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Transformation of Air Traffic Collegiate Training Initiative (AT-CTI) Hiring Process: Institutional Perspectives

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According to the Federal Aviation Administration (FAA) website, "The FAA has created a network of partnerships with educational institutions to prepare students to pursue their goal of a career in aviation with the FAA. This effort is known as the Collegiate Training Initiative (CTI)" (Federal Aviation Administration, 2018, p. 1). The hiring process for aspiring federal air traffic controllers from approved Air Traffic Collegiate Training Initiative (AT-CTI) institutions has undergone several revisions in recent years. Prior to 2014, graduates from AT-CTI programs were given preferential hiring from the FAA. In 2014, the FAA announced that AT-CTI graduates would equally compete with thousands of people the FAA calls "off the street hires"--anyone can literally walk in off the street without any previous training and apply for a federal air traffic control job. To apply, the FAA requires that a candidate has United States (U.S.) citizenship, a high school diploma, speaks English, and passes the FAA's new Biographical Questionnaire (BQ). This research study examined the perceptions of Collegiate Training Initiative programs regarding the impact of the transformation of the hiring process for federal air traffic controllers. Findings indicated that changes in the federal hiring process is a major concern of CTI institutions for several reasons including: enrollment and retention rate of CTI students, CTI institutional value-added reputations, CTI students vested interest in ATC vs. off the street applicants, distrust and communication problems with the FAA, and the overall health and longevity of their AT-CTI program.

As a recommendation of a 1988 comprehensive study commissioned by the Federal Aviation Administration (FAA) to review training for air traffic controllers one year later in 1989, the FAA began a partnership with various U.S. collegiate institutions to provide fundamental skills and knowledge related to air traffic control. This partnership become known as the Air Traffic (AT) Collegiate Training Initiative (CTI) program and initially involved only a few institutions. The program expanded and currently includes 36 institutions nationwide with the last five schools added in 2009 (Coyne, 2014). CTI programs were major incentives for students that sought employment with the federal government as an air traffic controller. Not only did students benefit from learning fundamental knowledge and skills needed to be a future federal air traffic controller, graduates from CTI programs who scored well on qualifying exams were also believed to be given preference for training at the FAA Air Traffic Control Academy in Oklahoma City. This initiative offered a pipeline for aspiring air traffic controllers, educational institutions, and the FAA. However, in 2014 the hiring process for federal air traffic controllers was significantly modified creating challenges for AT-CTI institutions and their graduates.

Literature Review

Historical Overview of Air Traffic-Collegiate Training Initiative Programs

The conception of the Air Traffic-Collegiate Training Initiative originated from studies in the late 1980s suggesting it would be beneficial to the FAA, financially and instructionally to rely on two- and four-year colleges for educational exposure for aspiring federal controllers. This suggestion was followed by FAA Order 3120.20, creating the Pre-Hire Air Traffic Control Demonstration Program (FAA, 1991). The purpose of this order was to establish procedures for implementing Pre-Hire Air Traffic Control Programs at post-secondary institutions (FAA, 1991). According to the Federal Aviation Administration (1991):

> In response to training studies conducted in 1988, FAA will test the concept of "off-loading" air traffic control screening and training into a select few accredited post-secondary educational institutions. The "proof of concept" test is a major initiative in the FAA's Flight Plan for Training, a comprehensive design for improving recruitment and training. This initiative will involve the selection of a number of such institutions during FY 1991 through FY 1992 and will last for a 5-year period. (p. 1)

The inaugural AT-CTI institutions were Minneapolis Community and Technical College Air Traffic Control Program and Hampton University (Broach, 1998). Three additional institutions were added in 1991: Community College of Beaver County, University of North Dakota, and University of Alaska Anchorage, which brought the total to five AT-CTI programs in the U.S. The objective of these programs was to see if post-secondary educational institutions could develop adequate selection and training curriculum that encompassed the knowledge, skills, and abilities needed to be a federal air traffic controller (U.S Department of Transportation, 1991). At the five-year review period, the collegiate training initiative proved

viable for the FAA and the number of AT-CTI institutions was expanded through 2009. As of March 2018, there are 36 federally-approved AT-CTI schools consisting of two- and four-year degree programs listed on the FAA's website. These institutions are (FAA, 2018):

