



4-24-2018

An Analysis of Regional Airlines' Response to the Pilot Shortage and How It Impacts Collegiate Pilots

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Recommended Citation

Samost, Jared. (2018). An Analysis of Regional Airlines' Response to the Pilot Shortage and How It Impacts Collegiate Pilots. In *BSU Honors Program Theses and Projects*. Item 266. Available at: http://vc.bridgew.edu/honors_proj/266
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An Analysis of Regional Airlines' Response to the Pilot Shortage
and How It Impacts Collegiate Pilots

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Submitted in Partial Completion of the
Requirements for Commonwealth Honors in Aviation Science

Bridgewater State University

April 24, 2018

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Abstract

According to the Air Line Pilots Association there is an acute shortage of qualified pilots willing to fly for regional air carriers due to a lack of benefits and pay (Pilot Supply and the Future of the Profession, n.d.). Other organizations, such as the Regional Airline Association (RAA), believe the pilot shortage is due to strict and lengthy eligibility requirements imposed recently by the governing body of aviation, The Federal Aviation Administration (FAA). The purpose of this project is to analyze the opposing views on the pilot shortage in the regional carriers and examine the recruitment efforts regional carriers utilize to attract collegiate pilots in order to counteract the pilot shortage. Content analysis will be used to explore different federal regulations pertaining to the increased eligibility requirements for pilots flying for a regional air carrier operation. Additionally, specific regional pilot recruitment programs will be analyzed for their effectiveness. This project will add to the growing conversation surrounding the pilot shortage as it specifically examines the ways in which regional carriers recruit and retain qualified pilots. For collegiate aviators, it is important to understand how the regional carriers work to alleviate the pilot shortage and how they plan to address the issues regarding pay, benefits, and lengthy eligibility requirements.

Keywords: pilot shortage, regional airlines, pilot recruitment, collegiate aviators

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The purpose of this project is to differentiate between two common opposing views on the regional pilot shortage in United States and to analyze counteractive measures that help attract collegiate aviators.

Republic Airline, one of the largest regional carriers, had been in Chapter 11 protection for over a year after filing for bankruptcy. Despite their profits throughout the fiscal year, the airline was unable to be successful. The unusual aspect was, however, that “when Indianapolis-based Republic Airways Holdings filed for Chapter 11 bankruptcy protection, it wasn't because the company is collapsing or the regional airline model is obsolete. It was because Republic for years hasn't had enough pilots to cover all the flights it has committed to” (Briggs, 2016). This has been a more recent issue that has been plaguing US regional airlines around the nation. Republic Airline is just an example of how otherwise successful airlines are struggling with a dwindling pool of qualified pilots.

The pilot shortage in the regional airlines is having a very real effect on the country. According to the Regional Airline Association (RAA), 86 communities across the United States have had to cancel more than 10% of their daily flights due to the pilot shortage. The RAA claims that “the pilot shortage and resulting cancelled departures have had a cascading effect on Americans: fewer flight options, diminished connectivity, longer layovers and fewer destinations. Additionally, the economic impact felt across these core U.S. communities is only beginning to be measured...” (Regional Airline Association, 2014). They believe this is caused by recent regulation changes from the FAA.

The Federal Aviation Regulation (FAR) Part 121 pertains to specific air carrier operations. Over the past decade, the experience requirements for first officers under Part 121 has changed dramatically. Before regulation changes, a first officer was only required to have a Commercial Pilot Certificate, and could sit in the right seat of a regional jet with 250 flight hours of experience. New regulations require first officers under Part 121 to have an Air Transport Pilot Certificate (ATP), which has a minimum of 1500 flight hours of experience (Federal Aviation Administration, 2013). The RAA argues that, due to regulations requiring more experience, there is a decreasing pool of qualified pilots available in the industry (Regional Airline Association, 2014).

However, The Air Line Pilots Association (ALPA) believes that there is not a lack of qualified pilots, instead a lack of benefits, pay, and quality of life offered by regional carriers that has adversely affected the amount of pilot applicants. According to Tim Canoll, president of ALPA, “some airlines are experiencing difficulty in hiring and retaining qualified pilots... [And] it comes down to simple economics. When airlines offer an average starting salary of only \$23,000 a year, the market will respond accordingly” (Pilot Supply and the Future of the Profession, n.d.). In order to regain qualified pilots, ALPA argues that an airline must provide more benefits and pay. They also must provide career pathways that entice qualified pilots. Many regional airlines lack the career advancement that would encourage pilots to join the workforce. Many companies do not have ties with major carriers and leave pilots without the hope of career advancement. Many organizations have started new career paths from collegiate pilots, through the regional, and finally to major carriers in hopes of addressing the pilot shortage (Government Accountability Office, 2014).

This project will analyze both sides of the conversation surrounding the regional pilot shortage in the United States. This includes exploring how stringent regulations restrict qualified pilots and how the low entry pay and lack of benefits that have been a staple of regional carriers. This analysis will also help collegiate pilots to better understand why the pilot shortage exists and what regional carriers are doing to provide young pilots with better opportunities.

