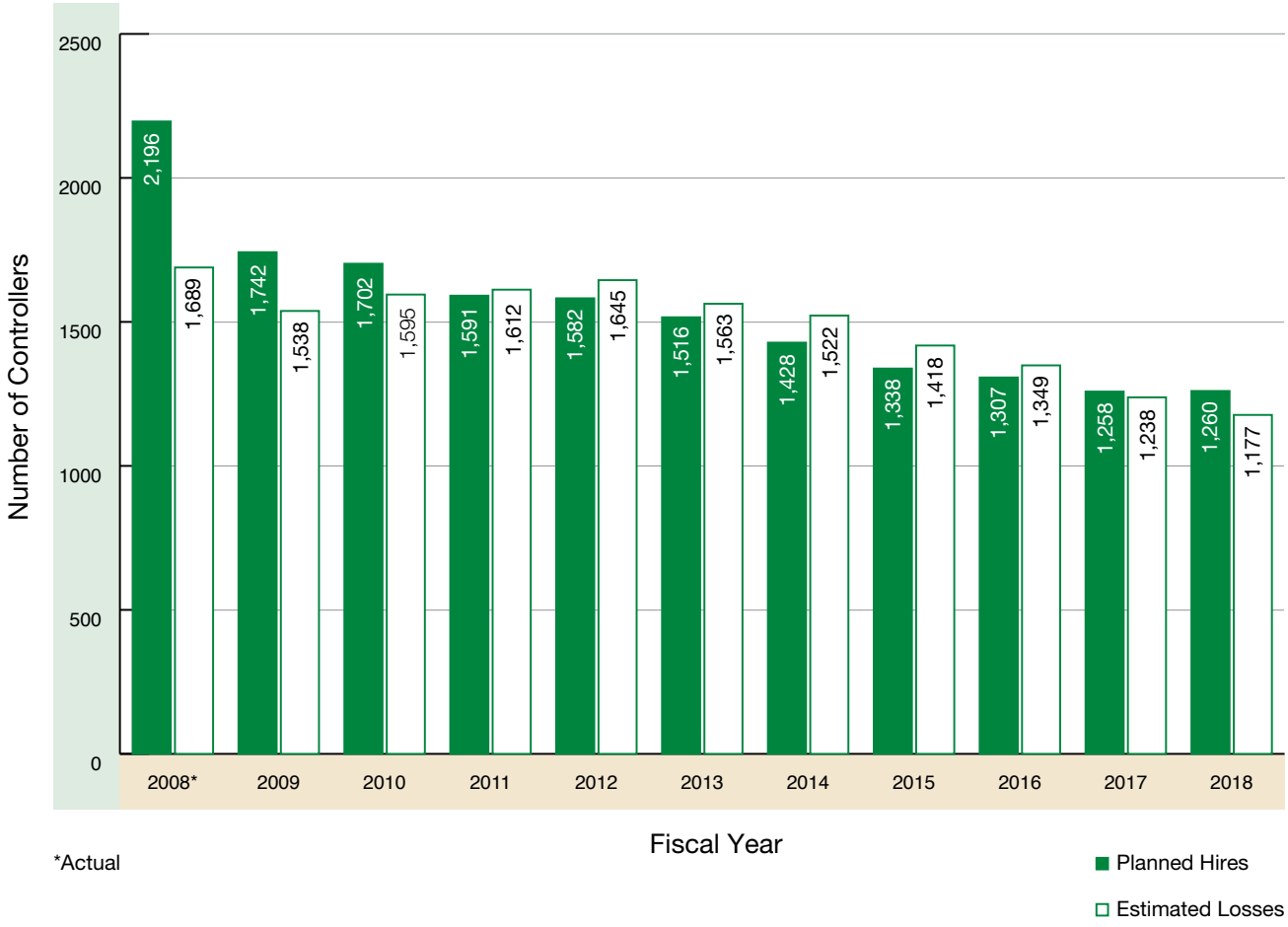
By hiring 2,196 new controllers in FY 2008, 300 more than planned, the FAA increased the total number of controllers on board at the end of the fiscal year to 15,381. These additional hires helped maintain a steady flow of trainees at the academy and provided a good start to FY 2009 hiring goals.

A controller at Miami Air Route Traffic Control Center. Photo: Jon Ross, ATO

Controller Hiring Profile

The controller hiring profile is shown in the chart below. The number of controllers projected to be hired through FY 2018 is 14,724.

Figure 5.1 Controller Hiring Profile

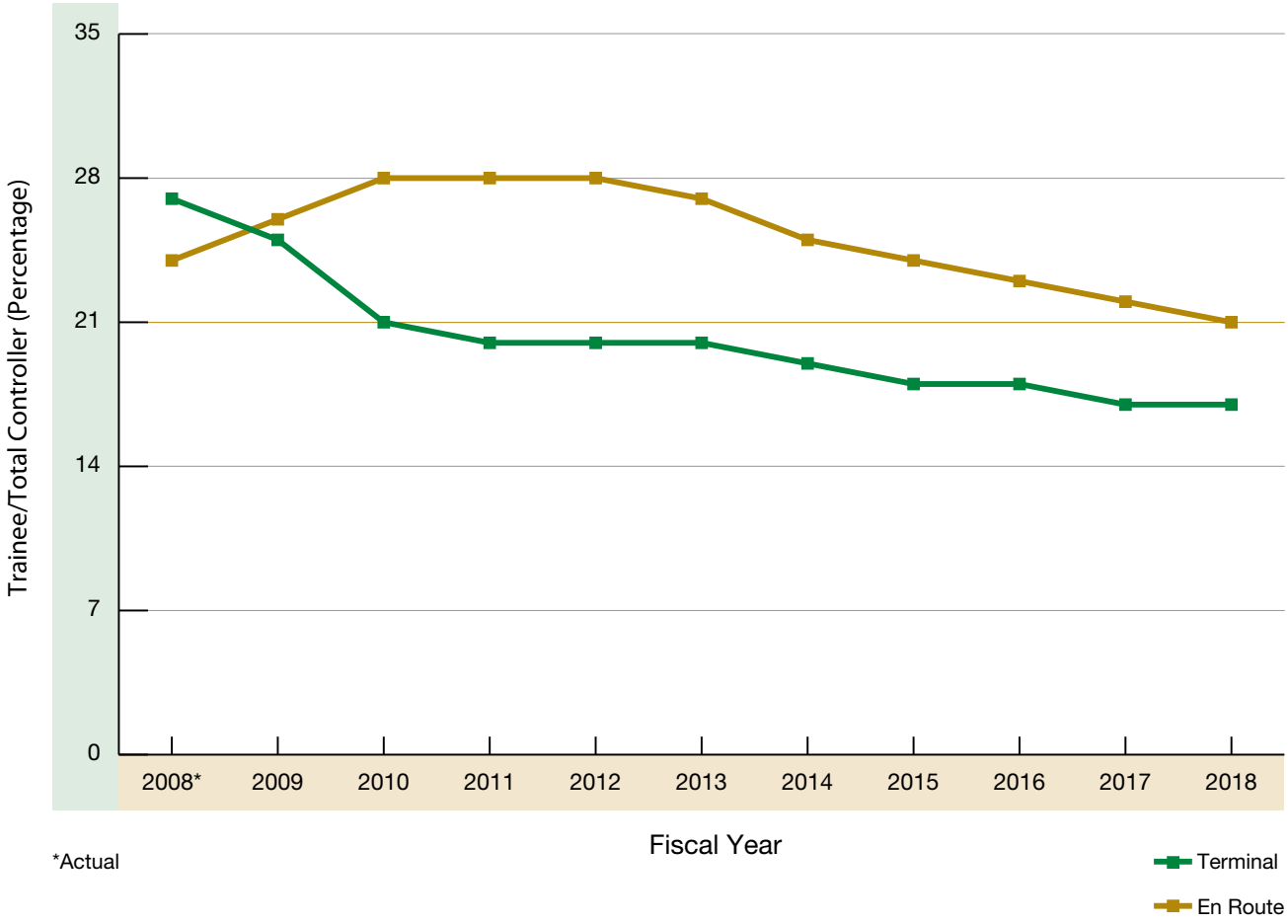


Trainee/Total Controller (Percentage)

The hiring plan allows the FAA to maintain an appropriate number of trainees (developmental and CPC-IT) in the workforce. While the FAA strives to keep trainees below 35 percent for both terminal and en route controllers, it is not the only metric used by the agency to measure trainee progress.

Figure 5.2 shows the projected trainee to total controller percentages by year to 2018. The percentage shown is calculated as the sum of CPC-IT plus developmentals divided by all controllers.

Figure 5.2 Trainee to Total Controller Percentage



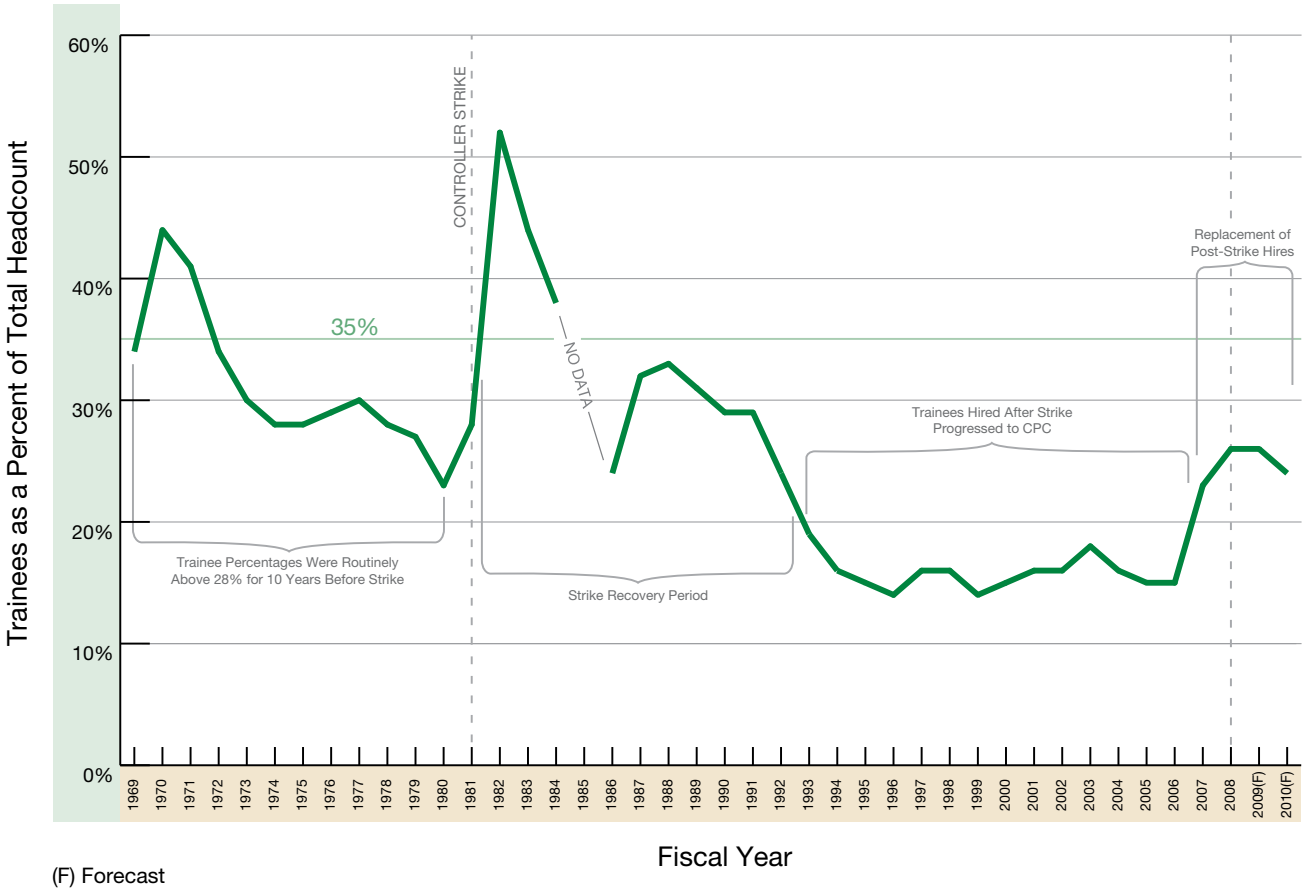
Before the 1981 strike, the FAA experienced trainee percentages ranging from 23 to 44 percent. Following the strike, through the end of the hiring wave in 1992, the trainee percentage ranged from 24 to 52 percent. When the post-strike hires became fully certified by the end of decade, the trainee percentage declined.