1. Aims Community College
2. Arizona State University
3. Broward College
4. Community College of Baltimore County
5. Community College of Beaver County
6. Daniel Webster College
7. Dowling College
8. Eastern New Mexico University Roswell
9. Embry Riddle Aeronautical University — Daytona
10. Embry Riddle Aeronautical University — Prescott
11. Florida Institute of Technology
12. Florida State College at Jacksonville
13. Green River College
14. Hampton University
15. Hesston College
16. InterAmerican University of Puerto Rico
17. Jacksonville University
18. Kent State University
19. LeTourneau University
20. Lewis University
21. Metropolitan State University of Denver
22. Miami Dade College
23. Middle Georgia State University
24. Middle Tennessee State University
25. Minneapolis Community and Technical College
26. Mount San Antonio College
27. Purdue University
28. Sacramento City College
29. St. Cloud State University
30. Texas State Technical College Waco
31. Tulsa Community College
32. University of Alaska Anchorage
33. University of North Dakota
34. University of Oklahoma
35. Vaughn College of Aeronautics and Technology
36. Western Michigan University

As a result of the Professional Air Traffic Controllers Organization (PATCO) strike in 1981, the FAA forecasted a significant controller shortage due to a large number of controllers becoming eligible for retirement. The Professional Air Traffic Controllers Organization was a federal trade union that functioned from 1968-1981. After an illegal strike in 1981, President

Reagan fired more than 11,000 controllers and banned them from federal service for life. Two months later, PATCO would be declared illegal and cease to exist as a union (McCartin, 2011).

Furthermore, air traffic control is often described as a stressful career, so the FAA limits employment duration. The FAA has a mandatory retirement age of 56 and controllers are required to start at the Oklahoma City academy no later than their 31st birthday. Because of rapid retirement due to age restrictions and the lingering effects of the PATCO strike, established CTI programs could not generate the number of replacement controllers needed to maintain the federal air traffic control infrastructure. As a result, the FAA conducted a general public hiring announcement where individuals with no previous air traffic control knowledge or experience could be hired off the street for a federal air traffic control job. Off the street hires were a temporary fix for the depleting numbers of federal air traffic controllers. As a result, problems for collegiate training initiative programs and their graduates arose when the FAA was simultaneously conducting general public hiring announcements while approving more CTI programs.

Essentially, off the street hires made it more difficult for CTI graduates with previous educational concentration in air traffic control to gain employment as a federal air traffic controller. As a result, many students unified and brought a class-action lawsuit against the FAA claiming reverse discrimination (Hook, 2016). According to Brady and Stolzer (2017) in response to students' unification, the FAA's Assistant Administrator for Human Resource Management stated, "I want to assure you that the FAA's goal in implementing the interim hiring process was to ensure the agency selects applicants with the highest probability of completing our rigorous air traffic controller training program…" (p. 409). However, there is concern that the FAA achieved just the opposite--it closed the door on thousands of highly qualified college-educated applicants creating major concerns for AT-CTI institutions and its graduates (Brady & Stolzer, 2017).

History of Air Traffic Control Hiring of Collegiate Training Initiative Program Graduates

The hiring process for federal air traffic controllers has gone through significant changes throughout the years, specifically involving the collegiate training initiative programs. Historically upon graduation, AT-CTI program graduates were believed to be preferred candidates for employment in air traffic control towers and air traffic control en route centers. Yet, this changed dramatically in 2014 when the FAA abruptly revised the hiring process for federal air traffic controllers.

According to Culver (2016), prior to January 2014, the FAA recommended that students complete an approved CTI program as the preferred way to be hired as a federal air traffic controller. According to FAA (2014) the basic qualification requirements for an AT-CTI graduate to be considered for employment with the FAA were as follows:

- Graduates must successfully complete an FAA approved AT-CTI program.
- Graduates must receive a degree from the approved AT-CTI program that includes objectives required by the FAA.

- Graduates must receive an institutional recommendation for employment from an authorized school official.

After AT-CTI graduates met the basic qualification requirements for the AT-CTI program, they were required to achieve a passing score (70 or above) on the Air Traffic Selection and Training (AT-SAT) exam (FAA, 2011a), be a U.S. citizen, not have reached their 31st birthday, meet FAA medical and security requirements, and successfully complete an interview.