Methods

For this project, I completed an in-depth content analysis in order to better understand why the pilot shortage exists and what is being done in the aviation industry to address it. This project utilized information found in Federal Aviation Regulations, FAA circulars and advisors, as well as different articles that summarize the aviation industry before a change of regulation. These articles provide a description of how the aviation industry operated before the regulations were changed, and what catalysts motivated a change in the regulations. This will serve as a baseline to explain where different organizations got their information about the probable causes of the pilot shortage, and why they have a specific stance on the issue.

I then assessed how a variety of organizations within the regional airline industry have responded to the pilot shortage. This will be a comparison between the different stances on the issue: those who believe new regulations caused a shortage of pilots, and those who argue that shortage of pay and benefits caused a lack of pilots within the regional airlines. This can be seen in different articles published by ALPA, RAA, different regional airlines, and other key figures in the industry. I will also analyze the response of the FAA to these new regulations. This will include an examination of regulations and documents that pertain to the restricted ATP (R-ATP) which came as a result of the adverse effects of the new regulations on regional airlines.

Finally, I analyzed different regional carriers based on career paths, starting pay, benefits, and overall job satisfaction. I found this information from recruiters, articles, and airline websites themselves. This will demonstrate how the regional carriers have responded to claims of a pay and benefits shortage.

I chose a content analysis because the aviation industry is dependent on written documents and regulations in order to communicate information. There is a deep wealth of

information available through text that shows issues, opinions, and responses to the pilot shortage. The FAA has written regulations that can help me understand what occurred in the industry and how it is changing specifically. Completing a content analysis helped me conclude why the pilot shortage is occurring in the regional airlines, how different organizations in the industry disagree on the causes, and how airlines are currently addressing this issue.

Findings and Discussion

The pilot shortage is inclusive of many issues and is complex. The different findings from multiple documents will present supporting evidence for the two different arguments: the pilot shortage as a result of regulatory change, or as a result of inadequate pay and benefits. These findings also include ways in which regional airlines are addressing the issues and how they recruit collegiate pilots. The pilot shortage in the regionals come from a variety of causes, and there is debate over the correct way to address it.

Responses to regulatory change

In the late 2000s, there was a lot public concern toward regional airline safety practices. As a result of government lobbying, new laws were put in place to set higher standards for regional carriers. One major change mandated that every pilot, under FAR Part 121 must hold an Airline Transport Pilot certificate, and in order to be an ATP applicant, must have a minimum of 1500 flight hours.

Organizations like the Regional Airline Association believed that these stringent requirements have caused a shortage of qualified pilots due to unreasonable amount of qualifications and time required to fly on an entry level job. As a result of these complaints, the FAA implemented the Restricted-Airline Transport Pilot Certificate (R-ATP) which has lower requirements based on flight training. For example, a 1000hr R-ATP is implemented for a four-year collegiate program. These exceptions are based of the ideology of qualitative time instead of quantitative time. FAA Administrator Randy Babbit claimed that new rules “will be consistent with the philosophy of enhancing the quality and effectiveness of training rather than focusing on traditional quantitative measures such as total flight time” (Regional Airline Association, 2014).

Even though the R-ATP is an example of this philosophy the RAA believes that the current regulations still unfavorably impact the supply of qualified pilots.

Colgan Air 3407

On February 12, 2009, Colgan Air Flight 3407 crashed into a neighborhood while on approach to Buffalo Niagara International Airport. 50 people died including all passengers, crew, and one person on the ground. The National Transportation Safety Board (NTSB) report claimed that the faults of this incident lie within “flight crew monitoring failures, pilot professionalism, fatigue, remedial training, pilot training records, airspeed selection procedures, stall training, Federal Aviation Administration (FAA) oversight, and flight operational quality assurance programs...” (National Transportation Safety Board, 2009). As the NTSB is not a governing body, they can only make recommendations towards government agencies such as the FAA. As seen in the NTSB report, they only touched upon pilot professionalism and remedial training. They did not make any explicit references towards increasing overall experience of regional pilots. In fact, both pilots were above current ATP minimums in terms of flight hours. The captain had 3379 flight hours at the time of the crash with an ATP Certificate, and the first officer had accumulated 2244 flight hours and held a Commercial Certificate. The issue behind the crash was inadequate training and fatigue, which does not directly correlate with the experience of the pilots (National Transportation Safety Board, 2009).

Many people believed that the Colgan Air Crash was indicative of a problematic lapse of safety that can be seen throughout the regional industry. In the Frontline documentary “Flying Cheap,” Colgan Air Captain Chris Wiken explained this about the company:

They said safety was a priority a lot. In my experience, however, on a day-to-day basis, being on time and completing the flight was much more important, getting those

passengers where they needed to go. Especially in the Northeast, they have lot of government routes that [they] fly, that are provided for by the federal government to these small airports from larger hubs. And a lot of what Colgan was, their success was getting these routes from the government, and they did not get paid unless that route got flown, unless the specified number of flights went per day. (Young, 2010)

According to this account, the operations of Colgan Air, a U.S. Regional carrier, were more focused on profits and meeting monetary goals rather than the safety of the public. They had more concerns toward external factors such as government routes and holding up contractual deals with major carriers.