As the new controllers hired en masse after the strike achieved full certification, the subsequent need for new hires dropped significantly from 1993 to 2006. This caused trainee percentages to reach unusually low levels. The FAA's current hiring plans return trainee percentages to their historical averages.

By phasing in new hires as needed, the FAA will level out the significant training spikes and troughs experienced over the last 40 years.

Figure 5.3 shows historical trainee percentages from 1969 to present.

Figure 5.3 Historical Trainee Percentage



(F) Forecast

The FAA uses many metrics (e.g., 35 percent trainee to total controllers) to manage the flow of trainees while accomplishing daily operations. Facilities also meter training to coincide with a number of dynamic factors, including technology upgrades, new runway construction and recurrent proficiency training for existing CPCs.

Trainee ratios and proportions can be calculated from the detailed facility-specific information provided in Appendix A. However, facility training is enabled by factors that are not reflected in those metrics. Examples include the use of contract instructors, access to simulators, scheduled overtime, and the seasonality and complexity of operations. In addition, the actual number of trainees does not completely represent the progress of each individual in the training program and/or the additional utility they provide which can help to supplement other on-the-job training instruction and/or support operations.

More importantly, a key facility measure of training performance is whether trainees are completing their training within the agency's two-to-three year benchmark. Trainees are expected to complete their training within two years at terminal facilities and three years at en route facilities.

For FY 2008, records show that 2 percent of active terminal developmental controllers were still progressing, but had not completed their required training in two years. For en route, 5 percent were still progressing, but had not completed their required training in three years. The percentage for each facility against its benchmark can be found in Appendix B of this report.

The FAA is achieving these goals by improving training and scheduling processes, through increased use of simulators and better tracking of controller training using the FAA's national training database.

The FAA will continue to closely monitor facilities to make sure that trainees are progressing through each stage of training while also ensuring the safe and efficient operation of the NAS.

Training Benchmark

Facility Type	Expected Time To Progress to CPC
Terminal	2 Years
En Route	3 Years

Chapter 6

Hiring Process

The agency continues to recruit high-quality candidates into the controller workforce. Of the 2,196 controllers hired in FY 2008, 823 (37 percent) were graduates of CTI schools while an additional 720 (33 percent) had previous air traffic control experience, either gained in the military or at the FAA. Thirty percent of FY 2008 recruits were hired directly from the general public and approximately 30 percent of new hires were military veterans.

In 2008, the FAA selected eight new colleges and universities to be part of the Air Traffic Collegiate Training Initiative (AT-CTI) program. It is the second expansion of the AT-CTI program in as many years and it is expected to produce a significant number of prospective air traffic controllers. Currently there are 31 schools in the program, including the eight new schools. The partnership between the FAA and the colleges and universities in the AT-CTI program will continue to contribute to meeting air traffic controller hiring goals in the coming years.

In the past five years, AT-CTI schools have graduated more than 4,000 students from their aviation programs - 3,000 of whom were hired by the FAA. By FY 2010, the agency anticipates up to 35 AT-CTI schools in the program graduating 2,000 to 2,500 students per year.

Streamlined Hiring Process

In January 2006, the FAA centralized the controller hiring process — streamlining it — while enabling individual facilities to identify vacancies and select prospective new controllers as much as one year in advance. The agency was also able to improve the security and medical clearance process.

> FAA has "done what I can only say is a remarkable job in hiring replacements for controllers who have decided to leave."
>
> DOT Inspector General
> February 11, 2009
> FAA Reauthorization Hearing

To augment the centralized hiring activities regularly conducted in Oklahoma City, the FAA implemented Pre-Employment Processing Centers (PEPCs) to reduce the time it takes to complete pre-hire screenings such as medical examinations, psychological and drug testing, fingerprinting and security clearance application processes. Some recruits may now receive final offer letters from the FAA in as little as one month after their interview — a process that previously could take up to six months.

The FAA conducted 10 PEPCs in FY 2008, at which the agency processed more than 2,000 controller applicants. The FAA has conducted six PEPCs in FY 2009 and expects to conduct seven more by the end of the fiscal year.

Controller Hiring Sources

The FAA has three categories of controller hiring sources.

- Previous controllers: These individuals have prior FAA or Department of Defense (civilian or military) air traffic control experience.
- AT-CTI students: These individuals have successfully completed an aviation-related program of study from a school under the FAA's AT-CTI program.
- General public: These individuals may apply for vacancies announced by the FAA.

Thousands continue to apply for air traffic controller jobs. The number of people in the hiring pool varies during the year as the agency recruits applicants, evaluates them and draws from the pool. However, the overall goal is to maintain a pool of between 3,000 and 5,000 candidates available for consideration by selection panels at any one time. During FY 2008, the agency's recruitment and advertising activities enabled the FAA to successfully maintain this pool in the target range.

General Public Hiring Process

In order to be hired as an air traffic controller, applicants from the general public must achieve a qualifying score on the Air Traffic Selection and Training (AT-SAT) examination. The AT-SAT tests for characteristics needed to perform effectively as an air traffic controller. Some of these include numeric ability, prioritization, planning, tolerance for high intensity, decisiveness, visualization, problem solving and movement detection.

Applicants must also meet the following requirements:

- Complete three years of progressively responsible work experience, or a full four-year course of study leading to a bachelor's degree, or an equivalent combination of work experience and college credits.
- Be a U.S. citizen.
- Be able to speak English clearly enough to be understood over radios, intercoms and similar communications equipment.
- The maximum entry age is 30.

In addition to passing the specialized aptitude test, recruits must also pass stringent medical and psychological exams, an extensive security background investigation and an interview.

Complete details can be found on the FAA's Web site at http://www.faa.gov/jobs.

Recruitment

The FAA has successfully attracted thousands of qualified candidates to fill controller positions. Based on the agency's hiring needs, vacancy announcements are issued to recruit candidates from the general public, AT-CTI graduates, retired military controllers, veterans eligible under the Veterans' Recruitment Appointment Authority, as well as current and former civilian air traffic controllers. In FY 2009, the FAA is streamlining the ATCS application process through enhanced automation and recruiting candidates under open continuous vacancy announcements.

In FY 2008, the FAA submitted a comprehensive aviation outreach plan to Congress to promote aviation occupations to a broad-based pool of applicants. The FAA's recruitment strategy consists of outreach activities that market the agency as an "Employer of Choice" to the general public, targeting active and passive job seekers. The agency employs a broad-based recruitment approach that utilizes a variety of media outlets to reach the widest population of candidates. Recruitment materials are designed to capitalize on markets that provide information to a variety of demographics such as traditionalist, baby boomers, Generation X, millennials, all ethnicities, people with disabilities and military veterans. These strategies include community outreach events, job fairs, employee association events, military sponsored events, direct e-mailings, Internet recruitment, internship opportunities, newspaper and magazine advertisements, promotional videos, television, radio and bus advertisements.

Throughout FY 2009, the FAA plans to participate in more than 65 job fairs such as: Annual Career Fair for People with Disabilities & Disabled Veterans, Washington, D.C.; Haskell Indian Nations University, Lawrence, Kan.; Good Morning America & Women For Hire, Hollywood, Fla.; National Asian American Student Conference, Emory University, Atlanta, Ga.; Diversity Military World Heritage Expo, National Harbor, Md.; Tuskegee University, Tuskegee, Ala.; and University of Washington, Seattle, Wash.

The FAA attracts potential job candidates with the use of popular Internet and social networking sites such as CareerBuilder.com, Monster.com, HireDiversity.com, haveadreamjob.com, aviationemployment.com, Military.com, YouTube.com, and MySpace.com.

The FAA places advertisements on morning drive-time radio, local television stations and buses. Newspaper and magazine advertisements in *USA Today, Aviation Week & Space Technology, Native American Times, Asian Week, Latina, Minority Career, Atlanta Latino* and *Birmingham Times* are supplemented with media designed to reach and attract a broader applicant pool for controller positions.

Additional Outreach Efforts

The FAA continues to use job enhancement strategies to attract and retain controllers. The FAA offers a recruitment incentive of up to $20,000 for terminal and en route new hires who have at least 52 consecutive weeks of experience within the last two years as a certified air traffic controller with control tower operator or radar certification.

The FAA hired more than 2,196 controllers last year, almost 30 percent of them with previous air traffic control experience from the military. The FAA continues to build up staffing through a number of initiatives targeted toward selectively retaining retirement-eligible controllers with retention incentives, attracting veteran controllers with recruitment and relocation incentives, and bringing on board qualified new hires with recruitment incentives.

Recruitment initiatives allowed the FAA to hire 2,196 controllers last year, almost 30 percent of them with previous air traffic control experience from the military.

Chapter 7

Training

The primary goal of the FAA's technical training and development is to ensure that our air traffic controllers have all the necessary skills and behaviors to perform their jobs effectively and maintain the safety of the NAS. As we continue to replace large numbers of controllers retiring over the next decade, effective training is a key factor in completing a smooth transition and maintaining the FAA's role as the premier air traffic service provider.

The FAA has significant capabilities both at the FAA Academy and in the field to meet the demands for initial certification, refresher, proficiency, skills and remedial training. The FAA continues to invest in making training more effective by gearing it toward the skills needed for successful career-long development. From better screening for new recruits to improved course design and advanced simulation, the agency is building the controller workforce of the future.

The Training Process

The training process begins at the FAA Academy in Oklahoma City. Developmental controllers learn the fundamentals of air traffic control for their particular option: en route, tower or terminal radar. After successfully completing academy training, developmental controllers report to their assigned field facility to continue their training.

During the training process at field locations, developmental controllers achieve certification on each position as they move through the stages of training. Developmental controllers who fail to certify may be removed from service or reassigned to a less complex facility in accordance with agency procedures. The ultimate goal of the training program is for the controller to achieve certification on all positions and attain CPC status.

Developmental controllers who have certified on control positions can work independently on those positions without an on-the-job training instructor. Facilities often allow developmental controllers to work under the direction of a supervisor in order to gain experience and to supplement staffing.

> The on-the-job training process is designed to provide developmental controllers sufficient seasoning time as well as opportunities to develop their skills as they progress towards becoming CPCs.

This process results in a more-seasoned trainee. However, no trainee works live traffic independently until the controller has been certified to work that traffic position. Safety is the FAA's No. 1 priority.

Controller Credentialing

FAA's Air Traffic Safety Oversight office issued almost 15,000 credentials for current air traffic controllers for the first time in FY 2008. The credentialing program was designed to increase safety through regulated standards for training, testing, currency and proficiency. The credentialing program recognizes the technical achievements of FAA personnel who perform direct safety-related functions for the flying public. The credentialing program is designed to ensure that all controllers have and maintain the necessary skills to perform their duties. Credentialing is a part of the FAA's larger safety continuum of standards, certification and continued operational safety.

Controllers must hold FAA-issued credentials with rating(s) for their facility to perform direct safety related air traffic control services. Credentials are facility-specific, based upon the functions of the facility. Credential ratings are issued when an employee certifies on their first control position with the area of specialty. Each employee is assigned a credential number when they receive their first rating. This number will transfer with them and all ratings achieved during their FAA career are recorded. The credential rating(s) must be renewed every two years. A secure on-line system stores all the credentialing records.