Recent Changes in the Air Traffic Controller Hiring Process

According to an Office of Inspector General audit published on February 15, 2017, the FAA's decision to revise its controller hiring process was based on internal and external reviews of its policies (FAA, 2017b). This review identified both equal opportunity issues and other opportunities to improve the process. As a result, the reviews triggered further analysis of the hiring process, resulting in significant changes for AT-CTI programs.

According to the Federal Aviation Administration (2017a) in fiscal year 2014, the agency instituted an interim change to the air traffic control hiring process. In the document, the FAA explains that the purpose of the changes was to allow the FAA to compare applicants more efficiently to enable them to select candidates most likely to succeed as air traffic control specialists (FAA, 2017a). The primary change in 2014 was a single vacancy announcement, which significantly reduced the role of CTI schools and opened the competition for the jobs up to the general public. A single vacancy announcement is an announcement where all applicants (CTI graduates, veterans, and off the street individuals) are grouped together regardless of their qualification or educational experience.

In January 2015, the FAA modified the interim changes again by adding a two-track announcement process. Track one targeted applicants without operational air traffic control experience, while track two targeted applicants with at least 52 weeks of certified air traffic experience either in the military or civilian environment sometimes referred to as VRA applicants.

In fiscal year 2016, H.R 636, the FAA Extension, Safety, and Security Act (FESSA), was enacted which established two separate pools for applicants. Pool one included two sub segments which included graduates from the collegiate training initiative and military veterans. Pool two were individuals who applied under a vacancy announcement recruiting from all United States citizens (Murdock, 2016). FESSA required priority considerations of applicants with previous air traffic experience. In fiscal year 2017, the FAA continued to recruit and hire air traffic control specialists to meet staffing requirements through the use of the two-track announcement process. As a result of FESSA, the Office of Inspector General criticizes these changes in hiring process by stating: "The FAA did not have an effective implementation or communication strategy when announcing the new process and has not yet implemented a tracking system to effectively track the flow of candidates through the entire hiring process" (FAA, 2017b, p. 5).

Current Hiring Process for Air Traffic Controllers

A Plan for the Future: 10-Year Strategy for the Air Traffic Control Workforce 2011-2020 states the FAA currently has two major categories of controller hiring sources which include: (1) prior ATCS experience or (2) no prior Air Traffic Control Specialist (ATCS) experience (FAA, 2011b). Individuals with prior ATCS experience have at least 52 weeks of certified air traffic control experience and individuals with no prior ATCS experience are not required to have prior air traffic control experience and may apply for vacancies announced by the FAA (FAA, 2017a).

According to the FAA's website, the current hiring process indicates that (1) entry-level applicants must complete required training courses at the FAA Academy in Oklahoma City and (2) gain on-the-job experience before becoming certified professional controllers. In addition, applicants must meet the following minimum requirements to become a federal air traffic controller (FAA, 2018):

- Be a United States citizen,
- Be age 30 or under (on the closing date of the application period),
- Pass a medical examination,
- Pass a security investigation,
- Pass the FAA air traffic pre-employment tests,
- Speak English clearly enough to be understood over communications equipment,
- Have three years of progressively responsible work experience, or a Bachelor's degree, or a combination of post-secondary education and work experience that totals three years, and
- Be willing to relocate to an FAA facility based on agency staffing needs.

Statement of the Problem

According to Brady and McGurik (2014), after decades of a working relationship between Collegiate Training Initiative institutions and the FAA, the FAA abandoned the CTI, thus creating significant problems for AT-CTI institutions and its graduates. The abandonment of the initiative affected approximately 3,500 AT-CTI graduates and current students. Furthermore, Brady and McGurik explained that in place of the CTI programs, the FAA would recruit U.S citizens with no prior background or education in air traffic control to fulfill the need for federal air traffic controllers. This change affected established CTI programs and their current and prospective students. Instead of having an educational and hiring advantage, graduates from CTI schools would be considered on the same level as other applicants with no prior background or education in air traffic control. According to Brady and Stolzer (2017):

> The result of this action by the FAA was that enrollment in air traffic education programs in all CTI schools plummeted. For example, the largest university program enrollment dropped from more than 600 students to less than 300. Students enrolled in the CTI programs felt that the FAA had abandoned them. (p. 409)

Purpose of the Study

The purpose of this national research study was to identify the institutional perspectives of CTI program administrators regarding the process changes in hiring federal air traffic controllers. This study will provide insight on institutional problems and challenges the CTI schools encountered as a result of these recent federal air traffic controller hiring changes.