Most regional airlines, Like Colgan Air, fly contractual routes. This means that major carriers, such as Delta, American, and United, will contract out smaller regional airlines to run services to small airports and provide a feeder service to the major airlines' hubs. These regional carriers will have the livery of the major airline but run separate operations. Major airlines prefer contract flying because they are able to use the competition of many regionals fighting for a contract to drive down the prices (Young, 2010).

The biggest result of the crash of Colgan 3407 was the exposure of the regional industry to the public. Many were unaware of contract flying and the competitive nature of regional airlines in the United States. With the majority of aviation accidents occurring in the regional industry in the past decade, and the resulting documentaries and investigations showed the public that the industry was being unsafe. Many felt manipulated by major carriers because they were unaware that they were flying a regional. For example, Colgan 3407 was painted as Continental Express. People believed that they were flying Continental Airlines when in reality they were flying on Colgan Air. According to "Flying Cheap", the standards set by major carriers were not

the same in the regionals. Major carrier goals would be to exceed standards set by the FAA, while regionals were content on meeting standards. After the fatal accident, the public outcry was that the standards were inadequate. Former Continental CEO, Gordon Bethune, when interviewed about FAA standards not being enough claimed "...why don't you change the standard? But don't say that's not enough if you set the standard and you meet it" (Young, 2010).

One of the biggest catalysts for change were the families of the ones killed in Colgan Air 3407 and others who were affected by aviation disasters. They began lobbying to congress in order to make flying "safer".

Airline Safety and Federal Aviation Administration Extension Act of 2010

As a result of lobbying, the 111th congress of the United States created a joint committee between the House of Representatives and Senate to address public concern with the regional airline industry. In a congressional mandate, they published the Airline Safety and Federal Aviation Administration Act of 2010. Many key points were addressed, including new duty hour restrictions to reduce pilot fatigue. However, the change that had the biggest effect stated that "... each flight crew member for a part 121 air carrier [must] hold an airline transport pilot certificate under part 61 of title 14, Code of Federal Regulations" (216 para. C) Furthermore, an Airline Transport Certificate applicant must have "total [of]... 1,500 flight hours." (Public Law 111-216: Airline Safety and Federal Aviation Administration Extension Act of 2010, 2010). This mandate was presented to the FAA from congress, to be properly implemented.

FAA Response

Title 14 Code of federal regulations (CFR) Part 121 are rules applicable to domestic and flag carriers that fall under FAA jurisdiction. Almost all regional carriers operate under this section of law. 14 CFR 121.436, which applies to pilot qualifications, was one major Federal

Aviation Regulation (FAR) that changed as a result of the Airline Safety and Federal Aviation Administration Extension Act of 2010. As the mandate stated “each” flight crew member must have an ATP Certificate, The FAA interpreted this by making it necessary for the first officer and second in command (SIC) to also have an ATP Certificate rather than just the captain, the pilot in command (PIC). The new addition stated that “no certificate holder may use nor may any pilot act as second in command unless the pilot holds an airline transport pilot certificate...” (Federal Aviation Administration, 2013)

Before the new regulations were put into place, a first officer was only required to hold a commercial certificate which had a minimum hour requirement of 250 flight hours. Table 1 gives an overview of the regulations before and after the mandate in 2010.

TABLE 1: Changes to part 121 operations SIC

PREVIOUS REQUIREMENTS	NEW REGULATIONS
<ul style="list-style-type: none"> ▪ Commercial License ▪ Appropriate Class Category and Rating ▪ appropriate aircraft type rating ▪ Instrument Rating ▪ Second Class Medical License 	<ul style="list-style-type: none"> ▪ ATP certificate or R-ATP certificate ▪ appropriate aircraft type rating ▪ Appropriate Class Category and Rating ▪ First Class Medical License
As of July 31, 2013	(Federal Aviation Administration, 2013)

Rules for Captains have also changed. Applicability for PIC under 14 CFR 121.436 is as follows: “If serving as pilot in command in part 121 operations, has 1,000 hours as second in command in operations under this part [121].” This requires a certain amount of time a pilot acts as first officer before being applicable to upgrade. 1000 flight hours as a PIC under 14 CFR 135 may be substituted for the 1000 flight hours as PIC. Table 2 shows an overview of Part 121 PIC applicability:

TABLE 2: Changes to part 121 operations PIC

PREVIOUS REQUIREMENTS	NEW REGULATIONS
<ul style="list-style-type: none"> ▪ Have at least 1,500 hours of total time ▪ Hold an ATP certificate ▪ appropriate aircraft type rating ▪ Hold a first-class medical certificate. 	<ul style="list-style-type: none"> ▪ Meet all of the previous requirements ▪ minimum of 1,000 flight hours in air carrier operations as an SIC in part 121 operations ▪ 1000 flight hours PIC in operations under either § 135.243 or 91.1053
As of July 31, 2013	(Federal Aviation Administration, 2013)

