“Air Traffic CTI 101”
Air Traffic Collegiate Training Initiative
Position Paper

Introduction

This paper will provide an historical overview of the FAA Air Traffic Collegiate Training Initiative (CTI) program and summarize recent decisions regarding the new air traffic controller hiring process that was announced on January 8, 2014. The following discussion will show why this new hiring process will jeopardize air traffic safety, cost millions of dollars more to implement, and take longer to train a controller workforce that is already critically under-manned. It will further reveal that this new hiring decision has misled thousands of college students who have followed the instructions on the FAA’s website only to have the FAA renege on its stated hiring practices.

Background

In 1989, the FAA established the Air Traffic-Collegiate Training Initiative (CTI) program to “develop, deliver, and implement air traffic control recruiting, selection, and training.” The objective of the program was to develop a professional air traffic controller workforce with college degrees.

Under this program, the FAA carefully selected and approved a group of colleges and universities to teach a baseline curriculum of study described as the “Air Traffic Basics” (AT-Basics). The individual colleges were responsible for teaching the AT-Basics and preparing students for Initial Qualification Training (IQT) at the FAA Academy in Oklahoma City. In order to do this, many of these CTI-approved colleges invested millions of dollars in staff, curriculum development, and air traffic control simulation equipment. As stated on the FAA’s CTI website, graduates from these CTI programs would enter a direct-hire pool of applicants and were given hiring preference through CTI-only job announcements.

The CTI program started with just five colleges and grew to 14 in 1997. Due to the success of the CTI program and facing the need for a higher number of qualified applicants, the FAA expanded the program to a total of 36 colleges and universities from 2007-2009.
Problems with the hiring “Off the Street” Air Traffic Controllers

Prior to the introduction of the CTI program, the FAA hired from two main sources. The first was from military trained controllers who had separated or retired from military service. The second source was through “Off the Street” (OTS) hiring. OTS hiring brought in candidates without any required air traffic or college experience under a “General Public” hiring announcement. Once hired, OTS candidates had to complete a five-week AT-Basics course at the FAA Academy and were then moved to Initial Qualification training. Problems were identified with the OTS hiring program; besides being very expensive to administer, the quality of candidates was not deemed satisfactory. High washout rates and long training times were among the problems cited. This led to the introduction and implementation of the CTI program in 1989.

Since the CTI program was instituted in 1989, most air traffic controller hiring has been from the pool of CTI graduates and prior-military controllers. However in 2005, the FAA forecast a controller shortage due to a large number of controllers who were becoming retirement eligible. This group of controllers had been hired after the PATCO strike in 1981. The established CTI colleges were not able to keep up with the need for replacement controllers and a OTS hiring announcement was conducted. In 2007, more CTI schools were approved.

Hiring “Off the Street” proves to be extremely costly & inefficient

From 2007 to 2011 the FAA’s General Public (OTS) hiring announcements processed over 40,000 applicants for only 3,000 positions hired. These applicants had to be administered the Air Traffic Selection and Training (AT-SAT) exam ($600 per test) and screened. This was an extremely expensive way to qualify candidates to fill less than 3,000 positions.

A Memorandum prepared by the Department of Transportation Inspector General titled FAA Has Opportunities To Reduce Academy Training Time and Costs by Increasing Educational Requirements for Newly Hired Air Traffic Controllers identified that many of the same topics taught at the FAA Academy are being taught at aviation colleges. It encouraged the FAA to capitalize on this through the CTI program. The report further stated that “controller candidates should be expected to meet some educational requirements” (p. 3). Furthermore:

In our opinion, it is not unreasonable to require new controllers to have a minimum level of air traffic education as a prerequisite to employment, considering fully certified FAA air traffic controllers earned an average base salary of $117,000.

The report proposed that by hiring trained applicants, a projected cost savings of $34 M - $47 M could be realized over a period of 9 years (p. 13).
The end of “Off the Street” hiring for Air Traffic Controllers?

Another report was completed in 2011, the FAA Report of the Independent Review Panel on ATCS Selection, Assignment and Training. This report also recommended hiring CTI graduates. This proposed ranking the importance of the CTI degree program as a weighted factor of 40% of the employment criteria, behind the AT-SAT score, GPA, and initial interview (p. 12).

At the end of 2012 the FAA CTI Program Manager announced that the FAA would not be conducting any further OTS hiring since the CTI Colleges and Universities, along with the military pipeline were producing sufficient quantities of qualified applicants to fill hiring requirements. The CTI institutions were asked to complete a questionnaire on the diversity of their student populations. A report published by the FAA Aviation Careers Office, Air Traffic Collegiate Training Initiative (AT-CTI) Partner School Diversity and Outreach 2012-13 concluded:

After reviewing the statistics inherent in the self-identification questionnaires and the partner school diversity initiatives, it is clear that the FAA AT-CTI schools are making great strides to incorporate minority students and faculty into their programs (p. 3).