Methodology

Research Question

To better understand the effects and challenges associated with changes in the hiring process of federal air traffic controllers for AT-CTI institutions, the following research question guided this study:

- What are the perspectives of collegiate CTI administrators regarding the recent changes in the hiring process of federal air traffic controllers?

Research Population and Data Collection Method

To answer this research question, this study sought perspectives from 36 federally-approved AT-CTI institutions listed on the Federal Aviation Administration's website. The authors sent the 36 identified AT-CTI individuals listed as the point of contact on the FAA's website a solicitation email inviting them to complete a voluntary research instrument with a provided electronic survey link. After approximately two weeks, a second reminder solicitation email was sent to all potential participants. After approximately one month, the survey was deactivated and the data from the submitted surveys were processed for this study. Of the 36 potential participants, 27 institutions responded to the solicitation email. Twenty-five institutions completed all of the research instrument, while two participants did not complete all the Likert-scale statements. The final response rate for this study was 27 institutions (75%) of 36 potential institutions.

Research Instrument

The research instrument was developed by the authors to solicit individual AT-CTI institutional information, perspectives, and personal comments regarding issues related to the changes in the hiring process for federal air traffic controllers. Institutional questions sought information regarding academic degree offering, program size, graduate job placement with the FAA, and enrollment trends.

Perspective questions were offered in Likert-scale statements in an ordinal measurement pattern that offered respondents the options of: Strongly Agree, Agree, Disagree, or Strongly Disagree. For this study, the authors used a 0-4, forced-response, Likert-Scale. The forced-response Likert-scale does not offer a central or neutral choice and forces the respondents to agree or disagree with the statement (Trochim & Donnelly, 2006).

The last section of the research instrument consisted of a text box and respondents were asked to include any comments or concerns they had regarding the hiring process for federal air traffic controllers for prospective AT-CTI students, current AT-CTI students, and recent AT-CTI graduates. Permission to conduct this study and solicit this research instrument was approved by the Institutional Review Board at Oklahoma State University (approval # ED-17-149).

Analysis

The Likert-scale statements were analyzed using Cronbach's alpha (α) reliability test to measure internal consistency. To measure internal consistency, Cronbach's α determines how all items on a test are related to all other items and the total test (Gay, Mills, & Airasian, 2006). George and Mallery (2003) established the following Cronbach's α acceptance scale: " ≥ .9 – Excellent; ≥ .8 – Good; ≥ .7 – Acceptable; ≥ .6 – Questionable; ≥ .5 – Poor; and ≥ .5 – Unacceptable" (p. 231). To analyze the results of this study, all data were entered into an Excel spreadsheet and then imported into SPSS statistical software. This resulted in an overall Cronbach's alpha value of .701 representing a level of acceptable based on the George and Mallery scale. This study also applied descriptive statistics. Descriptive research helps describe, show or summarize data using percentages, rates, ratios, graphs, and frequency distributions (Laerd Statistics, 2015). The benefits of using descriptive statistics are to help researchers to effectively describe and communicate patterns that might emerge from the data. The descriptive statistics in this study were summarized by using frequency distributions and percentages.

Results

Of the 36 potential participants, 27 institutions responded (75% response rate) by completing the research instrument. All institutional characteristic data resulted in 27 responses. Two respondents did not complete all Likert-Scale statements. Partial Likert-Scale data were included in the result section below.

The first section of the research instrument sought demographic information regarding the institution's characteristics including degree offering, enrollment numbers, graduate job placement, and recruitment. The second section of the research instrument explored the professional perspectives of AT-CTI administrators regarding recent changes in the federal air traffic control hiring process. The last section of the research instrument provided AT-CTI administrators an opportunity to submit professional comments, concerns, and observations regarding the changes in the federal air traffic control hiring process on prospective AT-CTI students, current AT-CTI students, and recent AT-CTI graduates.