All the changes administered by the FAA changed the Regional landscape profoundly. In general, these new regulatory restrictions have made it more difficult for pilots to qualify as a first officer for a regional airline. Not only has this restricted pilots who do not have enough flight hours, but this has also dissuaded future aviators due to the amount of time and qualifications required for an entry level job. (Regional Airline Association, 2014)

Regional Airline Association

The RAA believes that the pilot shortage is due to arbitrary quantitative flight hours that have restricted otherwise capable pilots from becoming first officers for a regional carrier:

RAA warned Congress and the FAA that implementation of a quantity-over-quality approach to the first officer flight-hour experience ... would hasten the growing pilot shortage and endanger air service at communities across the country by dramatically increasing training and education costs for up-and-coming aviators, discouraging potential aviators from pursuing pilot careers, and creating a barrier of entry for recent graduates of highly-regarded academic and structured training programs. These graduates are well trained, ready, and eager to begin their flying career but, because of the arbitrary 1,500 hours rule, must now accumulate significant numbers of flight hours (Regional Airline Association, 2014)

The RAA believes that the amount of time and expenses required to attain an ATP has discouraged pilots from further continuing their career. This acts as another constraint to the supply of regional pilots available. The FAA had claimed that it was a priority to look at qualitative measures to increase pilot safety, however it is the quantitative regulations that have come as a result.

As a result of the new regulations that the RAA warned against they have lobbied to the FAA with these demands:

RAA therefore urges the FAA to revise the rule expeditiously, using the flexibility Congress gave the Agency to grant more credit for experience gained in high-quality, structured training programs. RAA also requests that the FAA expedite the approval process for aviation training programs qualifying for credit hours and expand eligibility to institutions that provide equivalent structured training. RAA calls on Congress to direct the FAA to exercise its flexibility to grant meaningful credit for structured training programs that emphasize quality of training over arbitrary hours in flight. (Regional Airline Association, 2014)

According to The Regional Airline Association, in order to fulfill qualitative measures of flight experience, the FAA must rely on structured training and meaningful experiences to determine if a pilot is qualified to be a first officer and fly in the right seat of regional jet. The FAA as a result implemented new regulations that bring a more qualitative approach to flight experience: The Restricted Air Transport Pilot Certificate.

Restricted ATP

The FAA response to the demand of a qualitative approach for flight experience comes in to 14 CFR 61.160 which is flight experience restrictions. Advisor Circular 61-139 offers more

clarification on applicability. According to the FAA, with the completion of a more regimented higher education, a pilot should be able to exchange flight hours for experience. There are three different hour restrictions with the R-ATP certificate. A military trained pilot has a reduced minimum of 700 flight hours. An associate degree program has a reduced minimum of 1250 flight hours, and a four-year collegiate degree has a minimum of 1000 flight hours.

In order for a collegiate program to be qualified for a restricted ATP they must meet an array of conditions. They must have a Part 141 flight school. This refers to a flight school that follows regulations pertaining to 14 CFR 141. These type flight schools have a more regimented structure compared to other flight schools. They have a training course outline (TCO) which outlines necessary maneuvers and skills to be taught to create a qualified pilot. This is considered quality training as students are held to higher standards. Part 141 training already has reduced requirements for other pilot ratings as well. For example, a normal pilot who follows Part 61 regulations must accumulate 50 flight hours of cross country time before being permitted to start training for the Instrument rating. A part 141 school has the cross-country time waived and a student may receive instrument training at a much lower flight time (Federal Aviation Administration, 2013).

To be an accredited aviation program with an R-ATP certificate, other aspects such as collegiate education must be addressed. According to AC 61-139, in order for a four-year collegiate program to have the 1000 flight hour restriction, they must offer 60 aviation related credits. These credits must cover a plethora of aviation subjects. Examples of these include: aerodynamics, aircraft systems, aviation human factors, air traffic control, aviation regulations, weather, and air safety. By providing ground instruction and more in-depth education to students,

the FAA believes that they are creating safer and better-quality pilots to lead the industry in the future. (Federal Aviation Administration, 2013)

The FAA has in depth regulations pertaining to the applicability of the Restricted Airline Transport Pilot Certificate. This is an attempt by the FAA to replace quantitative experience with qualitative experience. However, according to the RAA, these efforts are still not enough to address the pilot shortage effecting the regional airlines in the United States. They believe that the R-ATP is not applicable to enough future pilots. They also believe that the costs of going through collegiate programs are too expensive and unreasonable given the number of hours required after completion of these programs still required before being able to go to a regional carrier. (Regional Airline Association, 2014)

The Future

According to the RAA, the supply of capable pilots will continue to be a constrained due to the arbitrary quantitative regulations put in place by the FAA. This will cripple the regional industry and effect smaller communities around the nation. The RAA stated that “when air service is cut or reduced, businesses large and small, which rely on that air service for connectivity, relocate or shut down. This translates to job loss and reduced tax revenue in communities across the nation” (Regional Airline Association, 2014). The RAA reported that AT&T, a large cellular corporation, moved headquarters from San Antonio to Dallas. They cited a lack of air service as one of the contributing factors for moving. In turn, the city of San Antonio lost the tax revenue from AT&T and the workforce located in the city were either laid off or had to relocate to Dallas (Regional Airline Association, 2014). The RAA continues demands to the FAA to lessen the amount of required flight hours in order to bring more qualified pilots to the

regional airline industry, otherwise there will be substantial consequences to the nation's economy.

