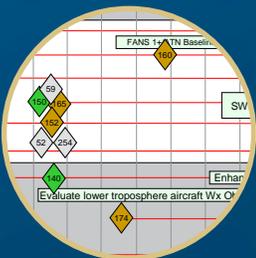




Federal Aviation  
Administration

# Acquisition Workforce Plan

## Phase I 2009





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# Foreword

This plan represents “Phase 1” of FAA’s acquisition workforce planning. It focuses on employees in FAA’s Air Traffic Organization who are directly engaged in the design and development of mission-critical technologies and systems (capital investment programs) that provide the backbone of the National Airspace System (NAS).

Consistent with other federal organizations that manage large, complex procurements, FAA broadly defines the acquisition workforce, to include employees in a number of key disciplines: program/project managers; researchers and engineers/systems engineers; business and financial analysts; contracting officers/specialists; Contracting Officer’s Technical Representatives; integrated logistics specialists; test and evaluation personnel; and other specialized support.

As described above, this plan represents a critical core of FAA’s acquisition workforce. The FY10 update to this plan will take an even expanded view. In particular, it will include a wider view of the research workforce, in-service management support (such as engineering services and logistics), acquisition personnel in other FAA lines of business, and core acquisition personnel that support Non-NAS IT acquisitions and other types of procurement.

# Executive Summary

The Federal Aviation Administration's (FAA) continuing mission is to provide the safest, most efficient aerospace system in the world. An effective acquisition workforce is essential to carrying out this mission. The acquisition workforce is responsible for the design, development, procurement, and implementation of the mission-critical technologies and systems that make up the nation's air traffic control infrastructure.

The Acquisition Workforce Plan is integral to FAA's effort to ensure its acquisition staffing needs are met in the coming years. This plan serves as FAA's guide for workforce hiring and development decisions for the acquisition workforce. It addresses strategies to hire, train, develop and retain employees.

Having a comprehensive plan is especially important as FAA transitions to the Next Generation Air Transportation System (NextGen), while simultaneously maintaining the current system safely and effectively. Today, FAA's acquisitions are more complex than ever and require new approaches and skills to support NextGen acquisition work.

The acquisition of mission-critical technologies is a complex, resource-intensive undertaking. It requires a highly skilled, flexible workforce that can keep pace with technological innovation, rapidly changing customer and supplier market environments, and the stringent safety and reliability demands of the air traffic control community. As defined in this plan, the Air Traffic Organization (ATO) identified approximately 960 core acquisition employees at the start of Fiscal Year (FY) 2009. However, it needs an estimated 350 additional new hires for fiscal years 2009–2011. This represents a projected 35 percent increase in FAA's core acquisition workforce.

The primary staffing needs over the next three years are in the Engineering and Research, Program/Project Management, and Contracting disciplines. These three disciplines account for 78 percent of the projected new workforce demand. Forty-seven percent of the increased hiring demand for FY2009 – FY2011 is related to NextGen programs in the NextGen and Operations Planning service unit.

The Acquisition Workforce Plan articulates FAA's need to hire and retain the most talented acquisition professionals amid the high government demand for these people.

The plan outlines the required skills and competencies needed for the acquisition workforce now and in the future, and explains the programs in place for hiring, training and retaining the acquisition workforce.

This plan also builds on and responds to recommendations outlined in two reports:

1. "Identifying the Workforce to Respond to a National Imperative: The Next Generation Air Transportation System" by the National Academy of Public Administration (NAPA) (Sept. 2008)
2. "Next Generation Air Transportation System, Status of Systems Acquisition and the Transition to the Next Generation Air Transportation System" published by the Government Accountability Office (GAO). (Sept. 2008)

FAA already has a wide variety of programs, initiatives and activities in place to address recruitment, development and retention.

Indeed, the GAO has already recognized FAA's acquisition workforce planning. In January 2009, the GAO reported that FAA has "...assessed its human capital challenges and is now identifying plans to address critical staff shortages. These efforts have yielded positive results."

The Acquisition Workforce Plan outlines new strategies that build on this success and provides the roadmap for addressing acquisition workforce needs. The four high-level strategies are—

- Fill gaps according to the supply/demand analysis
- Develop and execute a consolidated acquisition sourcing plan
- Create an integrated acquisition career development program
- Institutionalize the acquisition workforce planning process.

To ensure implementation of this plan, FAA established an executive-level Acquisition Workforce Council. The Council works closely with FAA's Acquisition Executive Board (AEB), which provides oversight for developing and implementing acquisition management policy, processes, practices, procedures and tools.

The Council has established five guiding principles for acquisition workforce planning:

- 1. Leverage Existing Programs and Best Practices from across Government.** Several federal agencies and supporting organizations have developed strong human capital and development programs in many acquisition disciplines. FAA will use these programs, as appropriate, to reduce time and cost of development and capitalize on best practices in government.
- 2. Staff and Shift Resources to Best Meet Needs.** As acquisition programs move through the phases of the acquisition life cycle, staffing needs change. FAA must staff according to these shifting needs. FAA will staff according to consideration of overall needs and priorities first, and individual programs and organizations second. FAA will identify the best fit for each position and will look internally as well as externally to close skill gaps.
- 3. Use an Appropriate Balance of Federal Employees and Contractors.** FAA will use federal employees to provide consistent, long-term staffing and maintain core in-house capabilities, and will use contractors to address staff and skill requirements that surge and decrease over time.
- 4. Implement Innovative Workforce Strategies.** FAA will implement more aggressive strategies for recruitment, staffing, training and development, and retention. This includes creating multiple paths for attracting and retaining acquisition workforce talent.

**5. Update the Acquisition Plan Annually and Consider It a Living Document.**

Workforce planning is a continuous process. FAA will expand the scope and detail of this workforce plan in the coming year. This version focuses on the core acquisition community, primarily in the ATO, that is engaged in NAS modernization programs. Future versions will address the larger acquisition community across the entire FAA.

Given the workforce challenges in the coming years, implementing a repeatable and transparent acquisition workforce plan is critical to FAA's success in meeting its mission.

# 1. Introduction

Tens of thousands of aircraft are guided safely and efficiently through the U.S. National Airspace System (NAS) every day. However, a convergence of challenges requires nothing less than a complete transformation of this system. The system is forecast to carry one billion passengers by 2021, new types of aircraft such as unmanned systems and commercial space vehicles are taking flight, and demand continues for better safety and reduced environmental impacts. A comprehensive system upgrade is needed to allow a fundamental change to the way air traffic is managed. The Federal Aviation Administration (FAA) must transition to this Next Generation Air Transportation System (NextGen) while safely and effectively maintaining the current system.

The acquisition of mission-critical technologies is a complex, resource-intensive undertaking. It requires a highly skilled, flexible workforce that can keep pace with technological innovation, rapidly changing customer and supplier market environments, and the stringent safety and reliability demands of the air traffic control community. These talented, experienced acquisition professionals are in high demand across the Federal Government but their numbers are limited.

*The Next Generation Air Transportation System is a transformation of the National Airspace System, including the national system of airports, to meet future safety, security, capacity and environmental needs. NextGen will fundamentally change the way air traffic is managed by combining new technologies for surveillance, navigation and communications with procedural changes and airfield development.*

FAA focuses considerable resources on hiring, training and certifying the air traffic controllers and technicians who operate and maintain the NAS. The FAA Flight Plan 2009–2013 objectives and Strategy 2013 goals both acknowledge the need to focus on and support the acquisition workforce that designs and builds the NAS. This plan addresses the identification, development and management of that critical portion of FAA’s workforce charged with the design, development, procurement and implementation (acquisition) of the mission-critical technologies and systems that make up the nation’s air traffic control infrastructure.

## Purpose

The Acquisition Workforce Plan<sup>1</sup> answers the following questions:

- Does FAA have sufficient federal acquisition employees to be successful, and if not, how many are required over the next three years?
- What are the required skills and competencies needed for the acquisition workforce now and in the future?
- Are sufficient programs in place for hiring, training, and retaining the acquisition workforce?

<sup>1</sup> This plan focuses on the ATO acquisition workforce. Future versions will address the broader FAA acquisition workforce.

The plan documents the workforce planning process that was used to assess the acquisition workforce. It includes strategies for addressing gaps in workforce hiring and development. Further, the plan outlines how FAA will measure successful performance in meeting identified challenges over the next five years.

The plan also builds on and responds to recommendations outlined in two reports:

1. “Identifying the Workforce to Respond to a National Imperative: The Next Generation Air Transportation System (NextGen)” by the National Academy of Public Administration (Sept. 2008); and
2. “Next Generation Air Transportation System, Status of Systems Acquisition and the Transition to the Next Generation Air Transportation System” published by the United States Government Accountability Office (GAO) (Sept. 2008).

*Government Accountability Office (GAO) on FAA Acquisition Workforce Planning:*

*In January 2009, the GAO reported that FAA has “...assessed its human capital challenges and is now identifying plans to address critical staff shortages. These efforts have yielded positive results.”*

## **Workforce Planning Governance**

Under the leadership of the agency’s Chief Acquisition Officer (CAO), the agency stood up an executive-level Acquisition Workforce Council (Council). The Council, comprised of executives with acquisition responsibilities from across the agency, provides a senior-level cross-organization focus, is the advisory body for setting acquisition workforce-related requirements, and oversees the development and implementation of this plan. The Council works closely with FAA’s Acquisition Executive Board (AEB), which provides oversight for development and implementation of acquisition management policy, processes, practices, procedures and tools. Together, the Council and Board ensure a tight link between organizational requirements and acquisition policy, processes and workforce planning and development.

Additionally, in FY 2009 a new executive position was established, reporting directly to the CAO: Director of Acquisition Policy, Workforce Development, and Evaluation. This moved responsibility and accountability for the Acquisition Career Management (ACM) function under the CAO, further institutionalizing and strengthening links between workforce programs and acquisition management. The Director chairs the Council and is a member of the AEB. The CAO and Council establish requirements and metrics necessary to maintain a robust acquisition workforce. Staff offices and FAA’s Office of Human Resources support the Council by developing and implementing recruitment, staffing, training and development, performance management and retention programs.

## Guiding Principles for Acquisition Workforce Planning

The Council established five guiding principles for acquisition workforce planning:

- 1. Leverage Existing Programs and Best Practices from Across Government.** Although FAA is unique with regard to many of its challenges and drivers, its overall needs for the acquisition workforce are similar to those of other federal agencies. Several federal agencies and supporting organizations have developed strong human capital and development programs in many acquisition disciplines. FAA will use these programs, as appropriate, to reduce the time and cost of development and to capitalize on best practices in government.
- 2. Staff and Shift Resources to Best Meet Needs.** As acquisition programs move through the phases of the acquisition life cycle, staffing needs change. FAA must staff according to these shifting needs. FAA will staff according to consideration of overall needs and priorities first, and individual programs and organizations second. FAA will identify the best fit for each position and will look internally and externally to close skill gaps.
- 3. Use an Appropriate Balance of Federal Employees and Contractors.** A stable cadre of federal employees will be supplemented by a fluctuating pool of contractor staff as requirements dictate. FAA will use federal employees to provide consistent, long-term staffing and maintain core in-house capabilities, and will use contractors to address staff and skill requirements that surge and decrease over time. This plan focuses on the federal workforce.
- 4. Implement Innovative Workforce Strategies.** FAA will implement more aggressive strategies for recruitment, staffing, training and development, and retention. FAA will create multiple paths for attracting and retaining acquisition workforce talent.
- 5. Update the Acquisition Workforce Plan Annually and Consider It a Living Document.** Workforce planning is a continuous process. FAA will expand the scope and detail of this workforce plan in the coming year. This version focuses on the core acquisition community, primarily in the Air Traffic Organization (ATO) that is engaged in NAS modernization programs. Future versions will address the larger acquisition community across the entire FAA. This plan will serve as FAA's guide for workforce hiring and development decisions for the acquisition workforce.

## Contents

This document is divided into nine major sections and two appendices that provide detailed data.

