Addressing the Shortage of Air Traffic Control Professionals in the United States

Presentation to: Next Generation Aviation Professionals Symposium

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Overview

• Background

• Air Traffic Controller Workforce Planning

• Selection

• Collegiate Partnerships

• Employee Orientation

• Air Traffic Training

• FAA Academy Scope of Responsibility
Background

• Air Traffic Controller strike on August 3, 1981
• Nearly 11,000 Controllers were fired
• Between 1981 and 1992, the FAA hired and trained thousands of controllers
• It is estimated that from 2005 to 2015, 73% of the controller workforce will be eligible to retire
• Situation necessitated the FAA to develop a systematic approach to recruiting, selecting and training the required large number of controllers
Air Traffic Controller Workforce Planning

• To address the anticipated shortage of controllers, the FAA first needed to define the problem

• At the request of the US Congress, the FAA developed a comprehensive workforce plan

• The Workforce Plan defines how the FAA will hire and train the number of controllers required and addresses key elements such as:
  → Staffing requirements
  → Controller losses through retirement and attrition
  → Hiring Plan Numbers
  → Hiring Process
  → Training process including efficiencies gained through simulation

• Workforce Plan first published in 2005 and updated annually
Projected Controller Workforce
Selection

• Hiring Sources
  - Military
  - Graduates from the Air Traffic Collegiate Training Initiative
  - General Public

• Air Traffic Selection and Training (AT-SAT)
  - Computer-Based Cognitive Test
  - Takes 8 hours to complete
  - Predicts applicants ability to be successful through training

• AT-SAT is a unique test that measures:
  - Prioritization
  - Tolerance for High Intensity
  - Composure
  - Planning
  - Execution
  - Thinking Ahead
  - Taking Charge
  - Reasoning
  - Decisiveness
  - Problem Solving
  - Visualization
  - Working Cooperatively
  - Numeric Ability
  - Working with Angles
  - Movement Detection
Collegiate Partnerships

- Air Traffic Collegiate Training Initiative (AT-CTI)
  - Establishes collegiate aviation as one of the primary means of meeting the future needs of the agency for Air Traffic Control Specialists
  - A partnership agreement between select colleges and the FAA to provide specific air traffic curriculum to students enrolled in specific aviation degree programs
  - Does not guarantee employment
  - AT-CTI schools must meet all curriculum objectives established by the FAA
  - Students hired through the AT-CTI program bypass the first five weeks of Academy training
  - To qualify for employment consideration, students must meet all FAA hiring requirements

- The FAA currently has partnership agreements with 31 colleges and universities
Employee Orientation

• Onboarding Process

• “Meet and Greet” sessions with students and FAA managers

• Executive Orientation for new students at the FAA Academy

• New Websites
  → Designed to connect with new students
  → YouTube and Facebook
  → Facility Websites with contact information
  → ATO Leading Edge Forum
Air Traffic Training – FAA Academy

- All newly hired controllers begin training at the Academy
- AT-CTI students bypass the AT Basics course
- Combination of classroom and simulation training
- Performance Verification is the final graded scenario
# Air Traffic Training – Facility

## TERMINAL FACILITY TRAINING

<table>
<thead>
<tr>
<th>Stage II</th>
<th>Stage III</th>
<th>Stage IV</th>
<th>Stage V</th>
<th>Stage VI</th>
<th>Stage VII</th>
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</thead>
<tbody>
<tr>
<td>Flight Data</td>
<td>Clearance Delivery</td>
<td>Ground Control</td>
<td>Local Control / Cab Coordinator</td>
<td>Non-Radar Terminal Control</td>
<td>Radar Control</td>
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<tr>
<td>2. OJT</td>
<td>2. OJT</td>
<td>2. OJT</td>
<td>2. OJT</td>
<td>1. Classroom</td>
<td>1. Classroom</td>
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</tbody>
</table>

*Note: The order of Stages III through VII may be changed at the discretion of the facility manager.*

## EN ROUTE FACILITY TRAINING

<table>
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<tr>
<th>Stage II</th>
<th>Stage III</th>
<th>Stage IV</th>
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<tbody>
<tr>
<td>Assistant Controller (Flight Data)</td>
<td>Non-Radar and Radar Associate (RA)</td>
<td>Radar Controller</td>
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<tr>
<td>2. OJT</td>
<td>2. OJT</td>
<td>2. OJT</td>
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•Classroom
•OJT
•Simulation
•Certification

*Note: Certification on two (2) positions qualifies a developmental to work independently and to proceed to Stage IV training.*

•Classroom
•OJT
•Simulation
•Certification

*Note: Certification on two (2) radar positions qualifies a developmental to work independently.*
Air Traffic Training

- In order to achieve hiring and training targets, the FAA needed to reduce training time
- Achieved efficiencies by improving the training and scheduling process, increased use of simulation, and increased management oversight

<table>
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<tr>
<th>Fiscal Year</th>
<th>En Route</th>
<th>Terminal</th>
<th>Overall</th>
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<td>2005</td>
<td>4.1 years</td>
<td>3.1 years</td>
<td>3.9 years</td>
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<tr>
<td>2006</td>
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<td>2.7 years</td>
<td>3.6 years</td>
</tr>
<tr>
<td>2007</td>
<td>3.1 years</td>
<td>1.9 years</td>
<td>2.8 years</td>
</tr>
<tr>
<td>2008</td>
<td>2.6 years</td>
<td>1.1 years</td>
<td>1.7 years</td>
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</tbody>
</table>
Air Traffic Training

• FAA Academy Simulation
  ➤ Tower
    ➤ 14 Tower Simulators with 2 additional planned in 2010
    ➤ Desktop Tower Simulation (Tower 3D)
    ➤ Table Top Simulation

➤ Terminal Radar
  ➤ High fidelity simulation

➤ En Route (Area Control Centers)
  ➤ High fidelity simulation identical to field facilities
  ➤ En Route Training Simulation System (ERTSS)
Air Traffic Training

- **Field Facility Simulation**
  - **Tower**
    - 20 Tower Simulators installed at high density airports
    - 8 additional simulators planned
    - Serves up to 90 airports in a hub configuration

- **Terminal Radar**
  - Labs installed in most terminal radar facilities

- **En Route (Area Control Centers)**
  - Labs installed in all Area Control Facilities
FAA Academy

• Mission: Provide premier cost-efficient training solutions for the FAA workforce and global community.

• Location: Oklahoma City Campus of the Mike Monroney Aeronautical Center

• Facilities & Campus
  - Approximately 459,650 square feet of space.
  - 70% Classroom/Lab, 30% Office/Support Space
  - Over 2,500 classes conducted each year.

• Staffing: 974 Employees (includes 451 FAA FTE’s and 523 Contractors, as of Feb 2010)
Products & Services

- Resident/Non-Resident Technical Training
- Management & Executive Training
- Training Assessments/Evaluations
- Courses available in:
  - Air Traffic
  - Technical Operations
  - Flight Standards
  - Airports
  - ICAO Endorsed Government Safety Inspector
    - Operations
    - Airworthiness
    - Personnel Licensing
  - Instrument Flight Procedures Development
  - Aviation English