Responses to Pilot Pay and Benefits

The next argument claims that the only way to decrease the demand for pilots is to increase the pay and benefits. This will attract more competent and skilled pilots who can afford to make a career out of aviation. This would also attract pilots who are overseas or in other areas of the workforce to return to the airline industry. There are still plenty of qualified pilots, however there is a smaller number of pilots willing to work under inadequate conditions.

Air Line Pilots Association

The regional airline market has already started making steps to address the demand for pilots but there is still a ways to go. Many regional airlines will not be able to change fast enough with the aviation market and thus will not make it. The pilot shortage will continue until they can find equilibrium.

There is no pilot shortage in the United States. The annual number of airline transport pilot certificates issued remains strong. In fact, more than 25,500 certificates have been issued since July 2013. This rate of issuance continues to exceed the most optimistic pilot forecast (Pilot Supply and the Future of the Profession, n.d.)

Pilot Recruitment by Regional Airlines

Airlines are starting to create fast tracks to the airlines through different pilot "Pipeline Programs". Pilots are recruited during college when they are still in their infancy in terms of flight training. They interview these candidates and enroll them in a program that maps out their future career. It goes from student pilot, to certified flight instructor, through the regional

airlines, before finally ending up in the right seat of a mainline carrier. Future careers for aspiring pilots are becoming easier to attain. Historically, airlines would make candidates for employment pay for their own training, now many airlines will pay for a pilot to receive higher ratings such as the Airline Transport Pilot certification, in turn for retention with the company.

An example of one of these pipelines is the “JetBlue University Gateway Program”. This was one of the original programs with many other airlines following suit. Once a pilot receives their private pilot and is at least in their sophomore year of college, they can interview with JetBlue and Cape Air representatives to join the program. Once they are inaugurated into the program they are assigned a mentor, who is already a current mainline pilot who offers career help. They also receive a conditional job offer with JetBlue. The Gateway then outlines their future career path. This includes first graduating from a 4-year collegiate program. After graduation, they get a job with the university as a certified flight instructor. Cape Air will then hire the pilot after a year of work as a CFI to be a first officer. Once the pilot has attained enough hours, Cape Air will pay for them to get their ATP. They will work as a Captain for Cape Air until they reach 3000 flight hours. Finally, the Gateway Program member will transition to JetBlue, a mainline carrier (Jetblue Unveils 'Aviation University Gateway' Program, 2008). Refer to Appendix C for a flow chart of the Pipeline Program.

This program helps satisfy career advancement opportunities, which have been a factor for students to choosing aviation. Before pipeline programs, it was difficult for pilots to see a clear end goal with a major airline. These new pipelines are helping give a streamlined supply chain for the industry.

Another program, the Endeavor “STEP Program”, will interview a CFI candidate once they receive around 900 hours. They will then receive a conditional job offer with Endeavor Air,

a wholly owned subsidiary of Delta Air Lines. After 24 months as a captain for the regional, they receive a guaranteed interview with Delta Air Lines, a legacy carrier. Republic Airline has a similar program called the "RJ Cadet Program". This includes an interview and conditional job offer with Republic. They have many recruiting opportunities including trips to headquarters to view the simulators as well as paying for the last 100 hours of flight time before reaching R-ATP minimums. (Endeavor Air, 2017)

Many regional carriers have increased their salary in order to compete for qualified pilots in a dwindling market. Along with higher initial salaries, many airlines are also adding sign-on bonuses and other added benefits to attract more applications.

Looking at base hourly wages, Endeavor tops out as the top paying airline for first year first officers. This is at \$50.16 per flight hour. This has been recently updated and is also inclusive of a \$10k sign on bonus. Endeavor also has higher first year captain pay than most airlines. When a pilot upgrades to captain, they are paid as a third-year captain. Other airlines such as Republic Airlines, Compass Airlines, and Horizon Air offer competitive first year salaries around \$40 -\$41 per flight hour. They have higher sign on bonuses which range from \$17k - \$22k to compete with industry leaders like Endeavor (Endeavor Air, 2017). The downside to these airlines is the second year pay, which does not include any sign-on bonuses equating to a lower annual wage. The other issue are connections with major carriers. These regionals lack a flow through program to legacy carriers and other majors. CommutAir offers a conservative \$36.5 starting hourly pay. They offer a \$22.1k sign on bonus with the company. A unique aspect of CommutAir is the guaranteed captains pay after one year as first officer. This is the only company in the industry currently offering this (CommutAir , n.d.). To see more information on pilot pay in regional carriers see Appendix B.