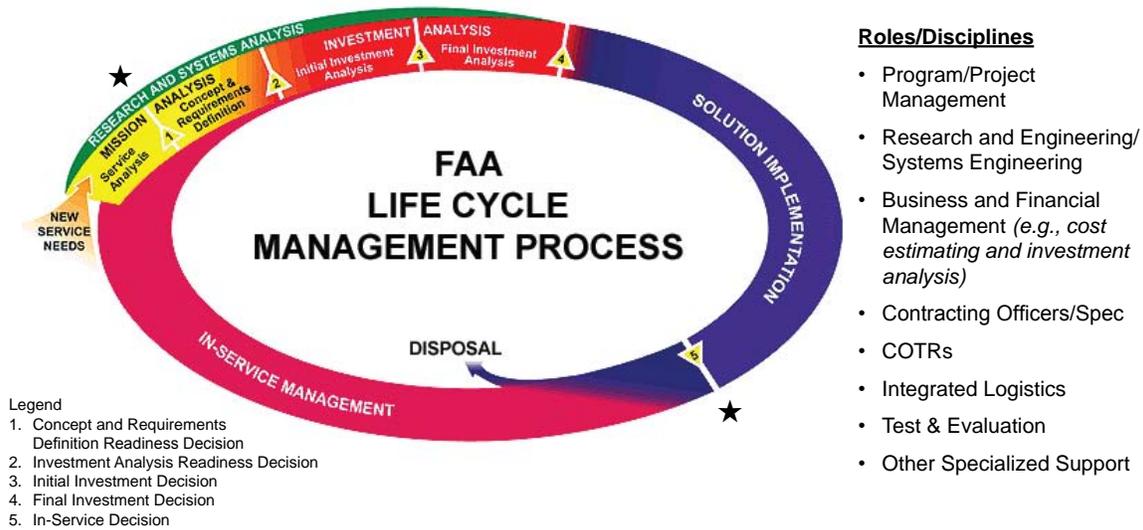
- Section 1 provides an introduction to the document and its purpose.
- Section 2 defines the acquisition workforce at the FAA.
- Section 3 describes the challenges that the acquisition workforce is facing.
- Section 4 explains the workforce planning process.
- Section 5 details the competencies required of the acquisition workforce.
- Section 6 provides a demographic profile of the current acquisition workforce.
- Section 7 depicts the future acquisition workforce requirements by discipline.
- Section 8 lists the acquisition workforce strategies.
- Section 9 identifies the measures and metrics that will be used to track progress.
- Appendix A discusses acquisition career development programs.
- Appendix B defines acquisition workforce competencies.

# 2. The Acquisition Workforce

## FAA's Acquisition Management System

FAA's Acquisition Management System (AMS) is a network of policies and processes that govern FAA acquisitions. The AMS supports a broad definition of acquisition and the functions it encompasses. As shown in Exhibit 1, AMS addresses functions associated with the entire development life cycle from mission analysis through investment analysis, solution implementation, and in-service management.

Exhibit 1: FAA Acquisition Management Life Cycle



## Defining the Acquisition Workforce

Consistent with other federal organizations that manage large, complex procurements, FAA broadly defines the acquisition workforce, which spans a number of key disciplines. For the purposes of this plan (“Phase I”), the Council defined the “core acquisition workforce” as those employees whose primary functions involve—

- The acquisition of mission-critical NAS infrastructure
- Direct engagement in projects or programs that fall within the Concept and Requirements Definition through In-Service Decision milestones of the AMS life cycle (numbers 1 and 5 in Exhibit 1).

The Council identified the following core acquisition disciplines: Program/Project Management (P/PM); Engineering and Research (E&R); Business and Financial Management (BFM); Contracting (CON); Contracting Officer’s Technical Representative (COTR); Test and Evaluation (T&E); Logistics; and Specialized Support. They are wide ranging and include employees with a diverse set of occupational series and specialties who, depending on the AMS life-cycle phase, have varying levels of acquisition-related responsibility. Subsequently, the Council identified another specialty role – Procurement Attorney; future updates to this plan will include analysis of this workforce segment.

Exhibit 2 provides an overview of the disciplines and roles in the acquisition workforce. Appendix A, Acquisition Disciplines and Roles, highlights the disciplines and roles and their associated career development programs and curriculum. FAA acquisition certification programs closely align with federal acquisition certification programs, meeting or exceeding federal-wide requirements. In addition to the acquisition disciplines, leaders are a critical component of the acquisition workforce.

**Exhibit 2: Acquisition Disciplines and Roles**

<b>Discipline</b>	<b>Typical Roles</b>	<b>Typical Job Series</b>
Program/Project Management	Program Manager Project Manager Acquisition Manager Project Lead Portfolio Manager	2186 800 series 340 334
Engineering and Research	Chief System Engineer System Engineer Software Engineer Hardware Human Factors Engineer Enterprise Architect Operations Researcher	800 series 1550 180 1300 series 1500 series
Business and Financial Management	Cost Analyst/Estimator Business Manager Financial Analyst Operations Researcher	300 series 500 series 1500 series
Contracting/COTR	Contracting Officer/Specialist	1102
	Contract Officer Technical Representative	334
	Contracting Officer Representative	856
	Technical Officer Representative	1500 series
	Quality and Reliability Officer Cost Price Analyst	Various series
Test and Evaluation	Operations Researcher Statistical Analyst Experimental Designer Flight Test Engineer Ground Test Engineer	Various series
Logistics	Logistics Management	346 Various series
Specialized Support	Safety Manager Information System Security Specialist or Engineer Air Traffic Control Specialist	Various series
Leadership	Supervisor Manager Director Executive	Various series

## Distribution of the Acquisition Workforce

The acquisition workforce is distributed across FAA; however, this plan focuses on the acquisition employees in the ATO business and service units. The ATO organizations with key acquisition functions are highlighted below.

**NextGen and Operations Planning** facilitates the future vision of aviation by providing integrated strategies and solutions to achieve national and international goals. The acquisition employees in this business unit ensure that appropriate integration of systems, capabilities and programs occurs across and within FAA lines of business. These employees conduct planning; manage FAA's research, development, and test and evaluation programs; and create and maintain the NAS enterprise architecture and NextGen implementation plans.

The **Operations Business Unit (En Route and Oceanic Services, Terminal Services, Systems Operations Services, and Technical Operations Services)** delivers safe, secure and efficient air traffic management services and aeronautical information to customers operating in the NAS and in the international airspace assigned to U.S. control. Acquisition employees in this business unit develop, acquire, deliver and sustain NAS programs in accordance with NAS enterprise architecture and NextGen plans.

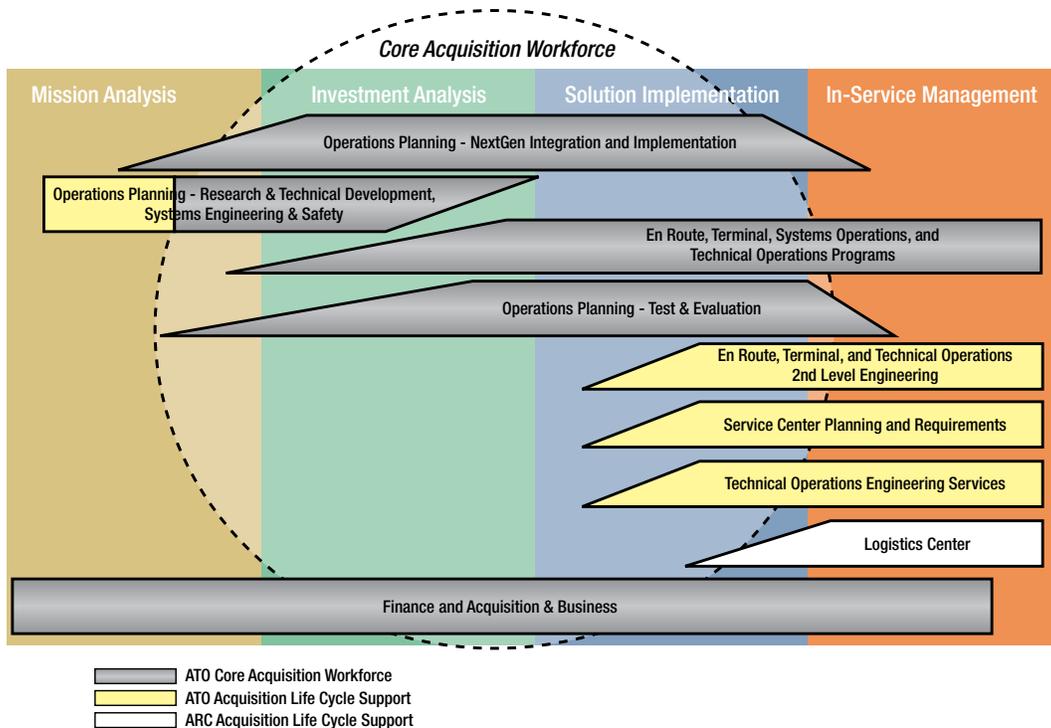
**Acquisition and Business Services** supports ATO and FAA in all areas of acquisition and contracting, including small business advocacy, acquisition policy, workforce planning and development, and acquisition evaluation. This organization develops agency-wide acquisition policy, guidance and tools to manage and support FAA's AMS. These acquisition employees are procurement experts in acquisition life-cycle planning and administer FAA-awarded contracts and interagency agreements. The Vice President serves as FAA's CAO and chairs the Joint Resources Council.

**Finance Services** provides timely financial consulting; products, and services that support the achievement of the ATO performance goals; cost-efficient operations; and FAA leadership in global aviation. The employees in this service unit establish short- and long-term capital and research program and financial plans, and ensure that new, proposed and existing NAS investments meet established business case and economic criteria.

In support of the key acquisition functions highlighted above, the **Strategy and Performance** organization provides a strategic framework for executing and integrating plans, programs and activities of the ATO to enable sustained organizational performance. Additionally, the employees in this business unit, in coordination with other business units and offices and the Office of Human Resource Management (AHR), provide recruitment, hiring, training and development services for the acquisition workforce.

Exhibit 3 illustrates the primary ATO organizations<sup>2</sup> engaged in core acquisition work and the acquisition life-cycle phases in which they are involved.

**Exhibit 3: The Core Acquisition Workforce**



This plan addresses strategies targeted to hire, train, develop and retain federal employees. Contracts and contractor staffing are constantly fluctuating because of government requirements. In many performance-based and firm fixed price contracts, contractor staffing levels are not shared with the Government. For this reason, FAA does not track the number and skill sets of contractor employees. However, FAA continually assesses its overall needs related to required contractor support, staffing levels and skill sets, and is developing a staffing model to address the full complement of staffing (federal and contractor) required by acquisition program category (see Exhibit 4) and life-cycle stage.

<sup>2</sup> This version of the plan does not include ATO's service center planning and requirements group, non-NAS information technology, in-service management organizations, other FAA Lines of Business, or procurement attorneys. These will be addressed in future updates.

## ■ 3. The Challenge

FAA faces unprecedented acquisition workforce challenges. Today, FAA's acquisitions are more complex than ever and require new approaches and skills to support NextGen acquisition work. The dispersion of acquisition talent across FAA promotes better collaboration between acquisition personnel and the user community, and supports a seamless life-cycle acquisition management process; however, it has made identifying and tracking the workforce challenging. The current demand for acquisition talent across the Federal Government outpaces supply and, accordingly, FAA faces increased difficulty attracting the talent it needs.

### **Complex Portfolio**

FAA manages more than 250 acquisition projects identified in its Capital Investment Plan. The AEB recently categorized these programs based on criticality, complexity, cost, and other factors (as listed in Exhibit 4). Approximately 20 percent of acquisition projects fall into the highest category of criticality, cost and other criteria, and nearly 50 percent of all projects fall into the top three of the five categories. The majority of these projects and programs involve the modernization and sustainment of systems that are in the current NAS; new NextGen technologies and systems will add to the complexity of acquisitions.

### Exhibit 4: Acquisition Program Categories

Program Category	Program Criteria
1	<ol style="list-style-type: none"> <li>1. Facilities and Equipment (F&amp;E) costs greater than \$800 million, or</li> <li>2. Single year of F&amp;E funding greater than \$200 million, or</li> <li>3. Capital Program has operations and management (O&amp;M) costs greater than \$500 million, or</li> <li>4. Aggregate rating of the following factors is high:               <ol style="list-style-type: none"> <li>a. Political sensitivity</li> <li>b. Risk</li> <li>c. Complexity</li> <li>d. Likelihood of changes impacting the safety of the NAS</li> </ol> </li> </ol>
2	<ol style="list-style-type: none"> <li>1. F&amp;E costs greater than \$300 million but less than \$800 million, or</li> <li>2. Single year of F&amp;E funding greater than \$100 million but less than \$200 million, or</li> <li>3. Capital Program has O&amp;M costs greater than \$250 million but less than \$500 million, or</li> <li>4. Aggregate rating of the following factors is medium to high:               <ol style="list-style-type: none"> <li>a. Political sensitivity</li> <li>b. Risk</li> <li>c. Complexity</li> <li>d. Likelihood of changes impacting the safety of the NAS</li> </ol> </li> </ol>
3	<ol style="list-style-type: none"> <li>1. F&amp;E costs greater than \$100 million but less than \$300 million, or</li> <li>2. Single year of F&amp;E funding greater than \$50 million and less than \$100 million, or</li> <li>3. Capital Program has O&amp;M costs greater than \$100 million but less than \$250 million, or</li> <li>4. Aggregate rating of the following factors is medium:               <ol style="list-style-type: none"> <li>a. Political sensitivity</li> <li>b. Risk</li> <li>c. Complexity</li> <li>d. Likelihood of changes impacting the safety of the NAS</li> </ol> </li> </ol>
4	<ol style="list-style-type: none"> <li>1. F&amp;E costs greater than \$20 million but less than \$100 million, or</li> <li>2. Single year of F&amp;E funding greater than \$20 million but less than \$50 million, or</li> <li>3. Capital Program has O&amp;M costs greater than \$20 million but less than \$100 million, or</li> <li>4. Aggregate rating of the following factors is medium to low:               <ol style="list-style-type: none"> <li>a. Political sensitivity</li> <li>b. Risk</li> <li>c. Complexity</li> <li>d. Likelihood of changes impacting the safety of the NAS</li> </ol> </li> </ol>
5	<ol style="list-style-type: none"> <li>1. F&amp;E costs less than \$20 million, or</li> <li>2. Capital Program has O&amp;M costs less than \$20 million, or</li> <li>3. Aggregate rating of the following factors is low:               <ol style="list-style-type: none"> <li>a. Political sensitivity</li> <li>b. Risk</li> <li>c. Complexity</li> <li>d. Likelihood of changes impacting the safety of the NAS</li> </ol> </li> </ol>

The demands of deploying NextGen have a substantial impact on the management and development of the acquisition workforce. For example, the network-centric design and interdependency of NextGen capabilities and enabling technologies will require tight integration and coordination of multiple design, development, acquisition and implementation efforts across all air traffic domains. This will blur the distinctions among Terminal, En Route, and Systems Operations employees who perform air traffic management.