AT-CTI Institutional Characteristics

Regarding the research instrument, the first question asked the AT-CTI administrator to identify if their institution offers a two-year air traffic control degree or four-year air traffic control degree. Table 1 states the results from this question.

Table 1

AT-CTI Degree Offering

Degree Offering	Percentage of Responses
2-year air traffic control degree	63% *n*=17
4-year air traffic control degree	37% *n*=10

The second question asked the AT-CTI administrator to identify current enrollment numbers in their AT-CTI program. Results from Table 2 are listed below.

Table 2 identified that the majority of respondents (81%) have between 0-75 students currently enrolled in their AT-CTI program at their institution, while (15%) have 76-150 students enrolled. Only one institution has more than 200 students enrolled which is only (4%).

Table 2

Current AT-CTI Institution Enrollment

How many students are currently enrolled in the AT-CTI program at your institution?	Percentage of Responses
0-25	37% *n*=10
26-50	33% *n*=9
51-75	11% *n*=3
76-100	7% *n*=2
101-125	4% *n*=1
126-150	4% *n*=1
151-175	0% *n*=0
176-200	0% *n*=0
Over 200+	4% *n*=1

In question 3, the respondents were asked to identify the percentage of graduates from their AT-CTI institution that have been offered employment as federal air traffic controllers. Table 3 represents the AT-CTI administrators' responses.

Table 3 reported that only one-third (37%) of responses indicated that 51%-100% of AT-CTI graduates have been offered employment as a federal air traffic controller, while the majority of responses (63%) indicated that less than 50% of their graduates have been offered employment as federal air traffic controllers. Before the FAA changed their hiring practices regarding federal air traffic controllers, the FAA approved a hiring preference to graduates of CTI-approved academic institutions. However, the FAA dropped the preference for CTI graduates in December 2013 in favor of a personality screening test known as the Biographical Questionnaire to review all candidates for controller positions. Many of the 3,000 candidates

purged from the waiting list for employment as a federal controller were CTI graduates and had already passed the FAA's skills and aptitude exam (Smith, 2015).

Table 3

AT-CTI Graduate Employment

What percent of AT-CTI graduates from your institution have been offered employment as a federal air traffic controller?	Percentage of Responses
0-25%	22% *n*=6
26-50%	41% *n*=11
51-75%	33% *n*=9
75-100%	4% *n*=1

The final question on the research instrument asked the AT-CTI administrator if their institution was currently accepting new AT-CTI students. The majority of respondents (89%) indicated their institution was currently accepting new students and only 11% indicated their institution was not currently accepting new students. The results of this question are shown in Table 4.

Table 4

AT-CTI Recruitment

Is your institution currently accepting new AT-CTI students?	Percentage of Responses
Yes	89% *n*=24
No	11% *n*=3

Professional Perspectives of AT-CTI Administrators

To aide in answering the research question, the second section of the research instrument sought professional perspectives of each responding AT-CTI administrator by employing ten Likert-Scale statements. The Likert-scale statements requested respondents to indicate their perspective of each statement by selecting one of four options: strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD).

Table 5 presents data obtained from three Likert-scale statements revealing respondents' perspectives of: (1) institutional concern of decline in placement of AT-CTI graduates, (2) prospective AT-CTI students enrolling in AT-CTI programs, and (3) continual changes in federal hiring discouraging current students to continue/complete their AT-CTI program.

The remaining seven Likert-scale statements sought the personal perspectives of AT-CTI administrators regarding the changes in the federal hiring process for federal air traffic controllers and the overall effects it will have on AT-CTI institution's enrollments/retention, graduates, current students, as well as the federal air traffic control infrastructure.

Table 5

AT-CTI Retention and Recruitment

Likert Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
The decline in placement of AT-CTI graduates is a concern of AT-CTI institutions.	14 (56%)	6 (24%)	3 (12%)	2 (8%)
The decline in placement of AT-CTI graduates discourages prospective students from enrolling in AT-CTI programs.	11 (44%)	7 (28%)	3 (12%)	4 (16%)
Continual changes in the federal AT-CTI hiring process will discourage current students to continue/complete their AT-CTI program.	10 (40%)	8 (32%)	4 (16%)	3 (12%)

Table 6 demonstrates respondents' perspectives of CTI students pursuing off the street bids, students career changes (non-ATC related), as well as institutions retention rate of current students.