The Future

There has been an overall rise in starting salaries as a result of the pilot shortage. However, many airlines are offering sign-on bonuses to inflate the starting year wage. In reality after one year, a pilot may be back to making very little. Most pilots average 75-100 hours a month and around 1000 hours of flight time a year. The base pay is still very little when considering the average flight hour pay is \$35 (U.S. Global Investors, n.d.). Industry leaders such as Endeavor Air are taking the next step to keep attracting qualified pilots by increasing wages, however as the industry continues to see a shortage of pilots, these base pays will continue to increase.

ALPA claimed that “many airlines have recognized that hiring qualified pilots becomes easier when they increase pay and benefits and create career-advancement opportunities. Regional airlines that have added flow-through programs to mainline carriers have seen their hiring improve significantly” (Pilot Supply and the Future of the Profession, n.d.). This is the way to bring qualified pilots back into the regional airline industry. By providing opportunity and adequate pay, this will increase the pool of applicants in the industry.

Conclusion

The debate over the supply of pilots stems from regulatory restrictions and compensation restrictions. Organizations like the Regional Airline Association claim that regulations recently put into place have had a negative effect on the regional pilot pool, while others like the Air Line Pilot Association believe that the low pay, lack of benefits, and inadequate career options have led to a loss of interest from qualified pilots.

The RAA claims that the amount of hefty regulations has dissuaded future aviators from choosing a career in aviation. This is based upon the fact that new regulations have put into place

quantitative flight restrictions. The RAA's suggestion to solve the issue is by changing current regulations offering more qualitative options. This can be seen through the new Restricted Airline Transport Pilot Certificate (Regional Airline Association, 2014).

ALPA claims that available pilots are dissuaded from joining the regional workforce due to unfair remunerations. Furthermore, ALPA claims that "the United States must maintain current Federal Aviation Administration regulations that set minimum standards for flight experience and qualifications to serve as a first officer..." (Pilot Supply and the Future of the Profession, n.d.). They believe that the current rules must remain the same in order to provide a safer industry. The future will involve better pay and more career paths for aspiring pilots.

Looking at pilot recruitment, the ideologies of ALPA have been implemented. Industry leaders such as JetBlue have offered gateway programs offering a step by step outline from college student to JetBlue first officer (Jetblue Unveils 'Aviation University Gateway' Program, 2008). Increased pay in regional carriers has also attracted more pilots into the industry. This offers more enticements to future aviators and can at the very least release some of the constraints otherwise limiting the regional pilot pool (Government Accountability Office, 2014).

The pilot shortage in the regional airlines is a multifaceted issue. It is a result of an ever-changing industry. But the industry however still follows basic economics principles. The industry finds equilibrium through supply and demand. The pilot shortage is due to a decreasing pool of available pilots and an increasing demand for qualified aviators. To find balance something needs to change. The debate is over what needs to change. It will be interesting to continue to monitor the regional industry and predict which elements will be successful to combat the pilot shortage (U.S. Global Investors, n.d.).

Even though the pilot shortage has had negative effects on the regional industry, it has improved opportunities for the collegiate pilot. Aspiring pilots today can see a high demand market with many options and improved pay and benefits. Additionally, they also have more job security and promising career paths that can prove to be very beneficial (U.S. Global Investors, n.d.). The answer to the pilot shortage is debatable, however the actions taken so far are promising.

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Appendix A: Revisions to 14 CFR 121.436

1. All pilots operating under part 121 will be required to hold an ATP certificate in the airplane category with a multiengine class rating
2. All pilots seeking an ATP certificate with a multiengine class rating will be required to complete the ATP CTP prior to taking the knowledge test
3. All SICs in part 121 operations must have an aircraft type rating for the aircraft to be flown
4. A minimum of 50 hours of flight time in the class of airplane for ATP
5. restricted privileges ATP certificate enabling pilots who meet the established criteria to operate as an SIC in part 121 operations
6. A minimum of 1,000 hours in air carrier operations is required prior to serving as a PIC in part 121 operations

(Federal Aviation Administration, 2013)