FAA can also expect a number of changing requirements, distinct for each of the acquisition disciplines. For example—

- **Program Management.** A significant increase in the need for technical and program integration across service units, domains and agencies, and the ability to identify and manage interdependent program risks.
- **Business and Finance.** A large influx of investment analysis efforts over the next five years and an increasing need for expertise to derive accurate interdependent program costs and economic benefits.
- **Contracting.** Continued use and expansion of innovative, performance-based contracts for transformational NextGen technologies such as the Automatic Dependent Surveillance–Broadcast program.
- **Research and Engineering.** The execution of rapid prototyping and technology demonstrations, development of performance-based requirements and specifications, and the conduct of system-of-systems integration will be critical.

Current NextGen planning calls for developing and integrating implementation of transformational air traffic management capabilities into the NAS over the next 15–20 years. Given this evolutionary approach to NextGen implementation, FAA must maintain the competencies and technical expertise of its current acquisition workforce and develop new capabilities relevant to the technical and programmatic challenges of the network-centric complexities posed by the NextGen concept of operations.

*National Academy of Public Administration:*

*“The ATO will rely primarily on the acquisition segment of the non-operational workforce to perform the work necessary to design, develop, test, evaluate, integrate, and implement the numerous complex subsystems that comprise NextGen.”*

### Identification of the Workforce

Typically, organizations use occupational series to identify and track members of a given occupation. However, acquisition work is in large part role based, not series based, which presents a challenge in identifying and tracking members of the acquisition workforce.

Examples of this challenge include—

- Some engineers are part of the acquisition workforce; others are not.
- Some employees of the acquisition community spend 100 percent of their time performing acquisition duties; others do not.
- Many positions supporting NextGen are in the acquisition workforce; others are not.

Consequently, FAA cannot simply pull data from its personnel database to identify and track members of the acquisition workforce and full-time equivalents (FTEs). Currently, managers must individually identify each member of the acquisition community by role and the percentage of time dedicated to that role.

### **Demand for Talent**

FAA faces the same challenges confronting many federal agencies and acquisition organizations. The number and complexity of acquisitions across the Federal Government have increased significantly at the same time that retirements are on the rise. These combined factors are resulting in an ever-increasing competition for acquisition talent. The Federal Acquisition Institute (FAI) and the GAO have reported on the shrinking pool of certified and experienced acquisition professionals. Currently, 20 percent of FAA's core acquisition workforce is eligible to retire. An additional 3 percent will become eligible to retire each year over the next seven years, with a cumulative eligibility of 40 percent by FY2015.

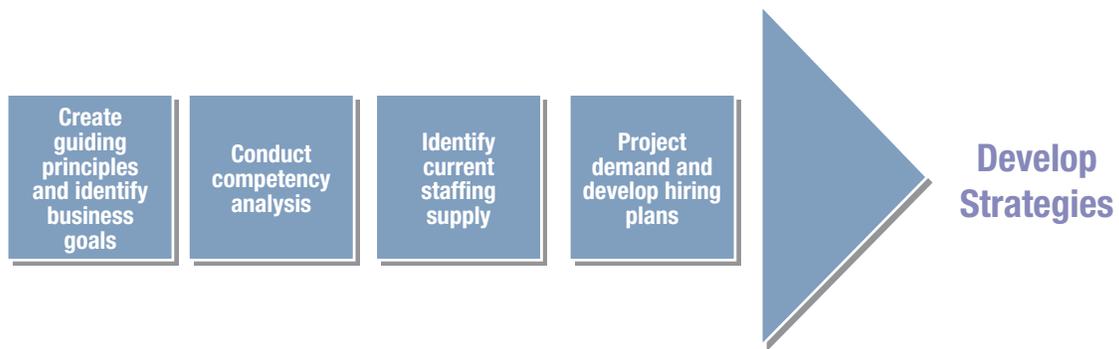
Historically, other government agencies and the private sector have been a significant source of talent for FAA; however, they also face the same acquisition recruiting challenges as FAA. According to the FAI Annual Workforce Report FY2007, the federal Government is not alone in relying on the strength of its talent to deliver mission-critical services. Both the public and private sectors in countries around the world are struggling to confront the challenges presented by the growing competition for a highly skilled workforce that is more diverse, more transient, and more mature than in previous times. As increasing numbers of acquisition employees retire, FAA's pipeline shrinks. In addition, organizations like the Department of Defense and NASA have comprehensive, structured career paths, and development programs for all of the acquisition disciplines. These programs are particularly attractive to new hires and enable the organizations to build robust internal pipelines of talent.

# 4. The Workforce Planning Process

## Overview of the Workforce Planning Process

Given the workforce challenges, implementing a repeatable and transparent workforce planning process is important. FAA followed the process outlined in Exhibit 5, which aligns with federal-wide accepted practices as outlined by OPM.

Exhibit 5: ATO Workforce Planning Process



## Guiding Principles

As outlined in the Introduction, the Council identified a set of guiding principles that was used as the foundation for assessing acquisition workforce requirements and defining strategies. These principles were influenced by the business goals set forth in the FAA Flight Plan and ATO Strategy 2013.

## Competency Analysis

The Council reviewed current FAA, federal, and industry competency models for each discipline and role.<sup>3</sup> The Council determined the relevance of the competencies and tailored them as necessary. In addition, the Council identified the competencies that pose the most risk in terms of criticality and/or necessary bench strength. In instances where relevant competencies for specific disciplines or roles had not been validated, those competencies were slated for identification/development in the future.

Concurrent with the Council's competency review and validation effort, FAA participated in a government-wide competency assessment of acquisition staff in the Program/Project Management, Contracting, and Contracting Officer's Technical Representative (COTR) roles. The results of this assessment were considered as part of the Council's review process.

<sup>3</sup> Competency model sources included the National Academy of Public Administration, FAI, DoD, NASA, the International Council on Systems Engineering, among others.

## Supply Analysis

Supply is defined as the current acquisition workforce available by organization, discipline, pay band/grade, and percentage of time spent on acquisition duties. To identify the supply, the Council first created definitions for each of the disciplines and roles. Listings of ATO personnel (as of 1st Qtr FY2009) were extracted from FAA's personnel database; personnel were then segmented by office and division. Managers validated employee information and determined the following:

- Did the employee perform acquisition work, according to the Council's definition?
- If so, what percentage of time did the employee spend completing this work?
- What role/discipline did the employee perform?
- What acquisition program did the employee support?

This data was collected and compiled by organization and acquisition discipline. The Council reviewed the totals for accuracy. Any discrepancies were identified and revalidated with the managers. The demographics for acquisition employees were analyzed to determine factors and trends such as education levels and retirement eligibility.

## Demand Analysis

Demand is defined as the number and level of staff by discipline required to address the current and future acquisition requirements. When compared to the supply, the demand analysis identifies gaps in staffing and helps to drive the human capital strategies that are needed to support workforce requirements.

To determine the hiring demand, managers in En Route, Terminal, Systems Operations, Technical Operations, NextGen and Operations Planning, Finance, and Acquisition and Business Services were asked to forecast their hiring demands based on current and upcoming programs. These forecasts assumed no attrition of the current workforce and depicted additional hiring needs only—with the exception of FY2009, which also included current approved vacancies. Each year's hiring activity will need to address backfill requirements (based on actual attrition) in addition to new position requirements.

*Staffing Model: In parallel with the supply/demand analysis, the Council began a forward-looking effort to develop staffing models. The ultimate goal is to create statistical formulas that can suggest staffing ranges by acquisition discipline and acquisition life-cycle phase for each program category. Currently, this effort is in the data collection and testing phase.*

## Strategy Development

Strategies were developed to close gaps in workforce staffing and to enhance recruitment, retention, and development initiatives that impact the acquisition workforce. To develop the strategies, the Council considered the following:

- Guiding principles and FAA and ATO strategic and business goals
- Drivers of change and challenges
- Staffing gaps and sustainment issues for each acquisition discipline
- Current human capital and training initiatives, best practices and areas for improvement
- Recommendations from the GAO, the NAPA panel and the Inspector General.

Once the strategies were developed, they were prioritized. An implementation plan was developed that defines the actions, milestones and metrics for monitoring progress.

# 5. Acquisition Workforce Competencies

FAA currently uses competency models to inform and support recruiting, hiring, performance management, and training, development and certification of the acquisition workforce. Competencies are measurable patterns of knowledge, skills, abilities, behaviors and other characteristics that an individual needs to perform work roles or occupational functions successfully.

Exhibit 6 lists the competencies for each acquisition discipline. The Council considers the competencies listed in bold as the most critical. Skill deficiencies in these would present the most risk in carrying out FAA’s acquisition mission. Appendix B provides definitions for each competency.

Exhibit 6: Competencies by Discipline<sup>4</sup>

Program/Project Management	
Benefit-Cost Analysis Budget Execution Contract Administration Contractor Performance Management Cost Estimating Development of Supportability Requirements Earned Value Management (EVM) Financial Planning Formulation of Financial Programs and Budget Life-Cycle Logistics Strategy Development Market Analysis Organizational Awareness	Performance-Based Logistics Procurement Planning <b>Program/Project Management Processes</b> <b>Program/Project Planning Processes</b> <b>Requirements Management</b> <b>Risk Management</b> Source Identification and Selection <b>Stakeholder Management</b> Strategic Alignment System Safety Systems Thinking and Integration Test and Evaluation Management Technical Expertise
Engineering and Research - System Engineering <sup>5</sup>	
Systems Concepts <b>“System of System” Capability Issues</b> Enterprise and Technology Environment Stakeholder Management System Design for— Architectural Design Concept Generation Design for... Functional Analysis Interface Management Maintaining Design Integrity Modeling and Simulation <b>Solution Selection</b>	System Design for— System Robustness Human Factors Engineering <b>Integration and Verification</b> Validation Transition to Operation Concurrent Engineering <b>Enterprise Integration</b> Integration of Fields of Specialization Life-Cycle Process Definition Planning, Monitoring, and Controlling Risk Assessment

<sup>4</sup> The competencies listed here are specific to core technical competency requirements; other general and leadership competencies are also applicable.

<sup>5</sup> The FAA has contracted with the Stevens Institute of Technology to assess and make recommendations on competency requirements for software engineering, system integration, and systems engineering necessary to successfully design, develop and deploy NextGen.