Reduced Training Time

The FAA continues to make progress toward the established goals to reduce training time for terminal and en route controllers. It no longer takes from three-to-five years to fully train an air traffic controller. Depending on the complexity of the facility, controllers are now being trained in two-to-three years. The FAA achieved this reduction not by cutting training time, but by improving the training and scheduling processes, and through increased use of simulators.

The FAA works constantly to increase capacity at the FAA Academy and improve basic courses. The combination of efforts results in controller developmentals completing training faster. At the academy, developmental controllers must demonstrate the necessary academic knowledge and controller skills demanded by the air traffic control profession.

Simulators in air traffic facilities are reducing on-the-job training time. Use of this training resource also frees instructors to control traffic.

Table 7.1
Years to Certify

Fiscal Year	En Route	Terminal	Overall
2005	4.1 years	3.1 years	3.9 years
2006	3.7 years	2.7 years	3.6 years
2007	3.1 years	1.9 years	2.8 years
2008	2.6 years	1.1 years	1.7 years

National Training Data Tracking System

The FAA's national training database for en route and terminal training provides training histories of developmentals as well as reports on completions, developmentals in training, and failures. The database tracks controller training through certification and provides a timely picture of the FAA's controller training progress. The database is used by multiple organizations within the FAA for monthly training and failure reports.

Developmental controllers go through various stages of training at their facilities with a maximum number of days allotted for each stage. The FAA's goal is to have 90 percent of controller developmentals on track with training. Developmental controllers are considered to be on track when they progress through the required stages at or below the allotted number of days. Developmentals who exceed the allotment are monitored by both the facility and headquarters.

Knowledge Transfer

Today, the FAA brings in retired FAA air traffic controllers as contract instructors to train the new workforce. By harnessing their valuable air traffic expertise, these experts can focus solely on training the next generation of controllers, rather than moving back and forth between working traffic and on-the-job training.

With these improvements and our comprehensive focus on training, the FAA is confident that the agency will be able to successfully train the number of controllers needed to staff the NAS.

Radar training in progress. Photo: ATO

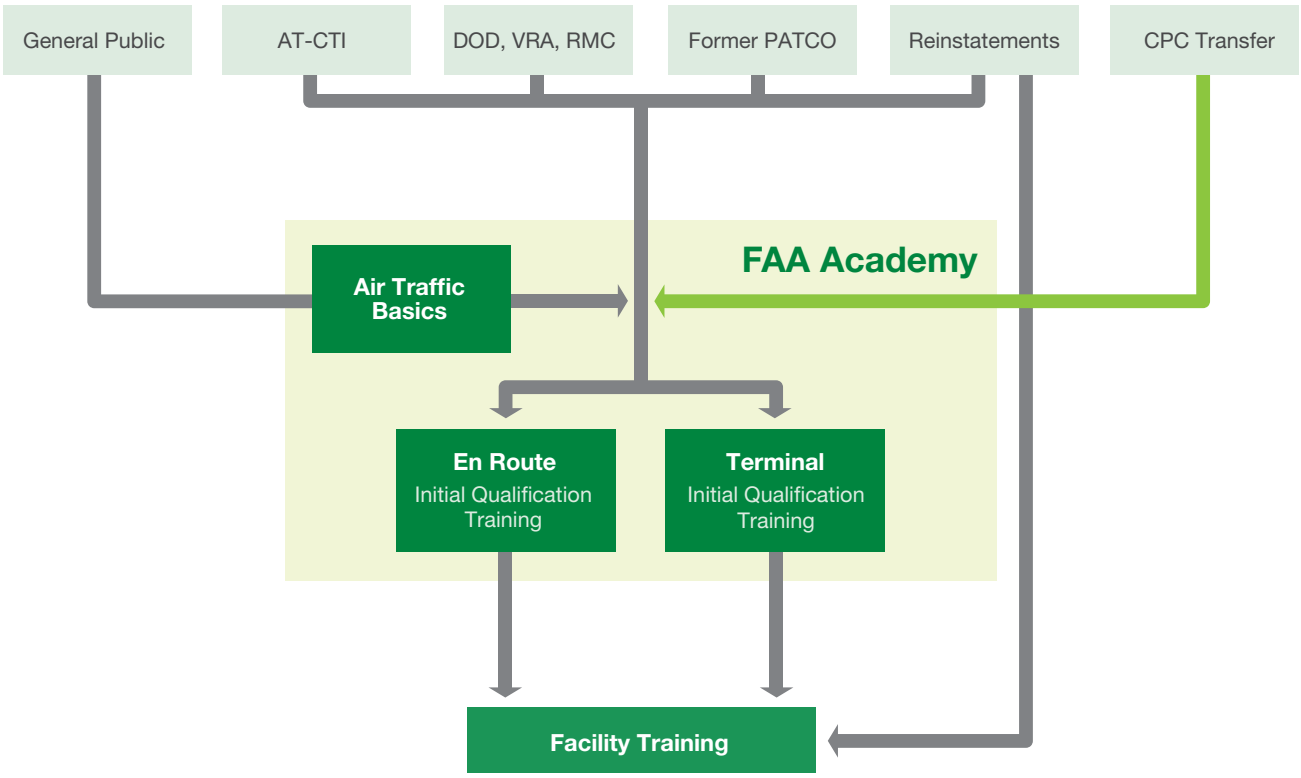
Multi-Path Hiring and Training Model

The multi-path hiring and training model provides a comprehensive view of how controller applicants move through the hiring, screening and training process.

The multi-path training program was designed to accommodate newly hired individuals with a variety of education and experience. The goal of this training program is to provide air traffic facilities with developmental controllers prepared to begin training at the facility.

The FAA can hire controllers from multiple sources. The training process for newly hired controllers differs depending on applicant qualifications and the type of facility assignment. The amount and type of training required depends on the applicant's education, experience and type of facility the new hire will be assigned to support. Figure 7.2 provides a high-level overview of the training process, outlining the different paths of training for new hires.

Table 7.2 Multi-Path Model for AT Controller Training



Academy Training

The FAA Academy trains developmental controllers using lecture, computer-based instruction, medium-fidelity simulation, and high-fidelity simulation. The academy lays the foundation for developmental controllers by teaching fundamental air traffic control procedures that are used across the country. The focus of the academy is to improve the efficiency of the training by using proven adult learning concepts with the latest in simulation technology. When developmental controllers graduate from the academy, they are prepared to adapt to their assigned facility and successfully complete the training required to reach CPC status.

Facility Training

After graduating from the FAA Academy, facility training begins in the classroom where developmental controllers learn facility-specific rules and procedures. Often times, these rules and procedures are practiced in simulation. After classroom and simulation training is complete, a developmental will begin on-the-job training on an operational position. This training is conducted by CPCs who observe and instruct developmental controllers as they work the control position.

Each control position has a minimum and maximum number of on-the-job training hours allotted. Based upon the recommendation of the training team, a developmental can be certified by the supervisor on a control position anywhere between the minimum and maximum number of hours.

Developmental controllers achieve certification on each position as they move through the stages of training. The final result at the end of training is achieving certification on all positions, or CPC. A developmental controller who fails to certify can be removed from service, or reassigned to a less complex facility in accordance with agency procedures.

The on-the-job training process is designed to provide developmental controllers sufficient seasoning time and opportunities to develop their skills as they progress toward becoming CPCs.

FAA Order 3120.4

All controller training requirements are standardized and detailed in FAA Order 3120.4, Air Traffic Technical Training. Facility training is conducted in stages and consists of a combination of classroom, simulation and on-the-job training. Each stage of training represents a different control position, or group of control positions, depending upon whether the facility is en route or terminal. Certification is required at the end of every training stage. Developmentals cannot work live traffic until they have been certified on the appropriate position.

The agency is in final review of a newly rewritten technical training order to incorporate checklists of controller tasks into the on-the-job training program. These checklists will be used to make sure on-the-job training is consistent across the nation.

Academy Simulators

In 2008, the FAA vastly increased the terminal simulation capability at the FAA Academy by installing six new high-fidelity tower simulators, providing a realistic tower environment in which to teach new controllers. The agency also installed a state-of-the-art en route training lab at the FAA Academy. The lab simulates the air traffic control technology currently in use in FAA en route facilities and provides unique training opportunities. The FAA has been using tower simulators for training in Chicago, Miami, Phoenix and Ontario, Calf. since 2006. In December 2007, the FAA awarded a contract to provide another 18 simulators to field facilities in FY 2008 and FY 2009. Current plans are to deploy these simulators at key locations such as Los Angeles, New York, Atlanta, Dallas and Fort Worth, Texas.

Tower Simulators

Controllers learn three things in the tower simulator, all of which must become second nature: (1) knowledge of the particular airport — runways, taxiways, restrictions and weather impacts; (2) how to use the correct phraseology; and (3) application of procedures, such as separations and size restrictions. The problems in the simulators are designed to be more difficult than the most challenging occurrence at the particular airport.

The tower simulator program augments on-the-job-training by placing developmentals in a real-time tower-traffic environment and ensuring that they receive efficient and consistent training. The systems are capable of providing high-fidelity site-specific simulation training with 360-degree imagery of the airfield, simulated traffic, obstacles and weather. The simulators are programmed with scenarios and occurrences exclusive to those airports, using realistic local call signs for aircraft. Trainers can program departure and arrival paths and even include airport construction, new runways, weather patterns and other situations particular to the location.

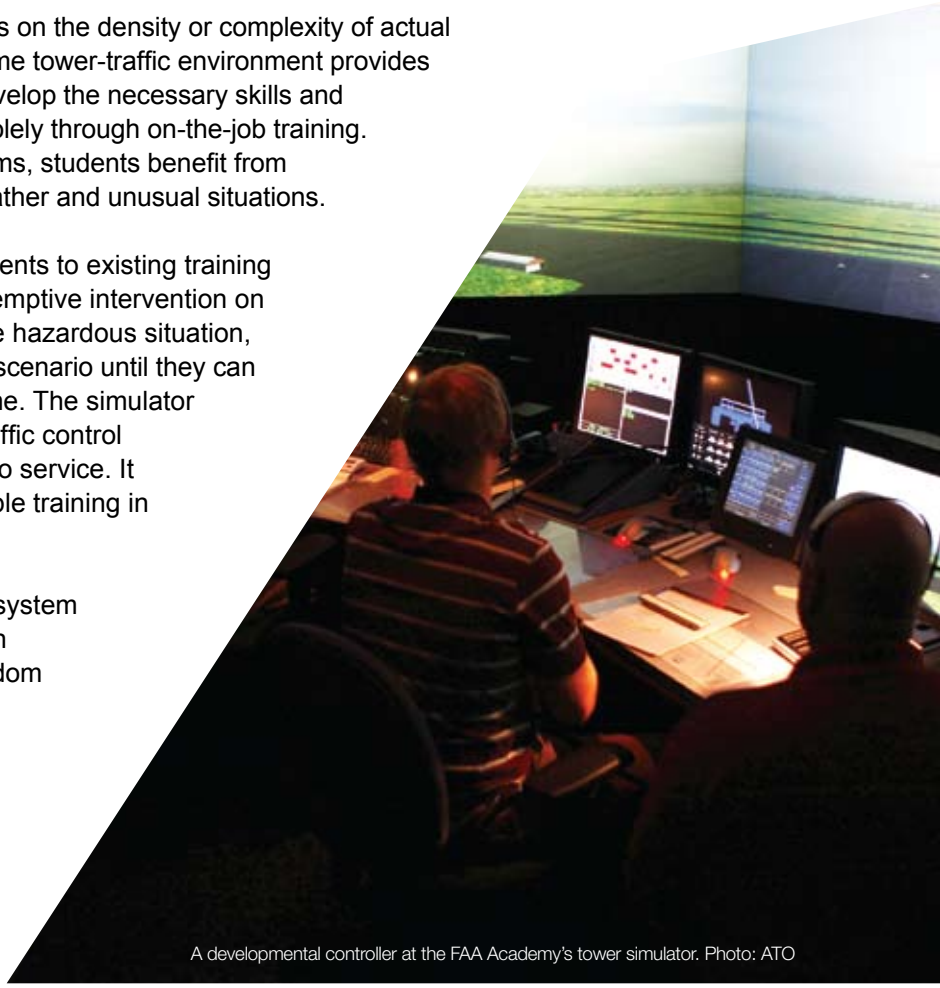
High-fidelity tower simulation systems simulate operations for a "hub" facility but can provide training for multiple facilities. Select satellite facilities within commuting distance of the hub will have a database on file ready to provide site-specific training. This feature allows one simulator to train developmental controllers from many nearby airports.

