

**Statement of Kenneth Witcher  
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**before the  
House Committee on Small Business  
“Troubled Skies: The Aviation Workforce Shortage's Impact on Small Businesses.”  
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Chairman Knight, Ranking Member Murphy, and members of the committee, thank you for the invitation to testify today examining how the aviation/aerospace workforce shortages impact small business. My name is Ken Witcher and I have the privilege of leading the College of Aeronautics for Embry-Riddle Aeronautical University, Worldwide Campus. I would also like to thank the Aerospace Industries Association (AIA) for their work in this area and assistance with coordinating this opportunity to speak on this critical topic for our industry.

Embry-Riddle Aeronautical University, the world’s largest, fully accredited university specializing in aviation and aerospace, is a nonprofit, independent institution offering baccalaureate, master’s and Ph.D. degree programs. Embry-Riddle educates students at residential campuses in Daytona Beach, Fla., and Prescott, Ariz., and through the Worldwide Campus with more than 150 locations in the United States, Europe, Asia and South America. The university is a major research center, seeking solutions to real world problems in partnership with the aerospace industry, other universities and government agencies.

**The big picture**

Cities within the United States with the capacity to accommodate increased air traffic demand are in a stronger position for economic growth than those that cannot accommodate air

traffic demand. According to a Boeing report released earlier this year, air travel has proven to be a resilient market, and robust growth is expected to continue in the future. From the industry's beginnings in the 1940's, "the number of passengers traveling annually grew from about 100 million in 1960 to just over 1 billion in 1987. It took 18 years to double to 2 billion passengers, and only 7 more years to grow to 3 billion." This growth is expected to continue with regions such as China, India, and Southeast Asia pushing this upward trajectory (Boeing, 2018).

In the 2018 Pilot & Technician Outlook, Boeing projects "790,000 new civil aviation pilots and 754,000 new maintenance technicians will be needed to fly and maintain the world fleet over the next 20 years" (Boeing, 2018). This demand for the workforce will be a primary result of fleet growth, retirements, and attrition. According to Boeing (2018), "as several hundred thousand pilots and technicians reach retirement age over the next decade, educational outreach and career pathway programs will be essential to inspiring and recruiting the next generation of personnel.

According to leaders within the National Business Aviation Association (NBAA), the business aviation community consists of companies of all sizes that rely on many different types of aircraft – from single-pilot airplanes, to turbine aircraft flying internationally, to helicopters surveying rush-hour traffic – and the fixed-base operations and many other services supporting flight operations at the nation's 5,000 public-use airports. The vast majority of businesses in this community – 97 percent – are small- to mid-size businesses and other entities including nonprofit organizations. Without a source of pilots, maintenance technicians, flight attendants, schedulers/dispatchers and trained support personnel the economic engine of business aviation will be significantly impacted. This will impact all businesses in America small, medium, and large. Furthermore, the NBAA emphasizes this is not an exclusive problem to the United States but rather a global issue.

### **Pilot shortage**

Over the next 20 years, the Asia Pacific region will lead the global demand for pilots, with a requirement for 261,000 new pilots. North America will require 206,000, Europe 146,000, the Middle East 64,000, Latin America 57,000, Africa 29,000 and Russia/ Central Asia 27,000 (Boeing,

2018). It is important to understand the pilot shortage is not constant across all levels of air service and training. Pilots come from two primary sources, the military and civilian flight schools. At this point, the military training is stable although strained to meet their needs. Many civilian schools are at capacity with the greatest limiting factor being Certified Flight Instructors (CFIs). As the major airlines need additional pilots, they typically pull from the regional airlines who in turn pull from the CFI workforce.

### **What does this mean to small business?**

The impact to small business is twofold. First, a shortage of pilots at the regional airlines level will most likely result in reduced service to smaller communities. Prior research results have concluded cities within the United States with the capacity to accommodate increased air traffic demand are in a stronger position for economic growth than those that cannot accommodate air traffic demand. Second, those small flight schools who are critical to filling the “pilot pipeline” may not have the Certified Flight Instructors (CFIs) required to conduct training. It is not uncommon for these small flight schools to have aircraft and student demand, but not the instructors to provide the training.