<b>Business and Financial Management</b>	
Basic Budgeting and Accounting <b>Financial Budget and Data Analysis</b> Financial Management Project Management Performance Management/Cost Accounting <b>Cost Estimating</b> Federal Budgeting Agency Budgeting	Strategic Planning Organizational Forecasting <b>Risk Analysis and Internal Management Control Concepts and Principles</b> <b>Program Evaluation</b> <b>Reconciliation and Financial Reporting</b> Productivity Improvement Systems and Business Reengineering Processes
<b>Contracting</b>	
<b>Acquisition Strategy Development</b> Award Resolution <b>Defining Contractual/Business Relationships</b> <b>Defining Government Requirements in Commercial/ Non-Commercial Terms</b> Defining Requirements Detailed Bid Evaluation Skills <b>Financial Management</b> Managing Competition Market Research	Negotiation <b>Performance-Based Acquisition</b> Performance Management Procurement Planning Proposal Analysis and Evaluation <b>Requirements/Contract Management</b> Resolution of Contract Termination and/or Closeout Small Business and Preference Program Participation Solicitation of Offers
<b>Contracting Officer's Technical Representative</b>	
Acquisition Planning <b>Defining Government Requirements in Commercial/ Non-Commercial Terms</b> <b>Effective Contract Management</b> Effective Pre-Award Communication	Market Research (Understanding the Marketplace) Negotiation <b>Performance Management</b> <b>Technical Analysis of Proposals</b>
<b>Leadership</b>	
Achieving Results Managing Organizational Performance Accountability and Measurement Problem Solving Business Acumen Customer Focus Leading People Building Teamwork and Cooperation Building a Model EEO Program Developing Talent	Building Relationships Communication Building Alliances Interpersonal Relations and Influence Integrity and Honesty Leading Change Vision Strategy Formulation Agility Innovation
<b>Competency Models to be Developed or Validated</b>	
Research Test and Evaluation	Integrated Logistics Procurement Law

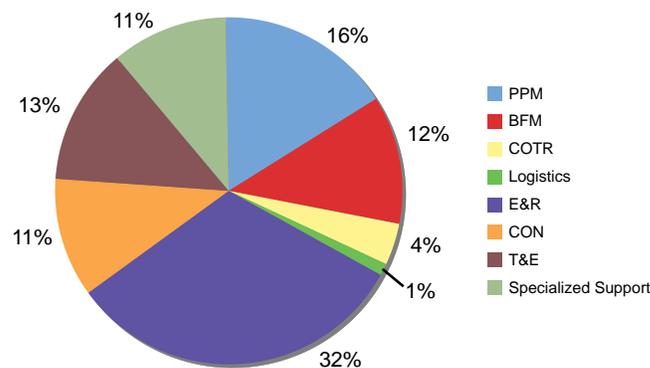
# 6. Profile of the Current Acquisition Workforce (Supply)

## Overview of the Current Workforce

The core acquisition workforce consists of approximately 1,000 federal employees. As explained in Section 2, the workforce disciplines examined for this plan are Program/Project Management (P/PM), Engineering and Research (E&R), Business and Financial Management (BFM), Contracting-Contracting Officer/Specialist (CON) and Contracting Officer's Technical Representative (COTR), Logistics, Test and Evaluation (T&E), and Specialized Support.

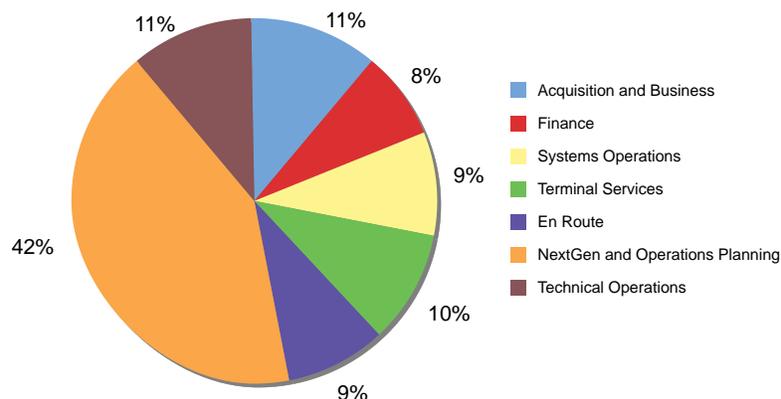
At 32 percent, the E&R discipline represents the largest percentage of federal full-time equivalents (FTE) in the acquisition workforce. The Logistics discipline has the smallest percentage of individuals: 1 percent. However it should be noted that only integrated logistics specialists directly supporting NAS capital investment programs before the in-service decision milestone of the acquisition life cycle were included in the workforce analysis for this first iteration of the workforce plan. Exhibit 7 provides the percentage of federal FTEs in each of the seven disciplines and the COTR role.

**Exhibit 7: Distribution of FTEs Across Acquisition Disciplines**



Of the ATO business and service units, the largest percentage of acquisition personnel—42 percent—is in NextGen and Operations Planning. Exhibit 8 depicts the percentage of acquisition personnel by service unit.

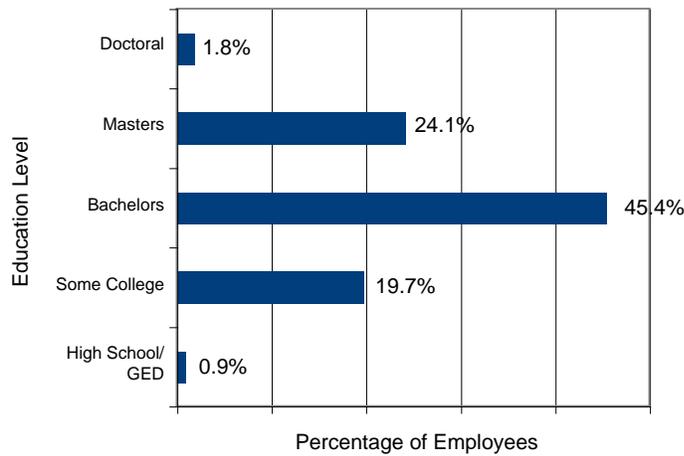
**Exhibit 8: Distribution of FTEs by Service Unit**



## Education Levels

As shown in Exhibit 9, more than 90 percent of the acquisition workforce has attended college. Of this percentage, more than 25 percent have a Master's degree or higher. It is worth noting that the source of this data is FAA's personnel database and may not accurately reflect education attained since entering the FAA. FAA provides tuition support for relevant graduate and undergraduate coursework. As part of the implementation of this plan, FAA will validate the training and education records for the acquisition workforce and use the agency's electronic learning management system (eLMS) to track ongoing professional development and certifications.

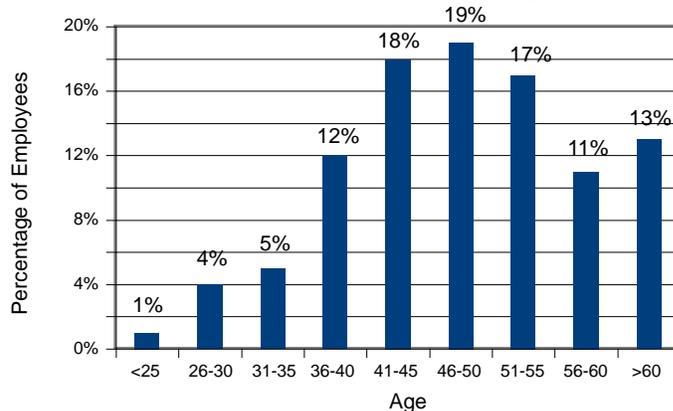
**Exhibit 9: Highest Level of Education Achieved<sup>6</sup>**



## Age

The average age of the acquisition workforce is 48.6 years. In fact, 78 percent are 41 years or older. Only 10 percent are 35 years old or younger. This age profile is similar across government.

**Exhibit 10: Acquisition Workforce Age Distribution**

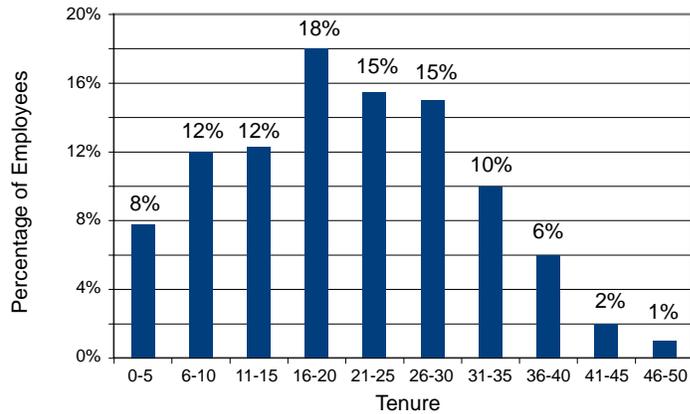


<sup>6</sup> The source of this data is the FAA's personnel database (FPPS) and may not reflect education attained since entering on duty or most recent position (e.g., after-hours graduate-level coursework).

## Years of Service

Exhibit 11 illustrates that the average length of service for the acquisition workforce is 20.9 years. Thirty-four percent of the workforce has 26 or more years of service, and almost half of the workforce has 20 or more years of service.

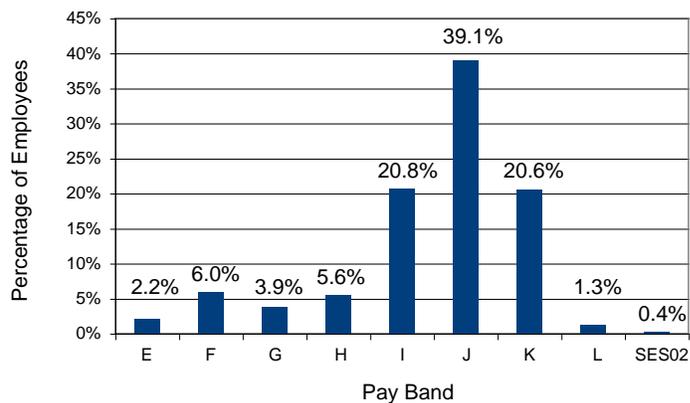
**Exhibit 11: Acquisition Workforce Tenure**



## Pay Band Distribution

Consistent with an experienced workforce, Exhibit 12 shows that more than 60 percent of acquisition professionals are in the J pay band or above. The J band also has the largest percentage of the acquisition workforce at 39.1 percent.

**Exhibit 12: Acquisition Workforce Pay Band Distribution<sup>7</sup>**



<sup>7</sup> General Schedule Grades were converted to pay band for data collection/display purposes only.

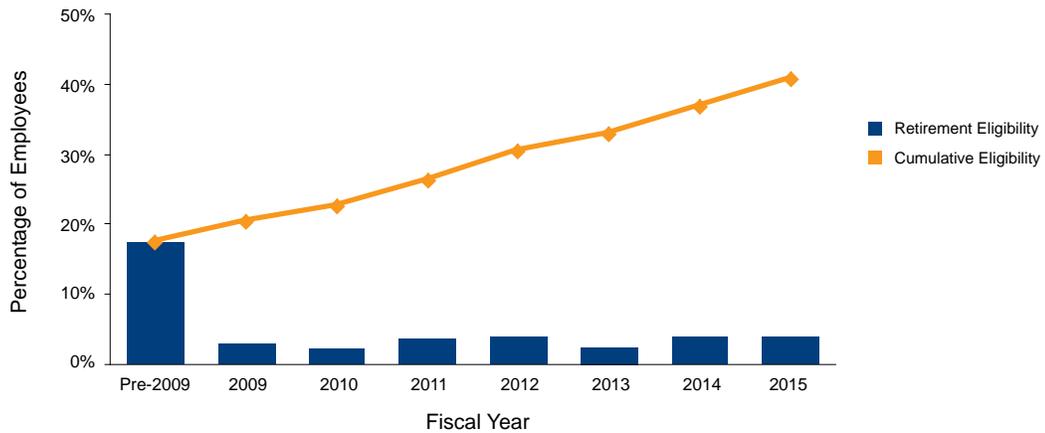
## Attrition and Retirement Trends

Due to challenges identifying the acquisition workforce, it is difficult to capture historical attrition and retirement trends specific to the acquisition workforce. Looking at ATO-wide workforce data (excluding air traffic controllers), the largest contributor to attrition has been retirement. Not surprising given the aging of the workforce, actual retirement rates have steadily increased over the years, with a spike occurring in 2006<sup>8</sup> when 7.3 percent of the non-controller workforce retired.

## Retirement Eligibility

More than 20 percent of the acquisition workforce is currently eligible to retire. Approximately 3 percent of the acquisition workforce will become eligible to retire each year over the next seven years, with a cumulative eligibility of 40 percent by FY2015 (see Exhibit 13). Because those eligible to retire do not always do so, it is important to conduct further analysis to accurately plan for retirement-related staffing demand.

Exhibit 13: Retirement Eligibility - ATO Acquisition Workforce

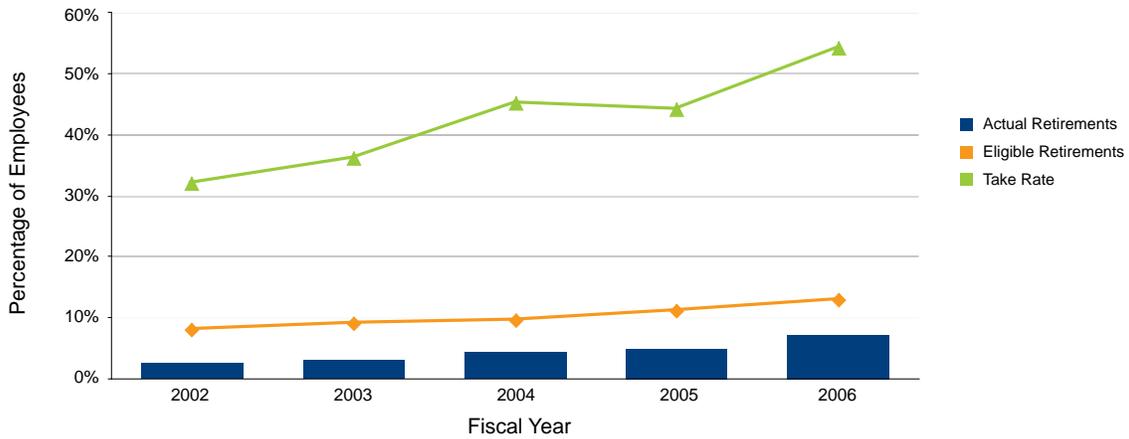


<sup>8</sup> In FY2006, the 861 reported separations resulted primarily from the outsourcing of a major portion of Flight Services.