In the absence of a simulator, towers must rely solely on live air traffic to train. This training method is dependent on inconsistent or unpredictable live external variables such as traffic, weather and unusual situations.

With simulators, training no longer depends on the density or complexity of actual air traffic operations. Simulating the real-time tower-traffic environment provides a uniform training format for trainees to develop the necessary skills and experience that would take much longer solely through on-the-job training. Through the use of tower simulation systems, students benefit from consistent delivery of simulated traffic, weather and unusual situations.

The system provides significant improvements to existing training operations. It eliminates the need for pre-emptive intervention on the part of an instructor to avoid a possible hazardous situation, allowing the student to "work through" the scenario until they can consistently generate a successful outcome. The simulator system does not interact with actual air traffic control operational systems and poses no threat to service. It realistically replicates operations that enable training in an absolutely safe environment.

In addition to initial training, the simulator system provides for refresher training to heighten awareness of controllers by generating seldom seen operations and airport conditions. Controllers who have recently been assigned to a new facility can also use the system to train in their new operational environment, reducing their training time.



A developmental controller at the FAA Academy's tower simulator. Photo: ATO

TRACON Simulators

The FAA has several simulation systems in the TRACON environment. The FAA is evaluating options that will enable rapid development of simulation scenarios. The agency will ensure that any simulation tool option addresses current and future training needs.

En Route Simulators

Upgraded simulation technology has been installed at six en route control facilities as part of the FAA's effort to improve and expedite new controller training.

In 2007 and 2008, the En Route Training Simulation System (ERTSS) was installed at six en route centers in Albuquerque,N.M., Denver, Miami, Salt Lake City, Atlanta and Jacksonville,Fla., with an additional system installed at the FAA Academy. ERTSS is designed to supplement the dynamic simulation radar controller training laboratory, more commonly referred to as "DYSIM" (in place at all centers). That equipment has been in place since the late 1970s and lacks many of the advantages built into ERTSS.

Among those advantages is the ability to stop and restart training scenarios, giving instructors the opportunity to discuss issues with their students as they occur. ERTSS also has more realistic depictions of weather and its effect on air traffic. Remote pilot operator positions are also much easier to incorporate, making the simulation more realistic for students.

The base of the radar coverage using ERTSS is also more realistic. It is possible to mask what is going on below the altitudes of a facility's radar coverage, replicating what a controller can and cannot see in real life. ERTSS also includes enhanced weather simulation capabilities which allow weather to "move" and also let upper winds be introduced. With ERTSS, students learn exactly what happens to the speed and position of an aircraft when they turn it into the wind.

Emergencies can be scripted into problems in such a way that the software automatically cues remote pilot operators to communicate everything that needs to be said. Instructors, using their own link to the remote operators, can also spontaneously adjust elements within a problem.

ERTSS capabilities are similar to those incorporated into the En Route Automation Modernization (ERAM) system, which is replacing the 40-year-old Host computer software. The current Host system is increasingly difficult to maintain and reliability of service will be improved as ERAM provides a system with four levels of redundancy.

ERTSS is portable, so when ERAM is made available at a facility, the simulator can be moved to another center that is still awaiting ERAM installation. For example, the system installed at Salt Lake City Center in 2007 is scheduled to be moved to Chicago by May 2009.

ERAM comes on-line at individual centers through FY 2010. ERAM incorporates simulation capabilities that will eliminate the need for ERTSS.

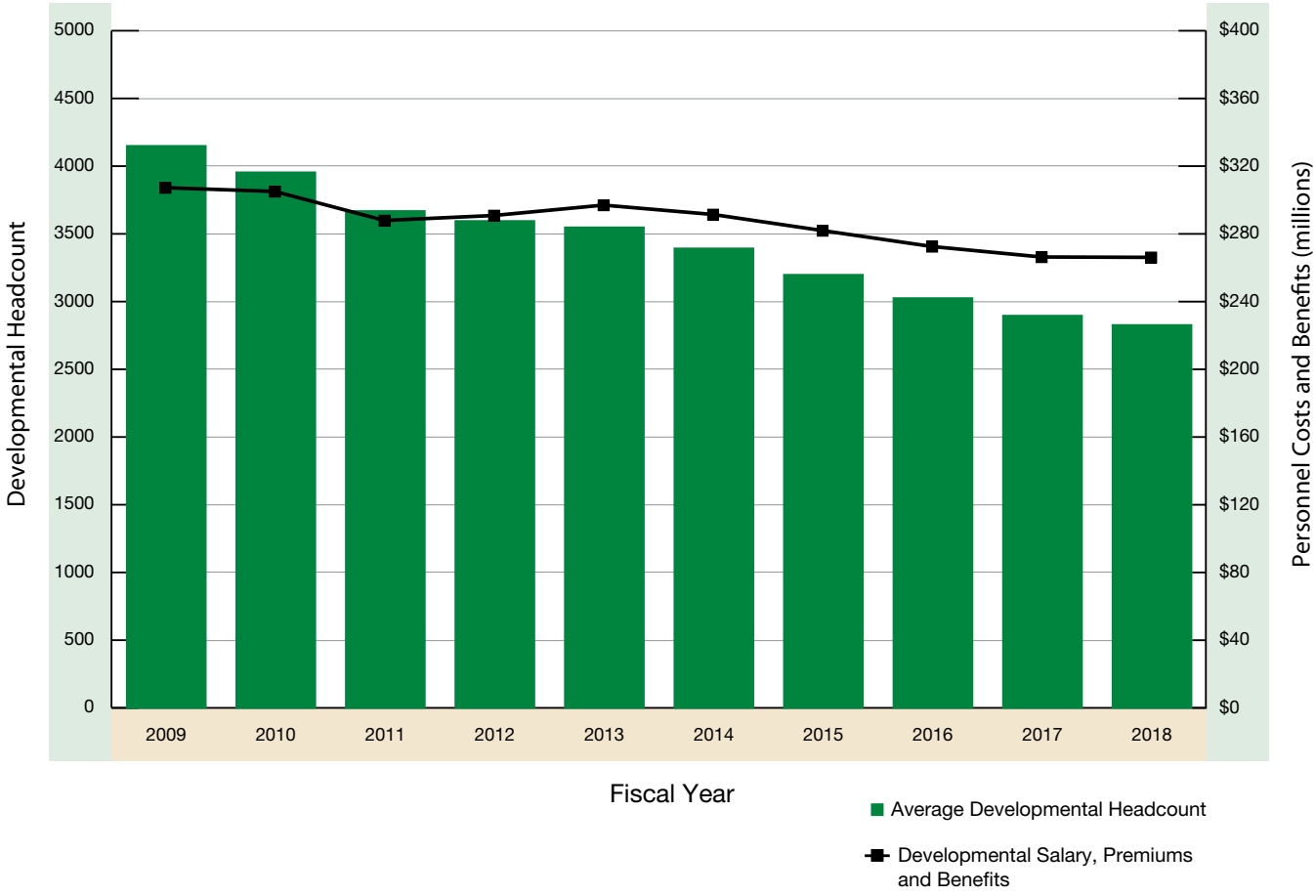
Chapter 8

Funding Status

In addition to direct training costs, the FAA will incur salary and other costs of developmentals before they certify. The average cost of a developmental in FY 2009 is projected to be $74,000.

Figure 8.1 below depicts expected annual compensation costs of developmentals, as well as the expected number of developmentals by year through 2018. As training takes two-to-three years, the chart depicts a rolling total of hires and costs from the current and previous years.

Figure 8.1 Estimated Cost of Developmentals Before Certification



Appendix A: 2009 Facility Staffing Ranges

The following presents controller staffing ranges, by facility, for en route and terminal air traffic control facilities for FY 2009. These ranges include the number of controllers needed to perform the work. While most of the work is accomplished by CPCs, work is also being performed in facilities by CPC-ITs and position-qualified developmentals who are proficient, or "checked-out", in specific sectors or positions and handle workload independently. These position-qualified controllers are the focus of staffing-to-traffic efforts.

En Route Facility Controller Staffing Ranges

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
ZAB	ALBUQUERQUE ARTCC	179	4	91	274	190	232
ZAN	ANCHORAGE ARTCC	78	1	38	117	82	100
ZAU	CHICAGO ARTCC	338	4	82	424	286	350
ZBW	BOSTON ARTCC	218	3	75	296	182	222
ZDC	WASHINGTON ARTCC	262	2	70	334	270	330
ZDV	DENVER ARTCC	243	0	67	310	243	297
ZFW	FORT WORTH ARTCC	264	8	70	342	207	253
ZHU	HOUSTON ARTCC	237	7	72	316	237	289
ZID	INDIANAPOLIS ARTCC	310	0	91	401	275	337
ZJX	JACKSONVILLE ARTCC	257	1	64	322	242	296
ZKC	KANSAS CITY ARTCC	239	12	65	316	211	257
ZLA	LOS ANGELES ARTCC	226	0	67	293	214	262
ZLC	SALT LAKE ARTCC	156	0	55	211	141	173
ZMA	MIAMI ARTCC	200	3	79	282	209	255
ZME	MEMPHIS ARTCC	255	2	57	314	239	293
ZMP	MINNEAPOLIS ARTCC	272	4	50	326	193	235
ZNY	NEW YORK ARTCC	232	10	90	332	242	296
ZOA	OAKLAND ARTCC	176	5	56	237	195	239
ZOB	CLEVELAND ARTCC	335	6	66	407	286	350
ZSE	SEATTLE ARTCC	151	1	39	191	120	146
ZSU	SAN JUAN	40	0	8	48	43	53
ZTL	ATLANTA ARTCC	297	5	114	416	275	337
ZUA	GUAM	13	0	3	16	14	17