Sequestration and Continuing Resolutions hit government budgets hard. FAA controller hiring was suspended in January 2012; meanwhile, the CTI colleges continued to graduate qualified applicants who were AT-SAT tested and ready to be hired. Currently the number of qualified CTI graduates ready to be hired is approximately 3,500.

At the annual CTI Conference in October 2013, the FAA told the CTI colleges that a General Public (OTS) announcement would be forthcoming in order to insure greater diversity. They stated that there would still be a separate CTI hiring announcement. It was also announced that Terry Craft, the CTI Manager would be leaving. After the departure of Terry Craft, communication between the FAA and the CTI Colleges has been virtually non-existent and the CTI Program has been in turmoil.

In late 2013 a budget was approved that would allow FAA to hire and train controllers.

The FAA expected to hire 300 controllers in calendar year 2013, and 1200-1500 controllers per year from 2014-2019.
The CTI Partnership -- How does it work & why is it so efficient?

The FAA Air Traffic CTI partnership has been successfully serving the FAA for 24 years as the preferred source of controller hiring. It was created by the FAA to develop the next generation of controllers in the most cost-effective manner. Thirty six colleges and universities were carefully selected by the FAA to provide air traffic control training with the intent of reducing training time and costs at the FAA Academy.

The hiring process is outlined on the FAA website that appeared from 8/2011 to 2/2014. When students enroll in a CTI approved program, the college sends the names of students to the FAA for tracking. When students are within a year of graduation (and have proven they have the ability to complete the college program), a qualifying exam, the Air Traffic Selection and Training (AT-SAT) is administered to the students by an FAA contractor. The AT-SAT exam is an important qualifier in the hiring process. Although a majority of CTI students pass this exam, the cutoff for hiring has been set at 85% and the student is said to be “well qualified”.

The other qualifier for hire is a recommendation from the college once a student graduates. Colleges will only recommend a graduate to the FAA for hire if the graduate...

1. possesses the knowledge, skills and abilities to become an Air Traffic Controller;
2. demonstrates a level of responsibility, maturity, and professionalism; and
3. has the qualifications to pass the follow-on training at the FAA Academy.

In this manner, CTI graduates are adequately screened to ensure a high success rate for new-hire ATC applicants! Hiring a CTI graduate provides reasonable assurance that Certified Professional Controller (CPC) training will be completed in minimum time, reducing costs and the drain on facility training resources. Most importantly, it will contribute to ending the controller workforce shortage.

The names of recommended CTI graduates are sent to the FAA and are put into a direct hiring pool of CTI-only applicants. When a CTI-only hiring announcement is issued by the FAA, all recommended students are contacted and encouraged to apply. From these CTI applications the FAA then selects persons for hire.

One issue worth mentioning is the excessive lag time that CTI graduates have experienced in the hiring process. Some CTI graduates have waited in excess of 2 years before being hired by the FAA. This process needs to be streamlined and improved, as many outstanding applicants (especially minorities) are hired by other organizations before the FAA offers employment.
The FAA announces it is going back to “Off the Street” hiring

In early December of 2013 rumors started circulating about an OTS announcement along with proposed changes to the CTI program and hiring process. A number of special interest groups were promoting that the FAA was hiring off the street with “no aviation experience required.” On December 30, 2013 a letter was sent from Joseph Teixeira, FAA Vice President of Safety and Technical Training to the CTI colleges that stated that “The Federal Aviation Administration (FAA) has enjoyed a long-standing relationship with your organization and values our partnership in the training of potential Air Traffic Controllers (ATC)”. The next sentence then outlined how the hiring process would be revised and that “existing inventories of past applicants will not be used.”

The CTI world was shocked when the FAA announced in a conference call on January 8, 2014 that from this point forward, there would only be Centralized General Public (OTS) hiring for air traffic controllers. The CTI-only hiring announcements would no longer exist and CTI graduates would no longer be given hiring preference as had been advertised up to this point.

The CTI program was not dissolved, but without the hiring preference, these well-established CTI college programs will not thrive nor will the FAA be getting the qualified pool of applicants it once enjoyed.

No aviation experience necessary! “Dumbing down” the hiring criteria

The new criterion for the OTS hiring process was as follows:
  1) Existing CTI graduates would no longer be given hiring preference, and must re-apply to the General Public (OTS) announcement to be considered for hiring;
  2) Applicants would have to pass a biographical questionnaire (BQ);
  3) Applicants must have a 4-year degree or 3 year’s progressive work experience; or a combination of work experience and college coursework totaling 3 years.
  4) A high school degree was not required;
  5) The AT-SAT scores already earned by CTI graduates would be thrown out (a waste of over $2.3 M) and the new applicants would then have to be re-tested using a modified, easier test (at a cost of $2.4 M); and
  6) Air traffic CTI training or education would not be considered in the hiring process, since “selections will now be fully automated, grouping candidates by assessment scores and veteran’s preference.”
Accepting applicants with no aviation experience? This runs counter to the recommendations made by the Department of Transportation Inspector General’s Memorandum, FAA Has Opportunities To Reduce Academy Training Time and Costs by Increasing Educational Requirements for Newly Hired Air Traffic Controllers (previously discussed on page 2). It is clear that cutting costs is not the priority in this new hiring process.