## Actual Retirements Compared to Retirement Eligibility

The “take rate” is the percentage of retirement-eligible individuals who retire in a given year. The take rate analysis in Exhibit 14 illustrates the historical percentage of retirement-eligible individuals at the ATO who actually retired. Over the FY2002–FY2006 time period, the take rate was between 32 and 54 percent, with an average of 39 percent. Air Traffic Controllers are not included in this analysis because their mandatory retirement requirements would skew the results.

**Exhibit 14: ATO Retirement Eligibility, Actual Retirements, and Take Rates  
(Excluding Controllers)**



# 7. Staffing Demand

Workforce demand is defined as the number of additional FTEs needed to sustain current systems and programs, while simultaneously supporting new NextGen programs and technologies. To effectively address future staffing requirements, it is vital to define the future demand by year. Service unit managers involved in the demand projection process took a conservative approach in identifying the acquisition workforce demand from FY2009 to FY2011. They considered several factors before identifying additional resource requirements. For example—

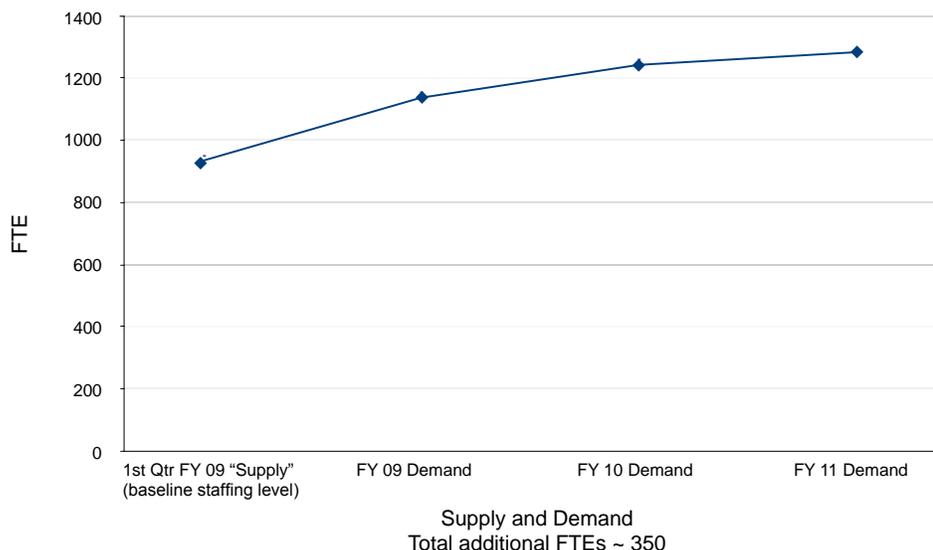
- Sharing staff across programs and disciplines where applicable
- Transitioning staff to different programs when a program changes acquisition life-cycle phase.

Future iterations of this plan will take into account workforce demand for FY2012 and beyond.

## Acquisition Workforce Staffing Demand

The ATO requires an estimated 350 additional new hires – above first-quarter FY09 staffing levels – for FY2009–FY2011. Given these staffing need projections, the acquisition workforce will increase by roughly 35 percent, from approximately 960 to approximately 1,300 by the end of fiscal year 2011.<sup>9</sup> Exhibit 15 shows the total staffing demand projections (“Actual on Board” requirements) by fiscal year.

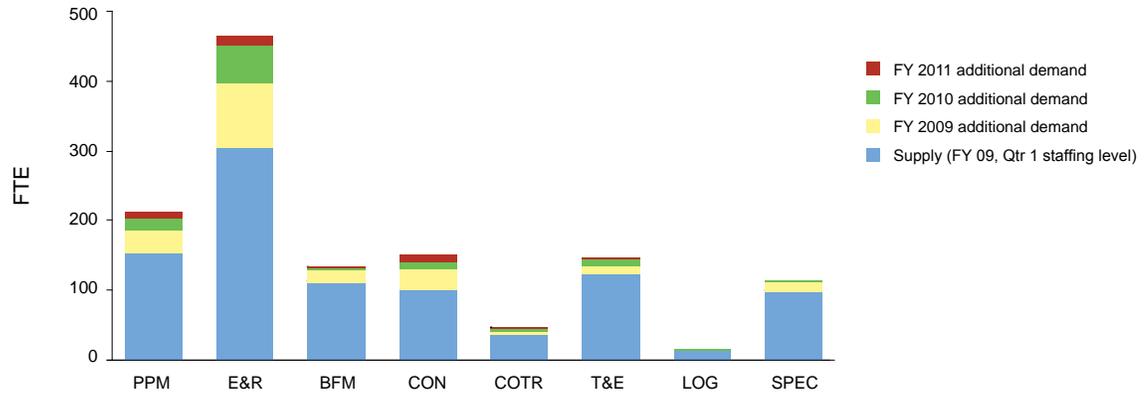
Exhibit 15: Staffing Demand by Fiscal Year



<sup>9</sup> Demand data was compiled and validated between 12/10/08 and 6/9/09 and is considered current as of the date it was collected.

The primary staffing needs are in the Engineering and Research, Program/Project Management, and Contracting disciplines. These three disciplines account for 79 percent of the total increase in acquisition workforce demand. Hiring demand by discipline is shown in Exhibit 16.

**Exhibit 16: New Hire Demand by Discipline FY2009 - FY2011\***



\* These projections will be reviewed and updated in future versions of this plan.

# 8. Acquisition Workforce Strategies

## Workforce Planning Strategies

FAA has a wide variety of programs and initiatives in place to address recruitment, development and retention. The strategies in this section build on existing activities and provide the road map for addressing acquisition workforce needs. Fundamentally, FAA must be more aggressive in its outreach and recruitment, focus more on entry-level hiring, integrate its career development programs, optimize its use of human resource flexibilities, and streamline its hiring processes. Exhibit 17 lists the four high-level strategies.

**Exhibit 17: High-Level Strategies**

Acquisition Workforce Plan Strategies	
Strategy One	Fill gaps according to the supply/demand analysis
Strategy Two	Develop and execute a consolidated acquisition sourcing plan
Strategy Three	Create an integrated acquisition career development program
Strategy Four	Institutionalize an Acquisition Workforce Planning process

## Strategy Oversight and Implementation

In addition to regular Council oversight, staff and resources are being organized to focus on action, responsibility and progress:

- Individual Council members are serving as “champions” for each strategy area to stay engaged with and provide guidance to working groups tasked with implementing strategy initiatives.
- A Strategy Steering Group is in place with senior leadership from ATO and from FAA’s corporate human resources office. They are guiding the development and implementation of action plans, ensuring integration across strategy areas, and communicating progress to stakeholders.
- Working groups are established for each strategy area. These groups are meeting regularly to define specific tasks and perform the work associated with implementing initiatives.
- A senior staff member serves as the Acquisition Workforce Plan project manager to coordinate Steering Group and workgroup meetings, manage an integrated project plan for all strategies and associated initiatives, and report activity and progress to the Council monthly.

Strategy execution will focus on building on efforts that are currently underway, exploring best practices across government and industry, and defining and implementing new initiatives to most effectively address current and projected gaps. Metrics identified in Section 9 will be used as a dashboard to track and report progress.

## Strategies and Supporting Initiatives

### *Strategy One: Fill Gaps According to the Supply/Demand Analysis*

Filling the most critical hiring gaps is a high priority for FAA to support the successful design, development, deployment and sustainment of FAA's current and future NAS technologies and infrastructure. To fill the most critical gaps, FAA will establish a process to review acquisition supply/demand across the organization and allocate staffing to best meet priority requirements. Moreover, to fill the gaps in a timely manner, the overall hiring process must be analyzed to ensure that it effectively and efficiently meets the needs of FAA. This analysis will require a clear understanding of hiring flexibilities for acquisition professionals and how they can be used.

#### **Initiatives:**

- 1.1 Review vacant acquisition positions and allocate staffing across service units
- 1.2 Analyze overall hiring process (e.g., “end-to-end” time to fill) and institute improvements
- 1.3 Implement hiring and selection tools, processes, and programs in support of the recruitment strategy
  - Assess hiring/retention challenges, leverage existing HR flexibilities, identify/ implement new ones
  - Create a manager’s “playbook” of recruitment and retention strategies
  - Develop “dashboard” information on status of hiring, attrition, “actual on board”, etc.
- 1.4 Evaluate and standardize the use of job series and selective factors for acquisition-related positions

### *Strategy Two: Develop and Execute a Consolidated Acquisition Sourcing Plan*

Sources for acquisition professionals are diminishing, while the need for their skill sets in FAA and throughout the Federal Government is increasing. This strategy focuses targeted outreach and recruitment for senior- mid- and entry-level acquisition professionals by discipline. FAA will develop additional sourcing strategies for acquisition professionals using best practices and alliances with acquisition communities. FAA will form partnerships with colleges and universities, resulting in a sourcing pool for candidates. The strategy will coordinate recruiting efforts for acquisition professionals across service units.

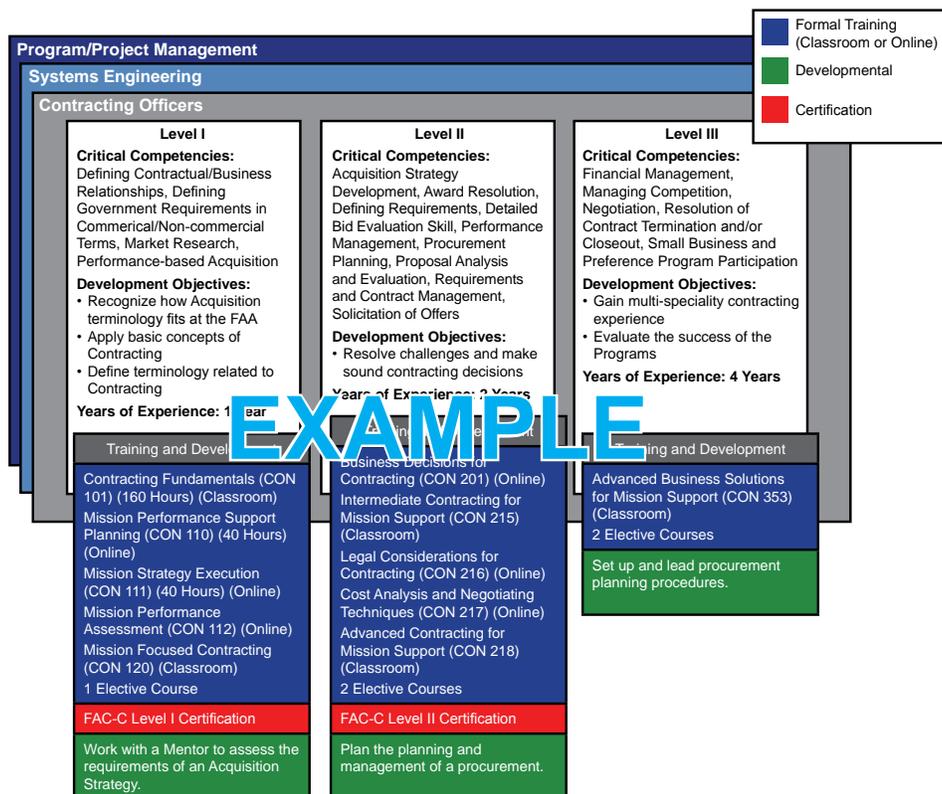
#### **Initiatives:**

- 2.1 Develop a targeted recruiting strategy for acquisition professionals
- 2.2 Develop and establish an outreach recruitment plan that attracts a highly skilled and diverse candidate pool
- 2.3 Develop a messaging/branding campaign that attracts external hires
- 2.4 Collect and analyze data to determine the impact/success of outreach strategies and expenditures

### *Strategy Three: Create an Integrated Acquisition Career Development Program*

To remain competitive and be an employer of choice, FAA must provide a career-long training and development road map for acquisition professionals that contains career paths/networks, a comprehensive career development framework, competency models, communities of practice technologies, and a well-defined training plan. Each career path in the program will clearly define typical job function responsibilities and developmental requirements and opportunities (education and experience) for each experience level. The delivery of timely, relevant and targeted training and development will enhance technical proficiency, support career development, and promote career-long learning. Exhibit 18 is an example of a career development framework for Contracting Officers (1102). The primary goal of this strategy is to create career development frameworks for each acquisition discipline/role within an integrated structure.