Appendix B: Regional Airlines' Comparison

First Year F/O					
Airline	Domiciles	Type of planes	Base Annual pay	Major Connection	Benefits
ExpressJet	New York LGA Newark Cleveland Detroit Atlanta Chicago Dallas Houston	CRJ 900 CRJ 700 CRJ 200 ERJ 145 ERJ 135 Fleet size: 183	\$37k	American United JetBlue	\$10k sign on bonus Gateway flow through* Per diem: \$1.90
Endeavor	New York JFK New York LGA Minneapolis Atlanta Detroit	CRJ 900 CRJ 700 CRJ 200 Fleet size: 140	\$50k	Delta	Wholly owned subsidiary of Delta \$10k sign on bonus Guaranteed interview with Delta 24 months after upgrade Per diem: \$1.70
Compass	Los Angeles Minneapolis Seattle Phoenix	E175 Fleet size: 56	\$41k	Delta American	\$17.5k sign on bonus 4 hotel rooms a month for commuting \$1.65
CommutAir	Newark Washington IAD	ERJ 145 Fleet size: 36	\$36.5k	United	\$22.1k sign on bonus 1 year upgrade (captain pay guaranteed) 4 hotel rooms a month for commuting Per Diem: \$1.75
Cape Air	New England Caribbean Midwest Montana Guam	C402 ATR 42 P2012 Fleet size: 93	\$19k <i>Based off duty time hour</i>	JetBlue	Flow through JetBlue 2-3 years (gateway program) Location 12 days off guarantee Per Diem: \$37 per day*
Envoy	Chicago Dallas Miami New York LGA	E175 ERJ 145 ERJ 140 Fleet size: 168	\$38k	American	Wholly owned subsidiary of American Paid hotels for commuting \$22.1k sign on bonus Per Diem: \$1.85
Trans States Airlines	St. Louis Chicago Washington IAD Denver Raleigh	MRJ 90 ERJ 145 Fleet size: 55	\$36k	American United	\$22k sign on bonus 75 hour a month guarantee Hotel for commuters Per Diem: \$1.90
Air Wisconsin	Norfolk, VA Philadelphia Washington DCA	CRJ 200 Fleet size: 59	\$35k	American United	\$22k sign on bonus 2 Year upgrade Per Diem: \$1.80

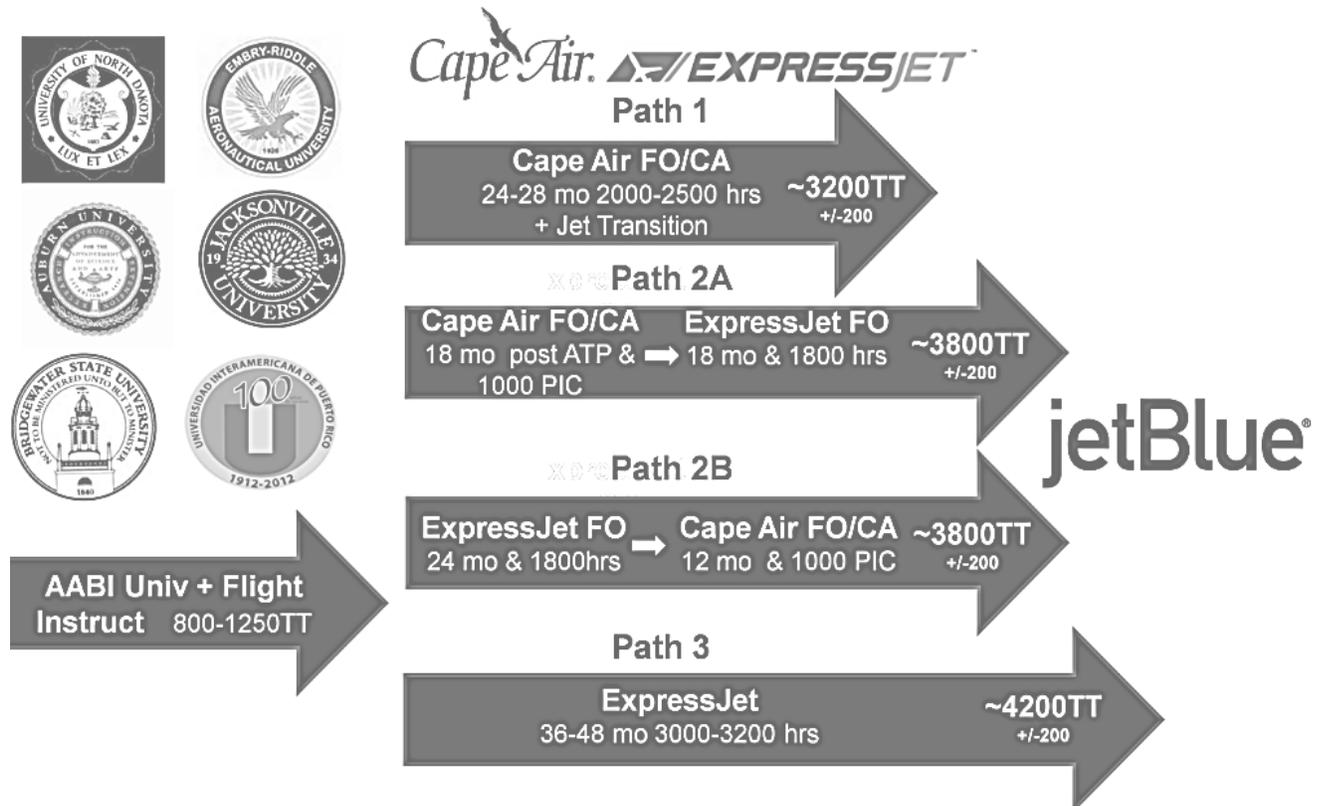
Go Jet Airlines	Chicago Denver Detroit Raleigh St. Louis	CRJ 900 CRJ 700 Fleet size: 54	\$37k	United Delta	\$12k sign on bonus 75 hour a month guarantee 12 days off guarantee per month Per Diem: \$1.85
Horizon Air	Anchorage Seattle Portland, OR Medford, OR Spokane Boise	Dash Q400 E175 Fleet size: 62	\$40k	Alaska	\$20k sign on bonus (Q400) \$10k sign on bonus (E175) 4.2 daily credit hour guarantee 2.2 year upgrade Per Diem: \$1.80
Mesa Air	Dallas Houston Washington IAD	E175 CRJ 900 CRJ 700 Fleet size: 140	\$36k	American United	\$22.5k Sign on bonus 2 year upgrade 11 days off guarantee per month 76 hour a month guarantee Per Diem: \$1.60
SkyWest Airlines	Arizona: Phoenix, Tucson California: Fresno, Los Angeles, Palm Springs, San Diego, San Francisco Colorado: Colorado Springs, Denver Boise Chicago Minneapolis/St. Paul Detroit Portland, OR Houston Salt Lake City Seattle	MRJ 90 E175 CRJ 900 CRJ 700 CRJ 200 CRJ 100 Fleet size: 424	\$37k	American Delta United Alaska	\$7.5k sign on bonus 76 hour a month guarantee 1.5 year upgrade Per Diem: \$1.90
Republic Airways	Chicago Columbus Indianapolis Kansas City Miami New York LGA Newark Philadelphia Pittsburgh Washington DCA	E170 E175 Fleet size: 191	\$40k	American Delta United	\$17.5k sign on bonus 12 days off guarantee per month Long Call Reserve Per Diem: \$2.05
PenAir	Boston Portland, OR Anchorage	Saab 340 Saab 2000 Fleet size: 20	\$30K	None	\$5k sign on bonus Upgrade 1.5 years 20 days paid vacation annually Per Diem: \$50 day
Piedmont Air	Philadelphia Roanoke, VA Ocean City, MD	ERJ 145 Fleet size: 50	\$39K	American	Upgrade time 1 year \$16k bonus 5 year flow through to American Guaranteed 11 days off per month Four hotel rooms per month Per Diem: \$1.70