### **Technician shortage**

The state of today’s aviation maintenance career field is rapidly changing. As new generation airplanes become more prominent in the global fleet, advances in airplane technology are driving an ever increasing need for technicians skilled in avionics, composites, and digital troubleshooting. According to Boeing (2018), the need for maintenance personnel is largest in the Asia Pacific region, which will require 257,000 new technicians. Airlines in North America will require 189,000, Europe 132,000, the Middle East 66,000, Latin America 55,000, Africa 28,000, and Russia / Central Asia 27,000.

In December 2017, the Aviation Technician Education Council (ATEC) published their annual [technician] Pipeline Report. Reported in this study were employees entering the aviation maintenance technician industry for the first time made up only 2% of the workforce annually, while

30% of that population is at or near retirement age. The study also concluded “in the U.S., FAA-certified Aviation Maintenance Technician Schools (AMTS) produce about 60% of new mechanics, with the military and on-the-job training accounting for the rest” (ATEC, 2017). As of mid-November 2017, “the aggregate enrollment at all AMTS was about 17,800 students, while their capacity is nearly 34,300. AMTS respondents estimate that 20% of graduates pursue careers outside of aviation, and only 60% elect to take the FAA test for mechanic certification” (ATEC, 2017).

The following data are from the 207 Pipeline Report:

- The average age of an FAA mechanic is 51, with 27% of the mechanic population age 64 and above.
- AMTS are expanding programs in response to specific industry needs; of respondents, 53% of AMTS responding to the survey reported having technical programs outside the Airframe and Powerplant (A&P) certificate. The fastest-growing non-A&P programs over the last two years were avionics and unmanned aircraft systems.
- Forty-one percent of all individuals with an FAA mechanic certificate are employed by repair stations (50%), air carriers (45%), general aviation (4%) and AMTS (1%).
- Nearly 40% of all A&P students are enrolled at the 10 largest institutions. The AMTS community is therefore composed mostly of smaller institutions, with half of AMTS reporting fewer than 50 enrolled students (ATEC, 2017).

#### **What does this mean to small business?**

The aviation technician shortage could be just as disruptive as the pilot shortage for small business. Small repair shops, who need skilled labor, will find themselves unable to compete for the dwindling supply of experienced technicians due to increased wages offered by the larger Maintenance, Repair, and Overhaul (MRO) organizations. These smaller shops typically do not have the resources/capability to provide the on-the-job training necessary for workers just entering the industry. Additionally, many small to medium size aerospace manufacturing company’s employee aviation technicians. If these manufactures are unable to recruit a skilled workforce, it could have a

ripple effect impacting the large aircraft manufacturing companies globally.

**For your consideration**

There are many organizations working hard each day to address these challenges mentioned above. One innovative solution I would like to offer for your consideration is the Department of Defense (DoD) Career Skillbridge. The DoD Personnel, Workforce Reports & Publications estimates approximately 250,000 service members will be transitioning from active duty to the civilian sector annually. Many of these transitioning military members have years of experience maintaining aircraft. Particularly relevant to this discussion are those transitioning service members with 3-5 years' experience needed by the small repair and service shops. The challenge for these transition service men and women lies in their ability to obtain an FAA Aircraft & Powerplant Certificate.

The DoD Career SkillBridge Program (DoDI 1322.29) promotes civilian job training for military service members who are transitioning out of the Service. With command approved, eligible service members are assigned to the training program as their official duty station. Training can take place 180 days prior to a service member's official separation date and must offer a high probability of employment. Training must be provided to the service member at little to no out-of-pocket cost. If "Permissive TDY" is approved: Service members from other military installations are authorized to attend training. It is my opinion that these types of programs offer a reasonable option to begin addressing the aviation technician shortage impact on small business.

## Reference

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