## Exhibit 18: Sample Career Development Model



### Initiatives:

- 3.1 Integrate relevant elements of other government and industry program/initiatives into FAA's acquisition career development program
- 3.2 Complete or validate competency models for all disciplines/roles
- 3.3 Define and communicate acquisition career paths
- 3.4 Conduct a comprehensive competency assessment of the acquisition workforce
- 3.5 Implement an integrated structured career development program

#### *Strategy Four: Institutionalize an Acquisition Workforce Planning Process*

FAA must continue to plan for acquisition workforce growth and changes. The workforce planning process must continue to mature, expand to cover the full acquisition life cycle, and use workforce planning tools to increase efficiency and accuracy of planning data.

#### **Initiatives:**

- 4.1 Document and implement ongoing workforce planning processes, including oversight and ongoing updates to the workforce plan
  - Develop process guidance for identifying/tagging Acquisition positions/employees in FPPS and eLMS
- 4.2 Mature and refine the staffing model to project future acquisition workforce demand
- 4.3 Identify and implement workforce planning tools to support workforce planning
- 4.4 Track performance metrics related to the Acquisition Workforce Plan
- 4.5 Develop and execute a change management and communication plan
- 4.6 Expand communications between planning and operations regarding NextGen planning, emerging programs, and critical milestones to support workforce planning

# 9. Measures/Metrics

FAA has established the metrics listed in Exhibit 19 to measure the success of the Acquisition Workforce Plan. These metrics will be used as a dashboard to track and report progress over time.

Exhibit 19: Metrics

Metric/ Measure	Strategy One: Fill Gaps According to Supply/Demand Analysis	Strategy Two: Develop and Execute a Consolidated Acquisition Sourcing Plan	Strategy Three: Create an Integrated Acquisition Career Development Program	Strategy Four: Institutionalize an Acquisition Workforce Planning Process
<b>Actual On-Board</b> Number of acquisition positions encumbered	X	X		X
<b>New Hires</b> Percentage of positions filled against the hiring plan (by year and discipline)	X	X		X
<b>Time to Fill</b> Length of time to fill acquisition positions (end-to-end)	X	X		X
<b>Certified Staff by Discipline</b> Percentage of individuals certified against total of those whose position requires certification (by discipline)			X	X
<b>Attrition Rate</b> Percentage of acquisition workforce leaving the agency (by attrition type)	X			X

# Appendix A: FAA Acquisition Career Development Programs

FAA acquisition certification programs closely align with federal acquisition certification programs, meeting or exceeding federal-wide requirements.

Program/Project Management	
Description	Program management involves establishing, tracking, managing and reporting all facets of programs and projects, including budget, technical requirements, personnel, and customer needs. This job family includes those who are officially designated as a program manager, project manager, or project lead with authority and responsibility for the management and oversight of Federal Aviation Administration (FAA) major and non-major acquisition programs or projects. Program/project management involves the following phases: initiating, planning, monitoring/controlling, executing, and closing.
Typical Series	2186; 800 series; 340; 334
Roles	Program Manager, Project Manager, Acquisition Manager
Current Programs in Place	<ul style="list-style-type: none"> <li>Program/Project Management Certification (Levels I, II, and III)</li> </ul>
Courses/Curricula in Place  <i>(Note: certification requires experience and documented competency proficiency in addition to training; continuing professional development required to maintain certification)</i>	<p><b>Level I Certification</b></p> <ul style="list-style-type: none"> <li>Fundamentals of Acquisition Management System (FAMS)</li> <li>Principles of Federal Appropriations Law</li> <li>Managing Projects</li> <li>Introduction to Risk Management</li> <li>Introduction to Cost Estimating (CE)</li> <li>Program Management Using Earned Value Management (EVM) Basic Concepts</li> <li>Key Ingredients of Systems Engineering</li> <li>Project Leadership, Management and Communications</li> <li>Project Management Simulation Workshop</li> <li>Electives (select one):               <ul style="list-style-type: none"> <li>Requirements Analysis and Development Workshop</li> <li>Quality for Project Managers</li> <li>Contract Management Principles and Practices</li> <li>Introduction to Integrated Logistics (online)</li> </ul> </li> </ul> <p><b>Level II Certification</b></p> <ul style="list-style-type: none"> <li>Level I requirements plus:</li> <li>Requirements Management</li> <li>Cost Estimating for Project Managers</li> <li>Program Management Using EVM (Advanced)</li> <li>Fundamentals of Enterprise Architecture for Program/Project Managers</li> <li>High-Impact Communications</li> <li>Mission Support Planning</li> <li>Advanced Project Management Simulation Workshop</li> <li>Electives (select one):               <ul style="list-style-type: none"> <li>CPIC and Exhibit 300</li> <li>Human Factors Awareness Training (online)</li> <li>Configuration Management Awareness (online)</li> </ul> </li> </ul>

<b>Program/Project Management, continued</b>	
Courses/Curricula in Place (continued)	<p><b>Level III Certification</b></p> <ul style="list-style-type: none"> <li>• Level II requirements plus:</li> <li>• Contracting for Performance Using EVM</li> <li>• Acquisition Management</li> <li>• Program Management</li> <li>• Project Portfolio Management Workshop</li> <li>• Advanced Leadership and Interpersonal Skills</li> </ul> <p>In addition, individuals seeking to increase their knowledge and capabilities in project management may take the PM online self-study course available through FAA's learning management system.</p>
Unique Challenges	<p>Entry-level hiring is not effective because of the complexity of program management. Program Managers require years of experience and often are promoted from other career disciplines (e.g., engineering).</p>

<b>Engineering and Research</b>	
Description	Engineering is the discipline and profession of applying scientific knowledge and using natural laws and physical resources to design and implement materials, structures, machines, devices, systems and processes that realize a desired objective and meet specified criteria.
Typical Series	800 series; 1550; 180; 1300 series; 1500 series
Roles	System Engineering, Software and Hardware Engineering, Human Factors Engineering, Operations Research
Current Programs in Place	<ul style="list-style-type: none"> <li>• Stevens Institute Systems Engineering Graduate Certificate Programs</li> <li>• INCOSE certification</li> </ul>
Courses/Curricula in Place	<p><b>FAA Systems Engineering Curriculum</b></p> <ol style="list-style-type: none"> <li>1. Key Ingredients of Systems Engineering</li> <li>2. Integrated Technical Planning</li> <li>3. Requirements Analysis &amp; Development Workshop</li> <li>4. Dimensions of Functional Analysis</li> <li>5. Introduction to Interface Management</li> <li>6. Interface Management Workshop</li> <li>7. Introduction to Risk Management</li> </ol> <p><b>Stevens Institute Systems Engineering Certificate Programs</b></p> <ul style="list-style-type: none"> <li>• Systems Engineering and Architecting Certificate               <ol style="list-style-type: none"> <li>1. Fundamentals of Systems Engineering</li> <li>2. System Architecture and Design</li> <li>3. Project Management of Complex Systems</li> <li>4. System Integration</li> </ol> </li> <li>• Systems and Supportability Engineering Certificate               <ol style="list-style-type: none"> <li>5. Fundamentals of Systems Engineering</li> <li>6. System Architecture and Design</li> <li>7. Design for System Reliability, Maintainability and Supportability</li> <li>8. System Supportability and Logistics</li> </ol> </li> </ul>
Unique Challenges	Recruiting and hiring to meet increased demand for engineers

<b>Business and Financial Management</b>	
Description	Employees in this job family use their knowledge of financial systems and business processes to develop, coordinate and integrate performance-based budgets; develop metrics; manage, track and report financial transactions; develop cost projections; develop recommendations to mitigate financial risks; and provide financial and investment analysis, including return on investment (ROI).
Typical Series	300 series; 500 series; 1550
Roles	Cost analyst/estimator, business manager, financial analyst, benefits analyst
Current Programs in Place	<ul style="list-style-type: none"> <li>• Cost Estimating Certification policy in development</li> </ul>
Courses/Curricula in Place	<ul style="list-style-type: none"> <li>• Introduction to Cost Estimating</li> <li>• Benefits Estimating</li> <li>• Assessing Project Schedule and Risk</li> <li>• Basics of Software Cost Estimating</li> <li>• Building a Business Case</li> <li>• Basics of Business Analysis: Delivering Excellent Staff Work</li> <li>• Intermediate Cost Estimating</li> <li>• Cost Estimating Workshop for Program Managers</li> <li>• Intensive Core Prep for Cost Estimating</li> <li>• Economic Analysis</li> <li>• Appropriations Law Seminar</li> <li>• Appropriations Law Refresher</li> <li>• Fund Certification in the ATO</li> <li>• Managing &amp; Approving Financial Transactions in the ATO</li> <li>• Using the Purchase Card in FAA</li> </ul>

<b>Contracting</b>	
Description	This discipline is responsible for all processes and procedures involved in establishing and maintaining contractual relationships. This includes understanding the technical requirements, assisting with the development of the acquisition strategy, developing a procurement strategy plan, reviewing statements of work, evaluating cost estimates, determining contractor responsibility, performing administration by determining contractor compliance, negotiating cost or price or technical changes, monitoring contractor performance and approving payments. The contracting officer has the specific authority to bind the Government by executing awards, exercising options, or terminating contracts.
Typical Series	1102; Various
Roles	Contracting Officer, Contracting Specialist, Cost Price Analyst
Current Programs in Place	<ul style="list-style-type: none"> <li>• FAA Acquisition Career Development Policy for Contracting Professionals (<i>note: revision to policy in process; update to be published in 2009</i>)</li> </ul>
Courses/Curricula in Place  <i>(Note: certification requires experience and documented competency proficiency in addition to training; continuing professional development required to maintain certification)</i>	<p><b>Level I Certification</b></p> <ul style="list-style-type: none"> <li>• Prior to Oct. 1, 2004               <ol style="list-style-type: none"> <li>1. Fundamentals of Contracting</li> <li>2. Fundamentals of Contract Pricing</li> </ol> </li> <li>• Effective Oct. 1, 2004               <ol style="list-style-type: none"> <li>1. Shaping Smart Business Arrangements</li> <li>2. Mission Support Planning</li> <li>3. Mission Strategy Execution</li> <li>4. Mission Performance Assessment</li> <li>5. Mission Focused Contracting</li> <li>6. One (1) Elective</li> </ol> </li> </ul> <p><b>Level II Certification (in addition to Level I requirements)</b></p> <ul style="list-style-type: none"> <li>• Prior to FY 2008               <ol style="list-style-type: none"> <li>1. Intermediate Contracting</li> <li>2. Intermediate Contract Pricing</li> <li>3. Government Contract Law</li> <li>4. Two (2) Electives</li> </ol> </li> <li>• FY 2008 and Beyond               <ol style="list-style-type: none"> <li>1. Business Decisions for Contracting</li> <li>2. Intermediate Contracting for Mission Support</li> <li>3. Legal Considerations in Contracting</li> <li>4. Cost Analysis and Negotiation Techniques</li> <li>5. Advanced Contracting for Mission Support</li> <li>6. Two (2) Electives</li> </ol> </li> </ul>

<b>Contracting, continued</b>	
Courses/Curricula in Place (continued)	<p><b>Level III Certification (in addition to Level I and Level II requirements)</b></p> <ul style="list-style-type: none"> <li>• Prior to Oct. 1, 2004               <ol style="list-style-type: none"> <li>1. Executive Contracting</li> <li>2. Management for Contracting Supervisors</li> </ol> </li> <li>• Effective Oct. 1, 2004               <ol style="list-style-type: none"> <li>1. Advanced Business Solutions for Mission Support (or equivalent/predecessor)</li> <li>2. Two (2) Electives</li> </ol> </li> </ul>
Unique Challenges	<p>Staffing of 1102 positions has become difficult due to high demand across all of Federal Government.</p> <p>Complexity of acquisitions requires highly skilled contracting professionals.</p>