Terminal Facility Controller Staffing Ranges

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
A11	ANCHORAGE TRACON	14	2	11	27	23	29
A80	ATLANTA TRACON	67	14	20	101	85	103
A90	BOSTON TRACON	54	1	6	61	48	58
ABE	LEHIGH VALLEY INTERNATIONAL ARPT	21	4	6	31	23	28
ABI	ABILENE REGIONAL ARPT	13	0	6	19	21	25
ABQ	ALBUQUERQUE INTL SUNPORT ARPT	27	2	11	40	32	39
ACK	NANTUCKET MEMORIAL ARPT	11	0	2	13	10	12
ACT	WACO REGIONAL ARPT	10	1	6	17	14	18
ACY	ATLANTIC CITY INTERNATIONAL ARPT	22	0	4	26	20	24
ADS	ADDISON ARPT	11	0	5	16	11	13
ADW	ANDREWS AFB	9	0	3	12	10	12
AFW	FORT WORTH ALLIANCE ARPT	12	1	3	16	12	14
AGC	ALLEGHENY COUNTY ARPT	9	0	6	15	9	11
AGS	AUGUSTA RGNL AT BUSH FIELD ARPT	12	0	4	16	13	15
ALB	ALBANY INTERNATIONAL ARPT	20	1	4	25	20	24
ALO	WATERLOO MUNICIPAL ARPT	7	0	5	12	10	12
AMA	AMARILLO INTL ARPT	16	0	6	22	16	20
ANC	TED STEVENS ANCHORAGE INTL ARPT	17	2	4	23	21	25
APA	CENTENNIAL ARPT	17	1	3	21	16	20
APC	NAPA COUNTY ARPT	7	0	4	11	7	9
ARB	ANN ARBOR MUNICIPAL ARPT	9	0	0	9	6	8
ARR	AURORA MUNICIPAL ARPT	9	0	1	10	7	9
ASE	ASPEN PITKIN COUNTY / SARDY FIELD ARPT	6	1	3	10	13	15
ATL	THE WILLIAM B HARTSFIELD ATLANTA INTL ARPT	38	1	8	47	47	57
AUS	AUSTIN-BERGSTROM INTL ARPT	28	0	9	37	32	39
AVL	ASHEVILLE REGIONAL ARPT	12	1	9	22	15	19
AVP	WILKES-BARRE / SCRANTON INTL ARPT	15	0	5	20	19	23
AZO	KALAMAZOO / BATTLE CREEK INTERNATIONAL ARPT	16	0	6	22	16	20
BDL	BRADLEY INTL ARPT	12	1	5	18	11	13
BED	LAURENCE G HANSCOM FLD ARPT	11	0	6	17	10	12
BFI	BOEING FIELD / KING COUNTY INTL ARPT	16	0	9	25	17	21
BFL	MEADOWS FIELD ARPT	16	0	6	22	17	21

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
BGM	BINGHAMTON REGIONAL / EDWIN A LINK FIELD ARPT	7	1	5	13	11	13
BGR	BANGOR INTL ARPT	16	1	7	24	16	20
BHM	BIRMINGHAM INTL ARPT	22	3	5	30	24	30
BIL	BILLINGS LOGAN INTL ARPT	16	0	7	23	15	19
BIS	BISMARCK MUNI ARPT	12	0	0	12	11	13
BJC	JEFFCO ARPT	9	0	5	14	10	12
BNA	NASHVILLE INTL ARPT	28	5	15	48	34	42
BOI	BOISE AIR TERMINAL / GOWEN FLD ARPT	17	0	9	26	22	26
BOS	GENERAL EDWARD LAWRENCE LOGAN INTL ARPT	34	0	4	38	25	31
BPT	SOUTHEAST TEXAS REGIONAL ARPT	13	1	1	15	8	10
BTR	BATON ROUGE METROPOLITAN, RYAN FIELD ARPT	8	1	8	17	17	21
BTV	BURLINGTON INTL ARPT	11	0	8	19	17	21
BUF	BUFFALO NIAGARA INTL ARPT	25	0	5	30	25	31
BUR	BURBANK - GLENDALE-PASADENA ARPT	14	2	11	27	13	15
BWI	BALTIMORE-WASHINGTON INTL ARPT	27	0	0	27	20	24
C90	CHICAGO TRACON	71	18	16	105	85	103
CAE	COLUMBIA METROPOLITAN ARPT	17	4	8	29	21	25
CAK	AKRON CANTON REGIONAL ARPT	13	2	10	25	21	25
CCR	BUCHANAN FIELD ARPT	9	1	2	12	7	9
CDW	ESSEX COUNTY ARPT	10	0	2	12	8	10
CHA	LOVELL FIELD ARPT	16	1	4	21	16	20
CHS	CHARLESTON AFB / INTL ARPT	19	0	9	28	21	25
CID	THE EASTERN IOWA ARPT	14	0	7	21	14	18
CKB	HARRISON / MARION REGIONAL ARPT	11	0	2	13	13	15
CLE	CLEVELAND HOPKINS INTL ARPT	33	7	17	57	41	51
CLT	CHARLOTTE / DOUGLAS INTL ARPT	58	8	23	89	73	89
CMA	CAMARILLO ARPT	8	2	4	14	8	10
CMH	PORT COLUMBUS INTL ARPT	40	3	9	52	34	42
CMI	UNIVERSITY OF ILLINOIS-WILLARD ARPT	14	0	9	23	17	21
CNO	CHINO ARPT	7	0	7	14	8	10
COS	CITY OF COLORADO SPRINGS MUNI ARPT	23	0	8	31	23	29
CPR	NATRONA COUNTY INTL ARPT	9	0	1	10	9	11

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
CPS	ST. LOUIS DOWNTOWN ARPT	12	0	2	14	8	10
CRP	CORPUS CHRISTI INTL ARPT	27	2	9	38	39	47
CRQ	MC CLELLAN-PALOMAR ARPT	10	0	4	14	12	14
CRW	YEAGER ARPT	17	0	1	18	17	21
CSG	COLUMBUS METROPOLITAN ARPT	5	0	2	7	5	6
CVG	CINCINNATI / NORTHERN KENTUCKY INTERNATIONAL ARPT	54	0	16	70	61	75
D01	DENVER TRACON	36	13	16	65	58	70
D10	DALLAS - FORT WORTH TRACON	56	12	17	85	74	90
D21	DETROIT TRACON	38	4	8	50	45	55
DAB	DAYTONA BEACH INTL ARPT	39	0	23	62	45	55
DAL	DALLAS LOVE FIELD ARPT	23	2	3	28	20	24
DAY	AMES M COX DAYTON INTL ARPT	30	1	4	35	27	33
DCA	RONALD REAGAN WASHINGTON NATIONAL ARPT	26	1	2	29	20	24
DEN	DENVER INTL ARPT	31	4	5	40	32	39
DFW	DALLAS/FORT WORTH INTERNATIONAL ARPT	41	18	12	71	41	51
DLH	DULUTH INTL ARPT	16	2	3	21	15	19
DPA	DUPAGE APRT	11	1	4	16	10	12
DSM	DES MOINES INTL ARPT	20	0	9	29	21	25
DTW	DETROIT METROPOLITAN WAYNE COUNTY ARPT	27	3	3	33	26	32
DVT	PHOENIX DEER VALLEY ARPT	15	0	1	16	14	18
DWH	DAVID WAYNE HOOKS MEMORIAL ARPT	12	1	6	19	11	13
E10	HIGH DESERT TRACON	14	3	5	22	18	22
ELM	ELMIRA / CORNING REGIONAL ARPT	8	1	4	13	12	14
ELP	EL PASO INTL ARPT	18	1	2	21	19	23
EMT	EL MONTE ARPT	12	1	2	15	7	9
ERI	ERIE INTL / TOM RIDGE FIELD ARPT	14	0	6	20	12	14
EUG	MAHLON SWEET FIELD ARPT	20	0	3	23	19	23
EVV	EVANSVILLE REGIONAL ARPT	17	0	4	21	16	20
EWR	NEWARK LIBERTY INTL ARPT	27	0	9	36	31	37
FAI	FAIRBANKS INTL ARPT	13	0	6	19	20	24
FAR	HECTOR INTL ARPT	12	1	8	21	15	19
FAT	FRESNO YOSEMITE INTERNATIONAL ARPT	16	3	7	26	23	28

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
FAY	FAYETTEVILLE REGIONAL / GRANNIS FIELD ARPT	20	0	6	26	19	23
FCM	FLYING CLOUD ARPT	11	0	3	14	9	11
FFZ	FALCON FLD ARPT	13	2	5	20	12	14
FLL	FORT LAUDERDALE / HOLLYWOOD INTL ARPT	21	1	9	31	21	25
FLO	FLORENCE REGIONAL ARPT	10	0	4	14	12	14
FNT	BISHOP INTERNATIONAL ARPT	20	0	1	21	15	19
FPR	ST LUCIE COUNTY INTL ARPT	10	0	4	14	10	12
FRG	REPUBLIC ARPT	11	0	4	15	10	12
FSD	JOE FOSS FIELD ARPT	14	0	3	17	14	18
FSM	FORT SMITH REGIONAL ARPT	26	0	6	32	24	30
FTW	FORT WORTH MEACHAM INTL ARPT	14	1	1	16	11	13
FWA	FORT WAYNE INTL ARPT	21	0	3	24	18	22
FXE	FT. LAUDERDALE EXECUTIVE ARPT	14	0	4	18	13	15
GCN	GRAND CANYON NATIONAL PARK ARPT	6	0	0	6	7	9
GEG	SPOKANE INTL ARPT	26	0	5	31	21	25
GFK	GRAND FORKS INTL ARPT	15	0	4	19	13	15
GGG	EAST TEXAS RGNL ARPT	15	0	5	20	16	20
GPT	GULFPORT BILOXI INTL ARPT	13	0	5	18	15	19
GRB	AUSTIC STRAUBEL INTERNATIONAL ARPT	20	2	1	23	19	23
GRR	GERALD R. FORD INTERNATIONAL ARPT	20	0	6	26	18	22
GSO	PIEDMONT TRIAD INTERNATIONAL ARPT	27	2	9	38	24	30
GSP	GREENVILLE-SPARTANBURG INTL ARPT	14	2	3	19	17	21
GTF	GREAT FALLS INTL ARPT	8	0	5	13	13	15
HCF	HONOLULU CONTROL FACILITY CERAP	64	1	26	91	69	85
HEF	MANASSAS REGIONAL / HARRY P DAVIS FIELD ARPT	8	0	4	12	9	11
HIO	PORTLAND HILLSBORO ARPT	13	0	1	14	11	13
HLN	HELENA REGIONAL ARPT	5	2	3	10	7	9
HOU	WILLIAM P. HOBBY ARPT	20	2	3	25	16	20
HPN	WESTCHESTER CNTY ARPT	13	1	6	20	11	13
HSV	HUNTSVILLE INTL - CARL T JONES FIELD ARPT	13	1	5	19	17	21
HTS	TRI-STATE / MILTON J FERGUSON FIELD ARPT	14	1	0	15	14	18

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
HUF	TERRE HAUTE INTERNATIONAL-HULMAN FIELD ARPT	11	2	2	15	14	18
HWD	HAYWARD EXECUTIVE ARPT	7	0	3	10	9	11
I90	HOUSTON TRACON	62	9	5	76	68	84
IAD	WASHINGTON DULLES INTL ARPT	34	1	6	41	28	34
IAH	GEORGE BUSH INTERCONTINENTAL ARPT / HOUSTON ARPT	30	8	6	44	32	39
ICT	WICHITA MIDCONTINENT ARPT	32	1	5	38	29	35
ILG	NEW CASTLE COUNTY ARPT	9	1	5	15	7	9
ILM	WILMINGTON INTL ARPT	13	1	8	22	14	18
IND	INDIANAPOLIS INTL ARPT	35	3	4	42	38	46
ISP	LONG ISLAND MACARTHUR ARPT	15	1	0	16	11	13
ITO	HILO INTERNATIONAL ARPT	9	0	4	13	14	17
JAN	JACKSON INTL ARPT	12	0	5	17	15	19
JAX	JACKSONVILLE INTL ARPT	31	2	20	53	40	48
JFK	JOHN F KENNEDY INTL ARPT	24	2	9	35	29	35
JNU	JUNEAU INTL ARPT	12	0	3	15	9	11
K90	CAPE TRACON	17	0	7	24	23	28
L30	LAS VEGAS TRACON	25	9	9	43	42	52
LAF	PURDUE UNIVERSITY ARPT	7	0	1	8	8	10
LAN	CAPITAL CITY ARPT	18	0	8	26	22	26
LAS	MC CARRAN INTL ARPT	26	0	7	33	34	42
LAX	LOS ANGELES INTL ARPT	39	3	2	44	35	43
LBB	LUBBOCK INTL ARPT	13	0	4	17	18	22
LCH	LAKE CHARLES REGIONAL ARPT	6	0	6	12	14	17
LEX	BLUE GRASS ARPT	17	0	5	22	19	23
LFT	LAFAYETTE REGIONAL ARPT	13	0	5	18	17	21
LGA	LA GUARDIA ARPT	25	1	10	36	29	35
LGB	LONG BEACH/DAUGHERTY FIELD ARPT	19	2	6	27	18	22
LIT	ADAMS FIELD ARPT	27	0	7	34	26	32
LNK	LINCOLN MUNICIPAL ARPT	12	0	2	14	8	10
LOU	BOWMAN FIELD ARPT	9	0	3	12	7	9
LVK	LIVERMORE MUNI ARPT	7	1	6	14	8	10
M98	MINNEAPOLIS TRACON	49	2	7	58	47	57
MAF	MIDLAND INTERNATIONAL ARPT	15	1	8	24	22	26
MBS	MBS INTL ARPT	12	0	5	17	14	18