Table 6

AT-CTI Perspectives of Changes in Federal Hiring Process for Federal Air Traffic Controllers

Likert Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Current changes in the federal AT-CTI hiring process has encouraged AT-CTI students to pursue an off the street bid to gain employment as a federal air traffic controller.	16 (64%)	7 (28%)	0 (0%)	2 (8%)
As a result of the changes in the federal air traffic control hiring process, AT-CTI graduates are pursuing other career options (non-ATC) after completing their AT-CTI education.	10 (40%)	9 (36%)	6 (24%)	0 (0%)
The changes that have occurred in the federal air traffic control hiring process has resulted in a negative effect on the retention rate of current AT-CTI students.	10 (40%)	8 (32%)	2 (8%)	5 (20%)

Table 7 presents data obtained from the final four Likert-scale statements revealing respondents' perceptions of: (1) changes in hiring process affecting the quality of federal air

traffic controllers, (2) AT-CTI production of best qualified federal air traffic controllers, (3) AT-CTI lower institutional enrollments, and (4) overall effect on air traffic control infrastructure.

Table 7

AT-CTI Perceptions of Quality and Infrastructure

Likert Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
AT-CTI institutions believe that recent changes in the federal air traffic control hiring process has resulted in better qualified federal air traffic controllers.	5 (20%)	0 (0%)	7 (28%)	13 (52%)
ATI-CTI institutions produce the best qualified federal air traffic controllers.	13 (52%)	9 (36%)	3 (12%)	0 (0%)
As a result of the changes in the federal air traffic control hiring, AT-CTI institutions are experiencing lower than normal enrollments.	15 (60%)	6 (24%)	4 (16%)	0 (0%)
As a result of the changes in the federal air traffic control hiring process there has been an overall negative effect on the air traffic control infrastructure.	9 (45%)	5 (25%)	5 (25%)	1 (5%)

Conclusion

According to the results of this study, the majority of AT-CTI administrators have significant concerns regarding the changes in the hiring process for federal air traffic controllers. The data indicated that regardless of the degree offering, all institutions expressed multiple concerns. The concerns expressed by the two-year and four-year administrators include: (1) the retention and enrollment of institutions, (2) lack of value added for AT-CTI programs, (3) hiring odds against AT-CTI students, (4) and AT-CTI students' invested time and money on a degree compared to off the street hires.

The majority of respondents believed that as a result of the changes in the federal hiring process for air traffic controllers, student enrollments and student retention rates at the AT-CTI schools have been affected negatively. The majority of respondents indicated student retention problems as a direct result of the changes in hiring for air traffic controllers. The common perspectives expressed by the administrators were that current CTI students felt discouraged to continue their AT-CTI academic program and felt pressured to pursue other aviation-related educational and employment opportunities as a direct result of the changes in hiring process. One of the CTI administrators expressed their concern in the comment section stating, "Students have lost faith in the objectivity of the hiring process and have sought hire through off-the-street bids. Lack of transparency in the selection/hiring process creates lack of confidence in the FAA."

Unfortunately, because the FAA continues to revise their hiring practices for AT-CTI graduates, the AT-CTI schools are suffering the most. In Smith (2015), an AT-CTI school administrator stated that the CTIs have been hit especially hard as a result of the FAA changing the national perception of the hiring practice. In 2013, there were approximately 200 students in this college's ATC program, which had one of the highest graduating success rates at the FAA Academy at 97%; however, by 2015, the college only had 60 students in their CTI program. According to the school administrator, 60 students is still a sustainable number to provide quality; but unfortunately for other CTI schools that had smaller enrollment numbers (40-60 students) to begin with, and only had 10 or 15 students in 2015, that student count is not sustainable and they no longer can wait it out. The majority of the participating administrators also agreed that student enrollment will remain a major concern of their institution, as well as the longevity and overall financial health of their AT-CTI academic program. Eighty percent of administrators indicated their AT-CTI programs have fewer than 75 student enrollments, while some administrators indicated they have zero AT-CTI students or have placed a moratorium on additional student enrollments. One respondent stated,

> Our numbers have been devastated. As an instructor, I encourage people to apply for the ATC minor, which will give them greater options in case the ATC job does not work out. Our numbers have dropped by about 75%, which is actually good, since there was no way the majority of graduates would have gotten jobs if they remained at their historic numbers. This is due to half of all jobs being allotted to people with no education. Additionally, of the half reserved for ATC grads, any former military veterans get first priority, so even that path is questionable for non-military ATC students.