<b>Contracting Officer's Technical Representative (COTR)</b>	
Description	The discipline resolves technical issues, gives technical direction to the contractor and interprets technical processes and procedures for the contracting officer. The functions include interpreting technical requirements, assisting with the acquisition strategy, assisting in the development of the statement of work, generating government cost estimates, assisting in the negotiation of costs or price of technical requirements, monitoring contractor performance, reviewing and accepting services, supplies and equipment, invoice reconciliation and recommending payments.
Typical Series	Various
Roles	COTRs, Contracting Officer's Representatives (COR), Technical Officer's Representative (TORs)
Current Programs in Place	<ul style="list-style-type: none"> <li>• COTR Certification policy to be issued in 2009 (training requirements already in policy)</li> </ul>
Courses/Curricula in Place	<ul style="list-style-type: none"> <li>• COR/COTR Basic Training</li> <li>• COR/COTR Refresher Training</li> <li>• Contracting Overview</li> <li>• COR with a Mission Focus</li> <li>• Performance-based Services Acquisition</li> <li>• Technical Review</li> </ul> <p>In addition, 12 classroom and online courses are available for refresher/continuous learning training, including Federal Acquisition Institute (FAI) and Defense Acquisition University courses.</p>
Unique Challenges	Identifying COTRs and tracking compliance with training requirements

<b>Logistics</b>	
Description	Integrated Logistics Support (ILS) is the critical functional discipline that plans, establishes and maintains an ILS system for the life cycle of FAA products and services. ILS works by planning for and managing the interdependencies among the nine logistics elements: Maintenance Planning; Supply Support; Training, Training Support, and Personnel Skills; Computer Resources Support; Maintenance Support Facilities; Packaging, Handling, Storage, and Transportation; Technical Data; Direct Work Maintenance Staffing; and Support Equipment.
Typical Series	346; Various
Roles	Logistics element specialist/manager; Integrated logistics support specialist/manager
Current Programs in Place	<ul style="list-style-type: none"> <li>• Certification policy is under development</li> </ul>
Courses/Curricula in Place	<ul style="list-style-type: none"> <li>• Introduction to Integrated Logistics Support</li> <li>• Maintenance Planning</li> <li>• Supply Support</li> <li>• Training, Training Support, and Personnel Skills</li> <li>• Computer Resources Support</li> <li>• Maintenance Support Facilities</li> <li>• Packaging, Handling, Storage, and Transportation</li> <li>• Technical Data</li> <li>• Direct Work Maintenance Staffing</li> <li>• Support Equipment</li> <li>• Fundamentals of Acquisition Management System</li> </ul> <p>In addition, ILS professionals have access to Defense Acquisition University courses.</p>
Unique Challenges	Expanding focus on ILS during the initial phases of the AMS life cycle

<b>Test and Evaluation Specialized Support</b>
Initiatives were identified for developing curriculum/certification programs for the Test and Evaluation and Specialized Support disciplines.

# Appendix B: Acquisition Workforce Competencies

The Council identified the need to internally develop a competency that encompassed Acquisition Planning Strategy and Development for Program/Project Managers.

Program/Project Management Competencies		
Competency	Definition	Most Critical
Benefit-Cost Analysis	<ul style="list-style-type: none"> <li>Knowledge of cost-benefit analysis methods, concepts and processes</li> </ul>	
Budget Execution	<ul style="list-style-type: none"> <li>Knowledge of systems and processes for tracking actions affecting the budget</li> </ul>	
Contract Administration	<ul style="list-style-type: none"> <li>Knowledge of contract administration methods and techniques</li> </ul>	
Contractor Performance Management	<ul style="list-style-type: none"> <li>Knowledge of contractor performance requirements and appropriate remedies</li> </ul>	
Cost Estimating	<ul style="list-style-type: none"> <li>Knowledge of the types and methods of cost estimating</li> </ul>	
Development of Supportability Requirements	<ul style="list-style-type: none"> <li>Knowledge of performance-based logistics efforts that optimize total system life-cycle availability, supportability, and reliability/maintainability while minimizing cost and logistic footprint and interoperability</li> </ul>	
Earned Value Management (EVM)	<ul style="list-style-type: none"> <li>Knowledge of and skill in applying EVM techniques</li> </ul>	
Financial Planning	<ul style="list-style-type: none"> <li>Knowledge of financial planning methods, tools and processes</li> </ul>	
Formulation of Financial Program and Budget	<ul style="list-style-type: none"> <li>Knowledge of established budgeting systems and tools</li> <li>Knowledge of financial and budget terms and key financial guidance</li> </ul>	
Life-Cycle Logistics Strategy Development	<ul style="list-style-type: none"> <li>Knowledge of performance-based logistics efforts that optimize total system life-cycle availability, supportability, and reliability/maintainability while minimizing cost and logistic footprint and interoperability</li> </ul>	
Market Analysis	<ul style="list-style-type: none"> <li>Knowledge of government and non-government sources</li> <li>Knowledge of the business implications relevant to documenting requirements government sources</li> </ul>	
Organizational Awareness	<ul style="list-style-type: none"> <li>Knowledge of the Air Traffic Organization (ATO) organizational structure and governance system, including the “chain of command,” key actors, and decision makers</li> <li>Knowledge of the climate and culture of the agency and how its social, political and technological systems work</li> </ul>	
Performance-based Logistics	<ul style="list-style-type: none"> <li>Knowledge of performance-based logistics efforts that optimize total system life-cycle availability, supportability, and reliability/maintainability while minimizing cost and logistic footprint and interoperability</li> </ul>	
Procurement Planning	<ul style="list-style-type: none"> <li>Knowledge of contracting strategies and approaches</li> <li>Skill in developing and implementing acquisition strategies needed to ensure that supplies and services are available when needed to meet mission requirements</li> </ul>	

<b>Program/Project Management Competencies, continued</b>		
<b>Program/Project Management Processes</b>	<ul style="list-style-type: none"> <li>• Knowledge of the principles, methods and tools for developing, scheduling, coordinating and managing programs/projects and resources</li> <li>• Specific knowledge of portfolio, program and project management systems and tools</li> <li>• Knowledge of the tools and processes used to assess the progress of programs and projects</li> </ul>	▲
<b>Program/Project Planning Processes</b>	<ul style="list-style-type: none"> <li>• Knowledge of specific methods for planning and organizing work to achieve program/project goals</li> <li>• Knowledge of FAA's acquisition policies and procedures</li> </ul>	▲
<b>Requirements Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of the principles and methods used to identify, analyze, design and manage functional requirements, including translating functional requirements into technical requirements</li> </ul>	▲
<b>Risk Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of methods and tools used for risk assessment and mitigation</li> </ul>	▲
<b>Source Identification and Selection</b>	<ul style="list-style-type: none"> <li>• Knowledge of the potential sources for specific acquisitions</li> </ul>	
<b>Stakeholder Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of stakeholder considerations and their impact on planning</li> </ul>	▲
<b>Strategic Alignment</b>	<ul style="list-style-type: none"> <li>• Knowledge of FAA and organizational mission, strategic plans, goals and objectives, and their impact on NextGen</li> <li>• Knowledge of the vision, goals, objectives and business case for the NextGen transition</li> <li>• Knowledge of program/project management strategies that support NextGen goals</li> <li>• Knowledge of the National Airspace System</li> </ul>	
<b>System Safety</b>	<ul style="list-style-type: none"> <li>• Knowledge, capabilities and practices associated with using formal approaches to analyze hazards that affect human, environment, and mission assets to provide decision makers with recommendations to eliminate the hazards or reduce their risk to acceptable levels</li> </ul>	
<b>Systems Thinking and Integration</b>	<ul style="list-style-type: none"> <li>• Knowledge of the fundamental concepts of systems thinking, including an understanding of how actions and decisions in one area affect another</li> <li>• Knowledge of the role a system plays in its part of the "system of systems"</li> <li>• Knowledge of the enterprise and technological environment in which systems engineering is conducted</li> <li>• Detailed knowledge of systems integration concepts and approaches used in the agency</li> </ul>	
<b>Test and Evaluation (T&amp;E) Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of the efficient and cost-effective methods for planning, monitoring, conducting and evaluating tests of prototype, new, or modified systems or materiel</li> <li>• Skill in developing a thorough T&amp;E strategy to validate system performance</li> <li>• Skill in identifying testing needs and establishing and coordinating test conduct activities</li> </ul>	
<b>Technical Expertise</b>	<ul style="list-style-type: none"> <li>• Knowledge of the technical disciplines and functions of the program</li> </ul>	

<b>Engineering and Research - System Engineering Competencies</b>		
<b>Competency</b>	<b>Definition</b>	<b>Most Critical</b>
<b>Concurrent Engineering</b>	<ul style="list-style-type: none"> <li>• Knowledge that life-cycle activities and the development of systems elements can occur concurrently</li> <li>• Knowledge of the advantages and disadvantages of concurrency</li> </ul>	
<b>Enterprise and Technology Environment</b>	<ul style="list-style-type: none"> <li>• Knowledge of the influence the enterprise (environment, objectives, social, political, financial, cultural) has on the definition and development of the system</li> <li>• Knowledge of the influence technology has on the definition and development of the system</li> <li>• Knowledge of the influence the system has on the enterprise and on technology</li> </ul>	
<b>Enterprise Integration</b>	<ul style="list-style-type: none"> <li>• Understanding of an enterprise as a system</li> <li>• Knowledge of other functions of the enterprise that have inputs to and outputs from the system engineering process</li> </ul>	▲
<b>Integration and Verification</b>	<ul style="list-style-type: none"> <li>• Knowledge of the importance of verification against the system requirements</li> <li>• Knowledge of the importance of integrating the system in a logical sequence</li> <li>• Knowledge of the need to plan for systems integration and verification</li> <li>• Knowledge of the relationship between verification and acceptance</li> <li>• Knowledge of the NAS</li> </ul>	▲
<b>Integration of Fields of Specialization</b>	<ul style="list-style-type: none"> <li>• Knowledge of the different fields of specialization</li> <li>• Knowledge of the importance of integrating fields of specialization into the project</li> <li>• Knowledge that the fields of specialization can affect the cost of ownership</li> </ul>	
<b>Life-Cycle Process Definition</b>	<ul style="list-style-type: none"> <li>• Knowledge of systems life cycles</li> <li>• Knowledge of appropriate life-cycle processes</li> </ul>	
<b>Planning, Monitoring, and Controlling</b>	<ul style="list-style-type: none"> <li>• Knowledge of the importance of planning, monitoring and controlling systems engineering activities</li> </ul>	
<b>Risk Assessment</b>	<ul style="list-style-type: none"> <li>• Knowledge of the assessment of system success criteria, accident scenario development using logic techniques, phenomenological failure modeling, quantification of accident scenarios using probabilistic and statistical analysis techniques, consequence assessment uncertainty and risk trade-off analysis, and risk communication</li> </ul>	
<b>Stakeholder Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of the need for sound quality requirements</li> <li>• Skill to be able to identify major stakeholders</li> <li>• Knowledge of the importance of managing requirements throughout the life cycle</li> <li>• Knowledge of the need to manage both technical and non-technical requirements</li> </ul>	

<b>Engineering and Research - System Engineering Competencies (continued)</b>		
<b>System Design: Design for...</b>	<ul style="list-style-type: none"> <li>• Understanding of the need to implement design requirements of later life-cycle stages</li> </ul>	
<b>System Design: Architectural Design</b>	<ul style="list-style-type: none"> <li>• Knowledge of the principles of architectural design and its role within the life cycle</li> <li>• Knowledge of the different types of architecture</li> </ul>	
<b>System Design: Concept Generation</b>	<ul style="list-style-type: none"> <li>• Understanding of the need to explore alternative solutions</li> <li>• Knowledge of alternative discipline technologies that can be used to satisfy the same requirement</li> </ul>	
<b>System Design: Functional Analysis</b>	<ul style="list-style-type: none"> <li>• Knowledge of functional models</li> <li>• Knowledge of the relevance of the outputs from functional analysis and how these relate to the overall system design</li> </ul>	
<b>System Design: Human Factors Engineering</b>	<ul style="list-style-type: none"> <li>• Knowledge and capabilities to apply human factors engineering principles, standards, design guides, regulations and advisory material to the design, test, evaluation, operation and maintenance of systems and processes</li> </ul>	
<b>System Design: Interface Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of interface management and its impact on the integrity of the system solution</li> <li>• Knowledge of the possible sources of complexity in interface management, e.g., multinational programs, multiple suppliers, different domains, and novel technology</li> </ul>	
<b>System Design: Maintaining Design Integrity</b>	<ul style="list-style-type: none"> <li>• Knowledge of the need to maintain the integrity of the design</li> </ul>	
<b>System Design: Modeling and Simulation</b>	<ul style="list-style-type: none"> <li>• Understanding of the need for system representations</li> <li>• Knowledge of scope and limitations of models and simulations</li> </ul>	
<b>System Design: Solution Selection</b>	<ul style="list-style-type: none"> <li>• Knowledge of the importance of selecting a preferred solution</li> <li>• Knowledge of comparative techniques (e.g., trade studies, make/buy) to assist decision processes</li> </ul>	▲
<b>System Design: System Robustness</b>	<ul style="list-style-type: none"> <li>• Knowledge of the importance of the design and how it affects the robustness of the solution throughout the life cycle</li> </ul>	
<b>Systems Concepts</b>	<ul style="list-style-type: none"> <li>• Knowledge of systems concepts, including system life cycle, hierarchy of systems, system context, interface definition, and management</li> </ul>	
<b>“System of Systems” Capability Issues</b>	<ul style="list-style-type: none"> <li>• Knowledge of the concept of capability</li> <li>• Knowledge of the impact of “system-of-systems” capability on system development</li> <li>• Knowledge of the difficulties of translating “system-of-systems” capability needs into system requirements</li> </ul>	▲
<b>Transition to Operation</b>	<ul style="list-style-type: none"> <li>• Knowledge of the need to transition a system into operation</li> <li>• Knowledge of the type of activities required for transition to operation</li> </ul>	
<b>Validation</b>	<ul style="list-style-type: none"> <li>• Knowledge of the purpose of validation and the need for early planning for validation</li> </ul>	