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
MCI	KANSAS CITY INTL ARPT	26	0	8	34	32	40
MCO	ORLANDO INTL ARPT	43	10	28	81	66	80
MDT	HARRISBURG INTL ARPT	15	4	8	27	21	25
MDW	CHICAGO MIDWAY ARPT	24	0	7	31	20	24
MEM	MEMPHIS INTL ARPT	44	3	19	66	59	72
MFD	MANSFIELD LAHM REGIONAL ARPT	9	0	7	16	12	14
MGM	MONTGOMERY RGNL (DANNELLY FIELD) ARPT	14	0	5	19	15	19
MHT	MANCHESTER ARPT	16	0	0	16	9	11
MIA	MIAMI INTL ARPT	59	7	24	90	77	95
MIC	CRYSTAL ARPT	8	0	4	12	6	8
MKC	CHARLES B WHEELER DOWNTOWN ARPT	11	0	4	15	9	11
MKE	GENERAL MITCHELL INTERNATIONAL ARPT	40	2	10	52	34	42
MKG	MUSKEGON CNTY ARPT	19	1	4	24	16	20
MLI	QUAD CITY INTL ARPT	11	0	3	14	14	18
MLU	MONROE REGIONAL ARPT	8	1	5	14	13	15
MMU	MORRISTOWN MUNICIPAL ARPT	12	0	1	13	10	12
MOB	MOBILE REGIONAL ARPT	19	2	5	26	21	25
MRI	MERRILL FIELD ARPT	9	0	5	14	10	12
MRY	MONTEREY PENINSULA ARPT	6	0	1	7	7	9
MSN	DANE COUNTY REGIONAL - TRUAX FIELD ARPT	14	5	7	26	19	23
MSP	MINNEAPOLIS ST. PAUL INTL / WOLD-CHAMBERLAIN ARPT	37	4	0	41	28	34
MSY	LOUIS ARMSTRONG NEW ORLEANS INTL ARPT	26	1	11	38	27	33
MWH	GRANT COUNTY INTL ARPT	8	0	3	11	12	14
MYF	MONTGOMERY FIELD ARPT	10	0	3	13	11	13
MYR	MYRTLE BEACH INTL ARPT	13	0	6	19	15	19
N90	NEW YORK TRACON	174	1	48	223	180	220
NCT	NORTHERN CA TRACON	132	5	28	165	144	176
NEW	LAKEFRONT ARPT	3	0	4	7	6	8
NMM	MERIDIAN NAS / MC CAIN FIELD / ARPT	9	0	3	12	13	15
OAK	METROPOLITAN OAKLAND INTL ARPT	22	2	4	28	18	22
OGG	KAHULUI ARPT	9	1	10	20	8	10
OKC	WILL ROGERS WORLD ARPT	31	1	4	36	29	35
OMA	EPPLEY AIRFIELD ARPT	11	0	2	13	10	12

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
ONT	ONTARIO INTL ARPT	13	0	5	18	11	13
ORD	CHICAGO O'HARE INTL ARPT	48	19	5	72	52	64
ORF	NORFOLK INTL ARPT	26	6	9	41	32	39
ORL	EXECUTIVE ARPT	10	0	4	14	10	12
P31	PENSACOLA TRACON	28	2	7	37	29	35
P50	PHOENIX TRACON	45	8	9	62	50	62
P80	PORTLAND TRACON	20	5	6	31	25	31
PAE	SNOHOMISH COUNTY (PAINE FLD) ARPT	10	0	3	13	9	11
PAO	PALO ALTO ARPT OF SANTA CLARA CO ARPT	8	0	5	13	8	10
PBI	PALM BEACH INTL ARPT	32	3	11	46	35	43
PCT	POTOMAC TRACON	136	4	35	175	147	179
PDK	DE KALB PEACHTREE ARPT	12	0	7	19	12	14
PDX	PORTLAND INTL ARPT	22	0	2	24	20	24
PHF	NEWPORT NEWS / WILLIAMSBURG INTERNATIONAL ARPT	10	0	5	15	8	10
PHL	PHILADELPHIA INTL ARPT	66	9	21	96	73	89
PHX	PHOENIX SKY HARBOR INTL ARPT	29	1	8	38	30	36
PIA	GREATER PEORIA REGIONAL ARPT	15	0	5	20	17	21
PIE	ST. PETERSBURG - CLEARWATER INTL ARPT	12	0	7	19	11	13
PIT	PITTSBURGH INTERNATIONAL ARPT	57	0	0	57	35	43
PNE	NORTHEAST PHILADELPHIA ARPT	8	0	4	12	8	10
PNS	PENSACOLA REGIONAL ARPT	12	0	3	15	9	11
POC	BRACKETT FIELD ARPT	13	0	0	13	9	11
POU	DUTCHESS COUNTY ARPT	9	0	1	10	9	11
PRC	ERNEST A LOVE FIELD ARPT	12	0	3	15	13	15
PSC	TRI-CITIES ARPT	14	0	3	17	14	18
PSP	PALM SPRINGS INTERNATIONAL ARPT	15	0	1	16	8	10
PTK	OAKLAND COUNTY INTERNATIONAL ARPT	12	0	1	13	12	14
PUB	PUEBLO MEMORIAL ARPT	9	1	6	16	11	13
PVD	THEODORE FRANCIS GREEN STATE ARPT	20	1	12	33	23	29
PWK	PALWAUKEE MUNI ARPT	10	0	4	14	9	11
PWM	PORTLAND INTL JETPORT ARPT	13	0	6	19	16	20
R90	OMAHA TRACON	18	0	1	19	15	19
RDG	READING REGIONAL / CARL A SPAATZ FIELD ARPT	11	0	4	15	13	15

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
RDU	RALEIGH DURHAM INTL ARPT	31	3	16	50	37	45
RFD	GREATER ROCKFORD ARPT	21	2	0	23	20	24
RHV	REID HILLVIEW OF SANTA CLARA COUNTY ARPT	8	0	3	11	8	10
RIC	RICHMOND INTL ARPT	11	0	7	18	12	14
RNO	RENO / TAHOE INTERNATIONAL ARPT	11	3	7	21	21	25
ROA	ROANOKE REGIONAL / WOODRUM FIELD ARPT	17	0	7	24	21	25
ROC	GREATER ROCHESTER INTERNATIONAL ARPT	22	1	3	26	21	25
ROW	ROSWELL INDUSTRIAL AIR CENTER ARPT	8	1	7	16	14	17
RST	ROCHESTER INTERNATIONAL ARPT	13	1	4	18	13	15
RSW	SOUTHWEST FLORIDA INTL ARPT	19	2	10	31	23	29
RVS	RICHARD LLOYD JONES JR ARPT	14	0	1	15	15	19
S46	SEATTLE TRACON	36	3	11	50	41	51
S56	SALT LAKE CITY TRACON	35	1	16	52	37	45
SAN	SAN DIEGO INTL-LINDBERGH FLD ARPT	19	0	4	23	14	18
SAT	SAN ANTONIO INTL ARPT	31	8	13	52	43	53
SAV	SAVANNAH / HILTON HEAD INTERNATIONAL ARPT	20	3	3	26	20	24
SBA	SANTA BARBARA MUNI ARPT	17	1	9	27	23	29
SBN	SOUTH BEND REGIONAL ARPT	15	4	3	22	20	24
SCK	STOCKTON METROPOLITAN ARPT	5	0	2	7	6	8
SCT	SOUTHERN CA TRACON	163	19	44	226	196	240
SDF	LOUISVILLE INTL - STANDIFORD FIELD ARPT	35	1	6	42	34	42
SDL	SCOTTSDALE ARPT	14	0	1	15	10	12
SEA	SEATTLE TACOMA INTL ARPT	27	2	0	29	23	28
SEE	GILLESPIE FIELD ARPT	14	0	4	18	12	14
SFB	ORLANDO SANFORD ARPT	20	0	4	24	14	17
SFO	SAN FRANCISCO INTL ARPT	26	3	2	31	25	31
SGF	SPRINGFIELD BRANSON REGIONAL ARPT	26	0	5	31	23	28
SHV	SHREVEPORT REGIONAL ARPT	15	0	9	24	19	23
SJC	NORMAN Y MINETA SAN JOSE INTERNATIONAL ARPT	15	0	2	17	13	15
SJU	LUIS MUNOZ MARIN INTL ARPT	12	1	6	19	13	15
SLC	SALT LAKE CITY INTL ARPT	30	1	2	33	25	31
SMF	SACRAMENTO INTERNATIONAL ARPT	14	0	2	16	10	12

Total Controller Staffing Ranges include CPCs and trainees (CPC-ITs and Developmentals)

		Actual on Board as of 09/27/08				Total Controller Staffing Ranges	
ID	Facility Name	CPC	CPCIT	Developmental	Total	Low	High
SMO	SANTA MONICA MUNI ARPT	10	0	5	15	9	11
SNA	JOHN WAYNE AIRPORT-ORANGE COUNTY ARPT	21	1	3	25	21	25
SPI	CAPITAL ARPT	9	1	7	17	11	13
SRQ	SARASOTA / BRADENTON INTL ARPT	8	0	7	15	10	12
STL	LAMBERT - ST LOUIS INTL ARPT	27	1	2	30	17	21
STP	ST. PAUL DOWNTOWN HOLMAN FLD ARPT	13	0	2	15	9	11
STS	SONOMA COUNTY ARPT	8	0	1	9	7	9
STT	CYRIL E KING ARPT	7	1	0	8	6	8
SUS	SPIRIT OF ST. LOUIS ARPT	13	0	1	14	9	11
SUX	SIOUX GATEWAY/COL BUD DAY FIELD ARPT	7	0	5	12	11	13
SYR	SYRACUSE HANCOCK INTL ARPT	13	2	6	21	20	24
T52	GRIFFISS AIRPARK ARPT	10	0	1	11	8	10
T75	ST. LOUIS TRACON	43	3	3	49	29	35
TEB	TETERBORO ARPT	13	1	10	24	15	19
TLH	TALLAHASSEE REGIONAL ARPT	16	0	11	27	16	20
TMB	KENDALL-TAMIAMI EXECUTIVE ARPT	9	1	2	12	12	14
TOA	ZAMPERINI FIELD ARPT	7	1	6	14	9	11
TOL	TOLEDO EXPRESS ARPT	18	1	9	28	19	23
TPA	TAMPA INTL ARPT	45	4	24	73	50	62
TRI	TRI-CITY RGNL TN/VA ARPT	12	0	6	18	15	19
TUL	TULSA INTL ARPT	25	1	2	28	26	32
TUS	TUCSON INTL ARPT	16	1	3	20	14	18
TVC	CHERRY CAPITAL ARPT	6	0	1	7	8	10
TWF	JOSLIN FIELD - MAGIC VALLEY RGNL ARPT	7	0	1	8	6	8
TYS	MC GHEE TYSON ARPT	18	3	8	29	22	26
U90	TUCSON TRACON	15	0	5	20	19	23
VGT	NORTH LAS VEGAS ARPT	12	1	4	17	11	13
VNY	VAN NUYS ARPT	16	0	8	24	19	23
VRB	VERO BEACH MUNICIPAL ARPT	9	0	5	14	10	12
Y90	YANKEE TRACON	22	0	9	31	21	25
YIP	WILLOW RUN ARPT	7	1	4	12	8	10
YNG	YOUNGSTOWN-WARREN REGIONAL ARPT	14	3	6	23	15	19

Appendix B: Facility Trainee Report

The following presents the number and percent of active developmental controllers who exceeded the training benchmark as of 09/27/08. Developmental controllers are expected to complete their training within two years at terminal facilities and three years at en route facilities.