Because of financial responsibility and program completion obligation associated with the AT-CTI institutions, the lack of a competitive advantage over off the street hires has created an impossible situation for the AT-CTI institutions to promote a value added product to prospective students. An administrator said "I believe that it is more difficult to sell the merits of completing the CTI course when students could simply apply 'off the street' without spending the time or money on the CTI program." Some institutions perceive that prospective students believe there is no value to go through a CTI program for the hiring process as the system is structured today. In an effort to counter the FAA's change in the hiring practice of off the street hires, one institutional administrator stated,

> Our courses are therefore promoted as an opportunity to fast-track an 'off the street' application that would have been successful anyway, and are aimed more towards individuals passionate about Airspace Management, irrespective of whether they intend to join the FAA on graduation.

The administrator continued by saying, "This is necessary because it is difficult to justify why a student would spend money on a course that gives them no advantage unless they are just genuinely interested in studying the subject [comparable perhaps to a Minor in Psychology, which will not lead to a career as a Psychologist]."

Additionally, another concerning perspective from AT-CTI administrators is that CTI graduates are at an employment disadvantage with the new hiring initiatives. One of the responding administrators expressed concern that off the street applicants have increased odds of employment over CTI applicants because CTI students are combined in track one with Veteran's Readjustment Appointment (VRA) applicants putting CTI students second while all off the street applicants are grouped as one and have an equal opportunity for selection. The AT-CTI administrator offered the following comment, "off-the-street applicants have increased odds of getting hired over CTI applicants because CTI students are combined with VRA applicants, putting those second in Pool one while off the street applicants have an equal opportunity for selection." An additional administrator remarked,

> There is little to no value to go through the CTI program for the hiring process as the system stands today. This was not the purpose for the program. The FAA needs better educated/ability students at the Academy. This was the reason for the CTI program. I do not see this with the very high failure rate at the Academy.

Although enrollment and retention were major concerns of AT-CTI administrators, the most significant concern expressed by the responding administrators was the lack of transparency by the FAA in changing the hiring practices. The federal government's failure to communicate information about the changes in the hiring practices of FAA controllers to the AT-CTI institutions and AT-CTI graduates has created a level of frustration and untrustworthiness. As emphasized by an administrator, "No one really understands how selections are being made". In support, another administrator added, "No one really knows what is happening behind the curtain and the trust factor in the FAA has vanished." To help rebuild trust and create transparency between the FAA and CTI institutions, additional studies seeking the FAA's perspectives on the changes in the hiring process could have the potential to illustrate the FAA's perspective to aid in strengthening the relationship between the FAA and AT-CTI institutions.

According to the FAA website, *Collegiate Training Initiative (CTI) Schools*, it firmly states, "The AT-CTI program is designed to provide qualified candidates for developmental air traffic control specialist positions (FAA, 2018, p. 1)." And yet, the new FAA hiring protocol for federal air traffic controllers that was implemented in February 2014 included several significant changes. In particular, the FAA reduced the role of the CTI-approved program; therefore, the only remaining advantage for CTI graduates is that they are eligible to bypass the Air Traffic Basics Course, which is the first five weeks of qualification training at the FAA Academy in Oklahoma City (FAA, 2018).

In addition, the FAA introduced the Biographical Questionnaire which was envisioned to predict controller performance through a process of asking individuals to recall their typical and/or specific behaviors from earlier times in their lives. But due to the lengthy process of hiring and training an air traffic controller which can take several years, it is too soon to conclude whether the FAA's new hiring policies improved the ability to hire individuals who are more likely to successfully become federal controllers (FAA, 2017b).

While the intent of the FAA was to employ an additional 3,200 federal air traffic controllers in 2016 and 2017, it is not certain what the outcome of the FAA hiring process

changes has had or will have on AT-CTI institutions and their highly qualified graduates (Scauzillo, 2015). But what is certain is that the AT-CTI schools will continue to question and debate whether they should or will even be able to provide the funding to maintain the financial health of their CTI programs in the coming academic years.

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