<b>Business and Financial Management Competencies</b>		
<b>Competency</b>	<b>Definition</b>	<b>Most Critical</b>
<b>Agency Budgeting</b>	<ul style="list-style-type: none"> <li>• Knowledge of agency's budget operations and processes, and how obligations and expenditures are incurred for assigned program areas</li> <li>• Knowledge of the structure of appropriations and other funds that support the agency's mission</li> <li>• Knowledge of the agency's financial systems</li> </ul>	
<b>Basic Budgeting and Accounting</b>	<ul style="list-style-type: none"> <li>• Knowledge of basic budgeting and accounting concepts and principles, including agency budget procedures and financial management systems</li> <li>• General knowledge of the different methods of accounting, including accrual, obligation, and cost</li> <li>• Knowledge of the functions of agency financial systems</li> <li>• Knowledge of the financial management systems architecture</li> </ul>	
<b>Cost Estimating</b>	<ul style="list-style-type: none"> <li>• Knowledge of the types and methods of cost estimating</li> </ul>	▲
<b>Federal Budgeting</b>	<ul style="list-style-type: none"> <li>• Knowledge of the federal budget process, including budget formulation, justification, presentation and execution</li> <li>• Knowledge of current laws, regulations and guidance affecting the federal budget process</li> </ul>	
<b>Financial Budget and Data Analysis</b>	<ul style="list-style-type: none"> <li>• Knowledge of the methods used to analyze quantitative and qualitative financial data effectively to manage and achieve results</li> <li>• Skill in identifying organizational trends through a variety of sources</li> </ul>	▲
<b>Financial Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of critical financial concepts and practices used in the Federal Government</li> </ul>	
<b>Organizational Forecasting</b>	<ul style="list-style-type: none"> <li>• Ability to develop models or projections based on studying past results, relationships, outcomes, and data</li> </ul>	
<b>Performance Management/Cost Accounting</b>	<ul style="list-style-type: none"> <li>• Knowledge of the principles and application of performance management and cost accounting in the Federal Government</li> </ul>	
<b>Productivity Improvement Systems and Business Reengineering Processes</b>	<ul style="list-style-type: none"> <li>• Knowledge of methods, metrics, tools and techniques of business process reengineering</li> </ul>	
<b>Program Evaluation</b>	<ul style="list-style-type: none"> <li>• Knowledge of the basic techniques of economic analysis, auditing, and program evaluation</li> </ul>	▲
<b>Program Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of basic project management techniques and tools</li> <li>• Skill in creating and maintaining an environment that guides a project to its successful completion</li> </ul>	
<b>Reconciliation and Financial Reporting</b>	<ul style="list-style-type: none"> <li>• Knowledge of established methods used to prepare, review and update financial information for monthly, quarterly and yearly reconciliation and financial statements, and other financial reports as required</li> </ul>	▲

<b>Business and Financial Management Competencies, continued</b>		
<b>Risk Analysis and Internal Management Control Concepts and Principles</b>	<ul style="list-style-type: none"> <li>• Knowledge of methods used to identify and manage risks associated with errors or fraud in financial statements</li> <li>• Knowledge of management control concepts and principles used in financial systems</li> </ul>	▲
<b>Strategic Planning</b>	<ul style="list-style-type: none"> <li>• Knowledge of the agency's strategic planning process</li> </ul>	

<b>Contracting Competencies</b>		
<b>Competency</b>	<b>Definition</b>	<b>Most Critical</b>
<b>Acquisition Strategy Development</b>	<ul style="list-style-type: none"> <li>Ability to advise customers on their acquisition-related roles and in the development and implementation of strategies needed to ensure that supplies and services are available when needed to meet mission requirements.</li> </ul>	▲
<b>Award Resolution</b>	<ul style="list-style-type: none"> <li>Knowledge of contract formation procedures. Skill in determining and documenting the responsibility and non-responsibility of a prospective contractor. Skill in preparing purchase orders/contract and documenting the award recommendation. Skill in making the contract award and related notification. Skill in debriefing offerors at their request. Skill in acting to resolve acquisition complaints and concerns.</li> </ul>	
<b>Defining Contractual/ Business Relationships</b>	<ul style="list-style-type: none"> <li>Knowledge of techniques in the identification and selection of the most appropriate contractual terms and arrangements; for example, in pricing, financing, and payment methods. Skills to perform the following: determine whether and how to provide for recurring requirements; prepare unpriced orders and contracts; determine whether to provide for government financing and where necessary the method of financing; determine bonding requirements for the solicitation and contract; determine the method of payment; determine whether a written source or selection plan is necessary or desirable.</li> </ul>	▲
<b>Defining Government Requirements in Commercial/ Non-commercial Terms</b>	<ul style="list-style-type: none"> <li>Knowledge of legislation, regulations and methods used in government contracting. Skill in selecting appropriate offer evaluation factors for incorporation into the solicitation that tie back to clear and unambiguous technical requirements included in the Request for Proposals. Skill in determining the method of acquisition.</li> </ul>	
<b>Defining Requirements</b>	<ul style="list-style-type: none"> <li>Ability to determine or develop offer evaluation factors that will discriminate between offerors and that tie back to the technical requirements included in the solicitation. Ability to determine the most appropriate method of acquisition for each procurement request.</li> </ul>	▲
<b>Detailed Bid Evaluation Skills</b>	<ul style="list-style-type: none"> <li>Knowledge of technical requirements sufficient to evaluate bid responsiveness, contractor responsibility, and/or contractor performance. Skill in receiving, handling and evaluating bids, adhering to proper procedures.</li> </ul>	
<b>Financial Management</b>	<ul style="list-style-type: none"> <li>Ability to manage all financial aspects of contract administration, including cost/pricing remedies, authorizing payments, recovering debts, and detecting fraud.</li> </ul>	▲
<b>Managing Competition</b>	<ul style="list-style-type: none"> <li>Ability to advise customers on competitive options based on business strategies, market environments, acquisition goals, and Acquisition Management System (AMS) requirements. Ability to determine whether to limit competition to socioeconomic concerns.</li> </ul>	
<b>Market Research</b>	<ul style="list-style-type: none"> <li>Ability to collect and analyze relevant market information and identify possible sources for the acquisition through effective market analysis and industry knowledge.</li> </ul>	

<b>Contracting Competencies, continued</b>		
<b>Negotiation</b>	<ul style="list-style-type: none"> <li>• Knowledge of negotiation techniques to meet and reach agreement through discussion with a proposed contractor on the price and performance terms, and to set forth all these terms in a contract document. Skill in conducting a negotiation session and documenting in the contract file the principal elements of the negotiated agreement.</li> </ul>	
<b>Performance-based Acquisition</b>	<ul style="list-style-type: none"> <li>• Ability to determine if performance-based acquisition is the appropriate acquisition strategy to use in procurement. Ability to develop a performance work statement or a statement of objectives. Ability to conduct research to determine performance standards or incentives that will effectively measure contractor results.</li> </ul>	▲
<b>Performance Management</b>	<ul style="list-style-type: none"> <li>• Ability to monitor contract performance and take any necessary action and apply remedies to protect the rights of the Government. Ability to use performance metrics to evaluate actual performance against goals.</li> </ul>	
<b>Procurement Planning</b>	<ul style="list-style-type: none"> <li>• Ability to develop and maintain a workable plan and manage resources to accomplish the overall goal of the acquisition project.</li> </ul>	
<b>Proposal Analysis and Evaluation</b>	<ul style="list-style-type: none"> <li>• Knowledge of cost and/or price analysis techniques and auditing standards and procedures. Skill in receiving, handling and evaluating quotations/proposals adhering to proper procedures. Skill in obtaining proper disclosure of accounting practices and in determining if the firm's accounting practices comply with government cost accounting standards.</li> </ul>	
<b>Requirements/Contract Management</b>	<ul style="list-style-type: none"> <li>• Knowledge of post-award contracting procedures to oversee or ensure compliance with the terms of contracts. Skill in effective communication of contract requirements. Skill in planning for contract administration. Skill in conducting a post-award orientation. Skill in monitoring contractor subcontract management in accordance with prime contract requirements. Skill in modifying or adjusting a contract when needed. Skill in determining whether to exercise an available option.</li> </ul>	▲
<b>Resolution of Contract Termination and/or Closeout</b>	<ul style="list-style-type: none"> <li>• Knowledge of contract termination procedures and negotiation techniques to represent the Government in terminations for convenience or default and in claims and settlements. Skill in analyzing, negotiating and preparing a Contracting Officer's decisions. Skill in terminating contracts when it is in the best interest of the Government. Skill in performing contract closeout.</li> </ul>	
<b>Small Business and Preference Program Participation</b>	<ul style="list-style-type: none"> <li>• Ability to identify opportunities for small business and other preference programs to participate in solicitations. Ability to strategize with program officials to encourage preference program participation.</li> </ul>	
<b>Solicitation of Offers</b>	<ul style="list-style-type: none"> <li>• Knowledge of solicitation and selection methods. Skill in conducting oral solicitations and in preparing written solicitations that include the appropriate provisions and clauses tailored to the requirement and assembled in a format appropriate to the acquisition method and market for the required supply or service. Knowledge of formal advertising techniques. Skill in responding to an inquiry about the solicitation received prior to contract award or a request for information under the Freedom of Information Act. Skill in conducting a pre-quote, pre-bid, pre-proposal conference when appropriate. Skill in amending or canceling solicitations.</li> </ul>	

<b>COTR Competencies</b>		
<b>Competency</b>	<b>Definition</b>	<b>Most Critical</b>
Acquisition Planning	<ul style="list-style-type: none"> <li>Assist in the planning and implementing strategies needed to ensure that supplies and services are available when needed to meet mission requirements</li> </ul>	
Defining Government Requirements in Commercial/ Non-Commercial Terms	<ul style="list-style-type: none"> <li>Define the necessary requirements to determine or develop offer evaluation factors that will discriminate between offerors that tie back to the technical requirements included in the solicitation and assist the Program Office to communicate to the Contracting Officer (CO) in determining the most appropriate method of acquisition for each procurement request</li> </ul>	▲
Effective Contract Management	<ul style="list-style-type: none"> <li>Communicate to the CO any recommended scope changes or other changes that may result in the modification to the contract; recognize the impact of changes on milestones; identify and resolve technical problems and develop alternative solutions; participate in integrated baseline reviews (IBRs) and analyze EVM data.</li> </ul>	▲
Effective Pre-award Communication	<ul style="list-style-type: none"> <li>Assist CO with technical issues related to industry questions concerning the procurement, conducting pre-proposal and pre-bid conferences, and protecting procurement sensitive information</li> </ul>	
Market Research (Understanding the Marketplace)	<ul style="list-style-type: none"> <li>Conduct, collect and analyze relevant market information and identify possible sources for the acquisition through effective market analysis and industry knowledge</li> </ul>	
Negotiation	<ul style="list-style-type: none"> <li>Assist in the planning of negotiation positions and preparation of negotiation strategies, conducting a negotiation session, and documenting the elements of the negotiated agreement when requested by the CO</li> </ul>	
Performance Management	<ul style="list-style-type: none"> <li>Monitor contract performance and recommend necessary action to the CO in order for the CO to protect the rights of the Government and use performance metrics to evaluate actual performance against goals</li> </ul>	▲
Technical Analysis of Proposals	<ul style="list-style-type: none"> <li>Evaluate technical proposals against the evaluation criteria and participate in the evaluation of cost proposals; assist in best value trade-off analysis; evaluate past performance information and contact references if the CO delegates this responsibility; and assist in the evaluation of return on investment (ROI)</li> </ul>	▲

### **Leadership**

FAA has defined detailed leadership competency models for employees, prospective managers, managers, and executives. The managerial and executive competency models are organized along four dimensions: Achieving Results, Leading People, Building Relationships, and Leading Change. These provide a corporate foundation for managerial selection, training, and performance management. Details are available online and through FAA's Office of Learning and Development.



U.S. Department of Transportation  
**Federal Aviation Administration**

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

[www.faa.gov](http://www.faa.gov)