For FY 2008, records show that 2 percent of active terminal developmental controllers were still progressing, but had not completed their required training in two years. For en route controllers, 5 percent were still progressing, but had not completed their required training in three years.

If the row is blank, no developmental controllers at the facility had exceeded their 2 or 3 year training benchmark as of 09/27/08.

En Route Developmentals As Of 09/27/08

ID	Facility	Number exceeding the 3 Year Benchmark	Percent exceeding the 3 Year Benchmark
ZAB	ALBUQUERQUE ARTCC		
ZAN	ANCHORAGE ARTCC		
ZAU	CHICAGO ARTCC	2	3%
ZBW	BOSTON ARTCC		
ZDC	WASHINGTON ARTCC	5	7%
ZDV	DENVER ARTCC		
ZFW	FORT WORTH ARTCC	4	5%
ZHU	HOUSTON ARTCC		
ZID	INDIANAPOLIS ARTCC		
ZJX	JACKSONVILLE ARTCC		
ZKC	KANSAS CITY ARTCC	2	3%
ZLA	LOS ANGELES ARTCC	21	33%
ZLC	SALT LAKE ARTCC	2	4%
ZMA	MIAMI ARTCC	3	4%
ZME	MEMPHIS ARTCC	1	2%
ZMP	MINNEAPOLIS ARTCC		
ZNY	NEW YORK ARTCC	17	20%
ZOA	OAKLAND ARTCC	5	9%
ZOB	CLEVELAND ARTCC	4	6%
ZSE	SEATTLE ARTCC	3	8%
ZSU	SAN JUAN	2	25%
ZTL	ATLANTA ARTCC	9	8%
ZUA	GUAM		

Terminal Developmentals As Of 09/27/08

ID	Facility	Number exceeding the 2 Year Benchmark	Percent exceeding the 2 Year Benchmark
A11	ANCHORAGE TRACON		
A80	ATLANTA TRACON	5	25%
A90	BOSTON TRACON		
ABE	LEHIGH VALLEY INTERNATIONAL ARPT		
ABI	ABILENE REGIONAL ARPT	1	17%
ABQ	ALBUQUERQUE INTL SUNPORT ARPT		
ACK	NANTUCKET MEMORIAL ARPT		
ACT	WACO REGIONAL ARPT		
ACY	ATLANTIC CITY INTERNATIONAL ARPT		
ADS	ADDISON ARPT		
ADW	ANDREWS AFB		
AFW	FORT WORTH ALLIANCE ARPT		
AGC	ALLEGHENY COUNTY ARPT		
AGS	AUGUSTA RGNL AT BUSH FIELD ARPT		
ALB	ALBANY INTERNATIONAL ARPT		
ALO	WATERLOO MUNICIPAL ARPT		
AMA	AMARILLO INTL ARPT		
ANC	TED STEVENS ANCHORAGE INTL ARPT		
APA	CENTENNIAL ARPT		
APC	NAPA COUNTY ARPT		
ARB	ANN ARBOR MUNICIPAL ARPT		
ARR	AURORA MUNICIPAL ARPT		
ASE	ASPEN PITKIN COUNTY / SARDY FIELD ARPT		
ATL	THE WILLIAM B HARTSFIELD ATLANTA INTL ARPT		
AUS	AUSTIN-BERGSTROM INTL ARPT	1	10%
AVL	ASHEVILLE REGIONAL ARPT		
AVP	WILKES-BARRE / SCRANTON INTL ARPT		
AZO	KALAMAZOO / BATTLE CREEK INTERNATIONAL ARPT		
BDL	BRADLEY INTL ARPT		
BED	LAURENCE G HANSCOM FLD ARPT		
BFI	BOEING FIELD / KING COUNTY INTL ARPT		
BFL	MEADOWS FIELD ARPT		
BGM	BINGHAMTON REGIONAL / EDWIN A LINK FIELD ARPT		
BGR	BANGOR INTL ARPT		
BHM	BIRMINGHAM INTL ARPT		

ID	Facility	Number exceeding the 2 Year Benchmark	Percent exceeding the 2 Year Benchmark
BIL	BILLINGS LOGAN INTL ARPT		
BIS	BISMARCK MUNI ARPT		
BJC	JEFFCO ARPT		
BNA	NASHVILLE INTL ARPT	1	7%
BOI	BOISE AIR TERMINAL / GOWEN FLD ARPT		
BOS	GENERAL EDWARD LAWRENCE LOGAN INTL ARPT		
BPT	SOUTHEAST TEXAS REGIONAL ARPT		
BTR	BATON ROUGE METROPOLITAN, RYAN FIELD ARPT		
BTV	BURLINGTON INTL ARPT		
BUF	BUFFALO NIAGARA INTL ARPT		
BUR	BURBANK - GLENDALE-PASADENA ARPT		
BWI	BALTIMORE-WASHINGTON INTL ARPT		
C90	CHICAGO TRACON	3	21%
CAE	COLUMBIA METROPOLITAN ARPT		
CAK	AKRON CANTON REGIONAL ARPT		
CCR	BUCHANAN FIELD ARPT		
CDW	ESSEX COUNTY ARPT		
CHA	LOVELL FIELD ARPT		
CHS	CHARLESTON AFB / INTL ARPT		
CID	THE EASTERN IOWA ARPT		
CKB	HARRISON / MARION REGIONAL ARPT		
CLE	CLEVELAND HOPKINS INTL ARPT		
CLT	CHARLOTTE / DOUGLAS INTL ARPT		
CMA	CAMARILLO ARPT		
CMH	PORT COLUMBUS INTL ARPT		
CMI	UNIVERSITY OF ILLINOIS-WILLARD ARPT		
CNO	CHINO ARPT	1	17%
COS	CITY OF COLORADO SPRINGS MUNI ARPT		
CPR	NATRONA COUNTY INTL ARPT		
CPS	ST. LOUIS DOWNTOWN ARPT		
CRP	CORPUS CHRISTI INTL ARPT		
CRQ	MC CLELLAN-PALOMAR ARPT		
CRW	YEAGER ARPT		
CSG	COLUMBUS METROPOLITAN ARPT		
CVG	CINCINNATI / NORTHERN KENTUCKY INTERNATIONAL ARPT		

ID	Facility	Number exceeding the 2 Year Benchmark	Percent exceeding the 2 Year Benchmark
D01	DENVER TRACON		
D10	DALLAS - FORT WORTH TRACON		
D21	DETROIT TRACON		
DAB	DAYTONA BEACH INTL ARPT		
DAL	DALLAS LOVE FIELD ARPT		
DAY	AMES M COX DAYTON INTL ARPT		
DCA	RONALD REAGAN WASHINGTON NATIONAL ARPT		
DEN	DENVER INTL ARPT		
DFW	DALLAS/FORT WORTH INTERNATIONAL ARPT		
DLH	DULUTH INTL ARPT		
DPA	DUPAGE APRT		
DSM	DES MOINES INTL ARPT		
DTW	DETROIT METROPOLITAN WAYNE COUNTY ARPT		
DVT	PHOENIX DEER VALLEY ARPT		
DWH	DAVID WAYNE HOOKS MEMORIAL ARPT		
E10	HIGH DESERT TRACON		
ELM	ELMIRA / CORNING REGIONAL ARPT		
ELP	EL PASO INTL ARPT		
EMT	EL MONTE ARPT		
ERI	ERIE INTL / TOM RIDGE FIELD ARPT		
EUG	MAHLON SWEET FIELD ARPT		
EVV	EVANSVILLE REGIONAL ARPT		
EWR	NEWARK LIBERTY INTL ARPT		
FAI	FAIRBANKS INTL ARPT		
FAR	HECTOR INTL ARPT		
FAT	FRESNO YOSEMITE INTERNATIONAL ARPT	1	14%
FAY	FAYETTEVILLE REGIONAL / GRANNIS FIELD ARPT		
FCM	FLYING CLOUD ARPT		
FFZ	FALCON FLD ARPT		
FLL	FORT LAUDERDALE / HOLLYWOOD INTL ARPT		
FLO	FLORENCE REGIONAL ARPT		
FNT	BISHOP INTERNATIONAL ARPT		
FPR	ST LUCIE COUNTY INTL ARPT		
FRG	REPUBLIC ARPT		
FSD	JOE FOSS FIELD ARPT		
FSM	FORT SMITH REGIONAL ARPT		
FTW	FORT WORTH MEACHAM INTL ARPT		
FWA	FORT WAYNE INTL ARPT		
FXE	FT. LAUDERDALE EXECUTIVE ARPT		
GCN	GRAND CANYON NATIONAL PARK ARPT		
GEG	SPOKANE INTL ARPT		
GFK	GRAND FORKS INTL ARPT		
GGG	EAST TEXAS RGNL ARPT		
GPT	GULFPORT BILOXI INTL ARPT		