PSA Airlines	Charlotte Cincinnati Dayton, OH Knoxville, TN Washington DCA	CRJ 200 CRJ 700 CRJ 900 Fleet size: 122	\$39k	American	Wholly owned subsidiary Upgrade time 2.2 years \$16k sign on bonus 6-7 year flow through to American Per Diem: \$1.75
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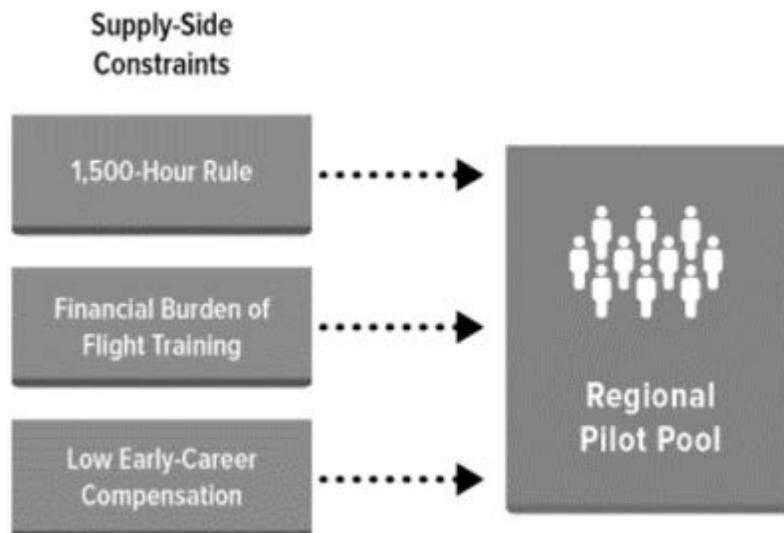
- Base annual pay is off of a 1000 flight hour year
- Cape Air pays based off of duty hour, not flight hour
- Per Diem is pay away from base per hour

(Airline Pilot Central, n.d.)

Appendix C: Example Pipeline Program (Jetblue University Gateway)



This Pipeline program gives career steps and an outlined path to a major carrier. It shows the amount of flight hours before transitioning to the next step and has a clear end goal of being a Jetblue first officer. As you can see, this is very detailed and shows promising career advancement (Jetblue Unveils 'Aviation University Gateway' Program, 2008).

Appendix D: Supply Side Constraints to Regional Pilot Pool

The debate over the perceived pilot shortage stems from the supply-side of the regional pilot pool. Three major factors that play into this are: FAA regulations (1500 hour rule), financial burden of flight training, and low compensation for entry level jobs. Organizations such as The RAA believe that the majority of supply constraints lie within regulations, while The Air Line Pilots Association believes the major constraint is the low compensation. Both arguments agree with the high flight training cost as a supply-side constraint (U.S. Global Investors, n.d.).