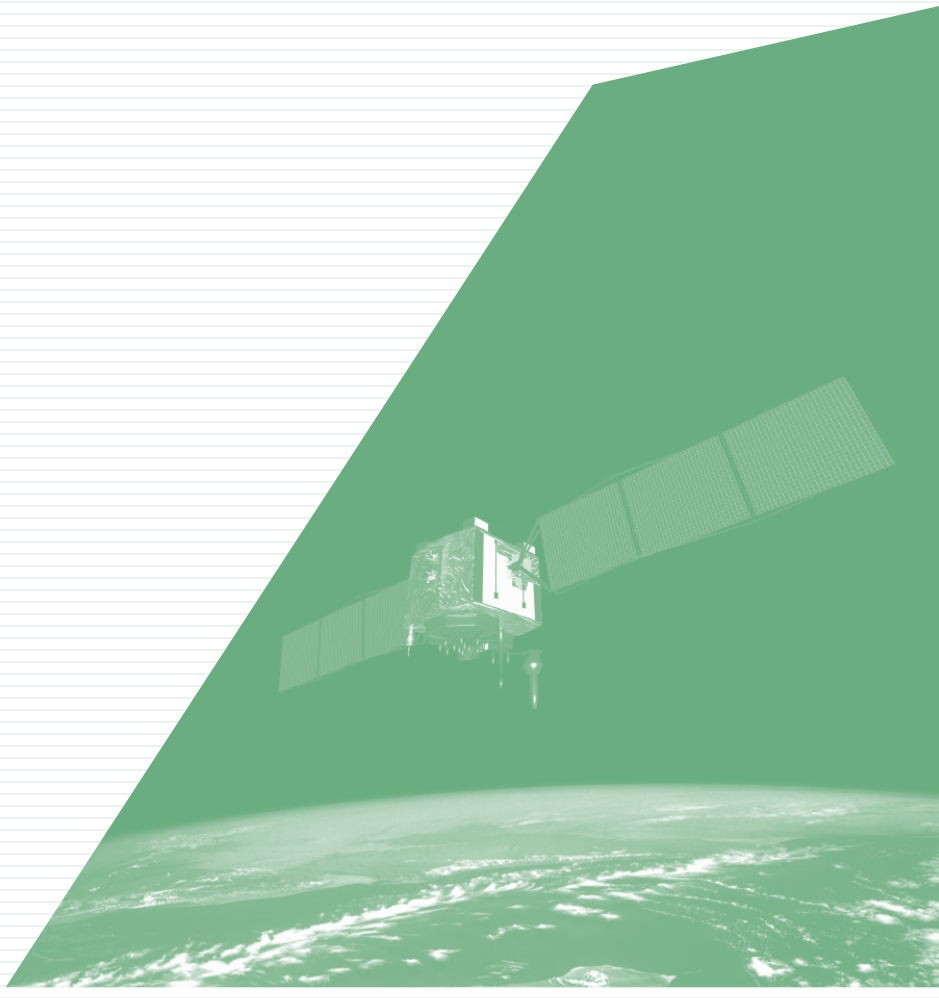
ID	Facility	Number exceeding the 2 Year Benchmark	Percent exceeding the 2 Year Benchmark
GRB	AUSTIC STRAUBEL INTERNATIONAL ARPT		
GRR	GERALD R. FORD INTERNATIONAL ARPT		
GSO	PIEDMONT TRIAD INTERNATIONAL ARPT		
GSP	GREENVILLE-SPARTANBURG INTL ARPT		
GTF	GREAT FALLS INTL ARPT		
HCF	HONOLULU CONTROL FACILITY CERAP		
HEF	MANASSAS REGIONAL / HARRY P DAVIS FIELD ARPT		
HIO	PORTLAND HILLSBORO ARPT		
HLN	HELENA REGIONAL ARPT		
HOU	WILLIAM P. HOBBY ARPT		
HPN	WESTCHESTER CNTY ARPT		
HSV	HUNTSVILLE INTL - CARL T JONES FIELD ARPT		
HTS	TRI-STATE / MILTON J FERGUSON FIELD ARPT		
HUF	TERRE HAUTE INTERNATIONAL-HULMAN FIELD ARPT		
HWD	HAYWARD EXECUTIVE ARPT		
I90	HOUSTON TRACON		
IAD	WASHINGTON DULLES INTL ARPT		
IAH	GEORGE BUSH INTERCONTINENTAL ARPT / HOUSTON ARPT		
ICT	WICHITA MIDCONTINENT ARPT		
ILG	NEW CASTLE COUNTY ARPT		
ILM	WILMINGTON INTL ARPT		
IND	INDIANAPOLIS INTL ARPT		
ISP	LONG ISLAND MACARTHUR ARPT		
ITO	HILO INTERNATIONAL ARPT		
JAN	JACKSON INTL ARPT		
JAX	JACKSONVILLE INTL ARPT		
JFK	JOHN F KENNEDY INTL ARPT		
JNU	JUNEAU INTL ARPT		
K90	CAPE TRACON		
L30	LAS VEGAS TRACON	1	10%
LAF	PURDUE UNIVERSITY ARPT		
LAN	CAPITAL CITY ARPT		
LAS	MC CARRAN INTL ARPT		
LAX	LOS ANGELES INTL ARPT		
LBB	LUBBOCK INTL ARPT		
LCH	LAKE CHARLES REGIONAL ARPT		
LEX	BLUE GRASS ARPT		
LFT	LAFAYETTE REGIONAL ARPT		
LGA	LA GUARDIA ARPT		
LGB	LONG BEACH/DAUGHERTY FIELD ARPT		
LIT	ADAMS FIELD ARPT		
LNK	LINCOLN MUNICIPAL ARPT		
LOU	BOWMAN FIELD ARPT		
LVK	LIVERMORE MUNI ARPT		

ID	Facility	Number exceeding the 2 Year Benchmark	Percent exceeding the 2 Year Benchmark
M98	MINNEAPOLIS TRACON		
MAF	MIDLAND INTERNATIONAL ARPT		
MBS	MBS INTL ARPT		
MCI	KANSAS CITY INTL ARPT		
MCO	ORLANDO INTL ARPT		
MDT	HARRISBURG INTL ARPT		
MDW	CHICAGO MIDWAY ARPT		
MEM	MEMPHIS INTL ARPT	1	8%
MFD	MANSFIELD LAHM REGIONAL ARPT		
MGM	MONTGOMERY RGNL (DANNELLY FIELD) ARPT		
MHT	MANCHESTER ARPT		
MIA	MIAMI INTL ARPT		
MIC	CRYSTAL ARPT		
MKC	CHARLES B WHEELER DOWNTOWN ARPT		
MKE	GENERAL MITCHELL INTERNATIONAL ARPT		
MKG	MUSKEGON CNTY ARPT		
MLI	QUAD CITY INTL ARPT		
MLU	MONROE REGIONAL ARPT		
MMU	MORRISTOWN MUNICIPAL ARPT		
MOB	MOBILE REGIONAL ARPT		
MRI	MERRILL FIELD ARPT		
MRY	MONTEREY PENINSULA ARPT		
MSN	DANE COUNTY REGIONAL - TRUAX FIELD ARPT		
MSP	MINNEAPOLIS ST. PAUL INTL / WOLD-CHAMBERLAIN ARPT		
MSY	LOUIS ARMSTRONG NEW ORLEANS INTL ARPT		
MWH	GRANT COUNTY INTL ARPT		
MYF	MONTGOMERY FIELD ARPT		
MYR	MYRTLE BEACH INTL ARPT		
N90	NEW YORK TRACON		
NCT	NORTHERN CA TRACON	1	4%
NEW	LAKEFRONT ARPT		
NMM	MERIDIAN NAS / MC CAIN FIELD / ARPT		
OAK	METROPOLITAN OAKLAND INTL ARPT		
OGG	KAHULUI ARPT		
OKC	WILL ROGERS WORLD ARPT		
OMA	EPPLEY AIRFIELD ARPT		
ONT	ONTARIO INTL ARPT		
ORD	CHICAGO O'HARE INTL ARPT		
ORF	NORFOLK INTL ARPT	1	13%
ORL	EXECUTIVE ARPT		
P31	PENSACOLA TRACON		
P50	PHOENIX TRACON		
P80	PORTLAND TRACON		
PAE	SNOHOMISH COUNTY (PAINE FLD) ARPT		

ID	Facility	Number exceeding the 2 Year Benchmark	Percent exceeding the 2 Year Benchmark
PAO	PALO ALTO ARPT OF SANTA CLARA CO ARPT		
PBI	PALM BEACH INTL ARPT		
PCT	POTOMAC TRACON	7	21%
PDK	DE KALB PEACHTREE ARPT		
PDX	PORTLAND INTL ARPT		
PHF	NEWPORT NEWS / WILLIAMSBURG INTERNATIONAL ARPT		
PHL	PHILADELPHIA INTL ARPT	2	10%
PHX	PHOENIX SKY HARBOR INTL ARPT	1	13%
PIA	GREATER PEORIA REGIONAL ARPT		
PIE	ST. PETERSBURG - CLEARWATER INTL ARPT		
PIT	PITTSBURGH INTERNATIONAL ARPT		
PNE	NORTHEAST PHILADELPHIA ARPT		
PNS	PENSACOLA REGIONAL ARPT		
POC	BRACKETT FIELD ARPT		
POU	DUTCHESS COUNTY ARPT		
PRC	ERNEST A LOVE FIELD ARPT		
PSC	TRI-CITIES ARPT		
PSP	PALM SPRINGS INTERNATIONAL ARPT		
PTK	OAKLAND COUNTY INTERNATIONAL ARPT		
PUB	PUEBLO MEMORIAL ARPT		
PVD	THEODORE FRANCIS GREEN STATE ARPT		
PWK	PALWAUKEE MUNI ARPT		
PWM	PORTLAND INTL JETPORT ARPT		
R90	OMAHA TRACON		
RDG	READING REGIONAL / CARL A SPAATZ FIELD ARPT		
RDU	RALEIGH DURHAM INTL ARPT		
RFD	GREATER ROCKFORD ARPT		
RHV	REID HILLVIEW OF SANTA CLARA COUNTY ARPT		
RIC	RICHMOND INTL ARPT		
RNO	RENO / TAHOE INTERNATIONAL ARPT		
ROA	ROANOKE REGIONAL / WOODRUM FIELD ARPT		
ROC	GREATER ROCHESTER INTERNATIONAL ARPT		
ROW	ROSWELL INDUSTRIAL AIR CENTER ARPT		
RST	ROCHESTER INTERNATIONAL ARPT		
RSW	SOUTHWEST FLORIDA INTL ARPT		
RVS	RICHARD LLOYD JONES JR ARPT		
S46	SEATTLE TRACON	1	11%
S56	SALT LAKE CITY TRACON		
SAN	SAN DIEGO INTL-LINDBERGH FLD ARPT		
SAT	SAN ANTONIO INTL ARPT		
SAV	SAVANNAH / HILTON HEAD INTERNATIONAL ARPT		
SBA	SANTA BARBARA MUNI ARPT	2	22%
SBN	SOUTH BEND REGIONAL ARPT		
SCK	STOCKTON METROPOLITAN ARPT		

ID	Facility	Number exceeding the 2 Year Benchmark	Percent exceeding the 2 Year Benchmark
SCT	SOUTHERN CA TRACON	7	16%
SDF	LOUISVILLE INTL - STANDIFORD FIELD ARPT		
SDL	SCOTTSDALE ARPT		
SEA	SEATTLE TACOMA INTL ARPT		
SEE	GILLESPIE FIELD ARPT		
SFB	ORLANDO SANFORD ARPT		
SFO	SAN FRANCISCO INTL ARPT		
SGF	SPRINGFIELD BRANSON REGIONAL ARPT		
SHV	SHREVEPORT REGIONAL ARPT		
SJC	NORMAN Y MINETA SAN JOSE INTERNATIONAL ARPT		
SJU	LUIS MUNOZ MARIN INTL ARPT		
SLC	SALT LAKE CITY INTL ARPT		
SMF	SACRAMENTO INTERNATIONAL ARPT		
SMO	SANTA MONICA MUNI ARPT		
SNA	JOHN WAYNE AIRPORT-ORANGE COUNTY ARPT		
SPI	CAPITAL ARPT		
SRQ	SARASOTA / BRADENTON INTL ARPT		
STL	LAMBERT - ST LOUIS INTL ARPT		
STP	ST. PAUL DOWNTOWN HOLMAN FLD ARPT		
STS	SONOMA COUNTY ARPT		
STT	CYRIL E KING ARPT		
SUS	SPIRIT OF ST. LOUIS ARPT		
SUX	SIOUX GATEWAY/COL BUD DAY FIELD ARPT		
SYR	SYRACUSE HANCOCK INTL ARPT		
T52	GRIFFISS AIRPARK ARPT		
T75	ST. LOUIS TRACON		
TEB	TETERBORO ARPT		
TLH	TALLAHASSEE REGIONAL ARPT	1	10%
TMB	KENDALL-TAMIAMI EXECUTIVE ARPT		
TOA	ZAMPERINI FIELD ARPT		
TOL	TOLEDO EXPRESS ARPT		
TPA	TAMPA INTL ARPT		
TRI	TRI-CITY RGNL TN/VA ARPT		
TUL	TULSA INTL ARPT		
TUS	TUCSON INTL ARPT		
TVC	CHERRY CAPITAL ARPT		
TWF	JOSLIN FIELD - MAGIC VALLEY RGNL ARPT		
TYS	MC GHEE TYSON ARPT		
U90	TUCSON TRACON		
VGT	NORTH LAS VEGAS ARPT		
VNY	VAN NUYS ARPT		
VRB	VERO BEACH MUNICIPAL ARPT		
Y90	YANKEE TRACON		
YIP	WILLOW RUN ARPT		
YNG	YOUNGSTOWN-WARREN REGIONAL ARPT		

Notes



U.S. Department of Transportation

Federal Aviation Administration

Air Traffic Organization
800 Independence Avenue, S.W.
Washington, DC 20591

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