The rationale provided for this action was that college presented a “barrier” to certain minority populations. The study cited, known as the “Barrier Analysis Study” was written by a known EEO and discrimination activist, Dr. James Outtz. His report makes broad generalizations and his data is not comprehensive. It concludes that college is a “barrier” to African Americans in being hired into the FAA’s most lucrative professions. He also claimed that the AT-SAT exam is discriminatory towards African-Americans. His conclusion suggesting that many CTI colleges lack diversity was most disappointing as this report did not include data from 2-year CTI colleges, where diversity is strongest.

One favorable comment found in the FAA-funded Barrier Analysis, prepared by Dr. Outtz, is as follows:

“The AT-CTI application source has the applicant pool with the highest proportion of applicants meeting the minimum qualification across ethnic subgroups.” (page 36.). “Adverse impact was not observed for CTI at any point in the hiring process, though the qualification rate was very high in general.” (Extension to the Barrier Analysis page 7).

**Suspicious results...**

On February 10, 2014 the FAA opened up the application process for air traffic controllers and accepted online applications for 10 days through USAJOBS. All applicants had to take a 63-question Biographical Questionnaire (BQ) which determined their suitability for the next hiring level. The results were a cause for great concern.

The FAA’s controller job announcement drew more than 28,000 candidates. However, only 8% – approximately 2,200 – passed the initial “Biographical Questionnaire” evaluation and advanced in the hiring process. The FAA expected 30 percent to advance.

Results from survey of CTI college programs found that there are hundreds of qualified CTI graduates who were found “not eligible” by the BQ. Many were highly qualified with very high AT-SAT test scores, high grades in CTI collegiate ATC programs, or significant experience as controllers in the military or Federal Contract Tower facilities.
For example:

- a female African-American CTI graduate with a 4.0 GPA, a Master’s degree, and a perfect 100% score on the AT-SAT was **not eligible**.
- In another case, two people completed the BQ with identical answers – one was selected, one was **not eligible**!
- Experienced controllers who had served for years in the military were also **not eligible**.

**Who did pass the BQ?**

The best guess by experts is that this process employed a random, lottery type of system in selecting applicants. Preliminary surveys among CTI college programs indicated that there was no logical rhyme or reason as to who was selected and who was rejected. **In most cases the most qualified applicants were rejected!** Applicants with strong credentials (4 year degrees, CTI degrees, military experience) and aviation experience were found not eligible while people with poor qualifications (no aviation experience) and applicants with the minimum 3 years work experience in retail stores or the fast food and restaurant industry were selected.

Veteran’s preference was not shown and hundreds of Veterans were rejected. There was certainly no evidence to suggest that greater diversity was being achieved. It would appear that the BQ was not validated prior to being implemented.

If the FAA is selecting from this inexperienced and minimally qualified applicant pool, there is a strong probability that a high washout rate in training will result and/or the time it will take to train them will be prolonged. Not everyone has the aptitude or ability to become an air traffic controller.

Due to this random, lottery-style selection process, hundreds of angry applicants have filed Equal Employment Opportunity (EEO) complaints and lawsuits are also pending on many fronts. **This OTS selection process could potentially cost the government millions of dollars in litigation fees and investigation costs.**
The Transportation Secretary is questioned by the Senate...

On March 13, 2014 Senator Patty Murray (D-Washington State), Chairman of the Subcommittee on Transportation, Housing and Urban Development and Related Agencies questioned Transportation Secretary Anthony Foxx on the new hiring process and asked specifically why the most qualified applicants were not being selected. She stated that she was very “concerned” calling the results of the BQ “horrendous.” She demanded answers on what the FAA was doing with the CTI program.

Click this link to review the video -- go to 17:40

What is the correct solution?

Recognizing that “Off the Street” hiring practices are expensive, inefficient, unproductive and at this time totally unnecessary, The Association of Collegiate Training Institutions has made the following recommendations:

- Reinstate the terms of the original CTI partnership agreement;
- Follow the cost-saving recommendations of the DOT IG Memorandum to require aviation education for ATC new-hire applicants;
- Reverse the FAA’s decision to conduct only OTS, General Public announcements;
- Reinstate all CTI students previously recommended to the FAA by CTI Institutions;
- Reinstate all previous ATSAT scores earned by CTI students (which cost $2.4 M to administer);
- Hire from the best source of qualified applicants: CTI programs, Veterans, and holders of CTO certificates;
- Streamline and reduce the time it takes to hire CTI graduates to less than one year;
- Engage GAO to resume study of cost efficiencies of the CTI program as mandated by the FAA Modernization Act of 2012, Section 608;
- The additional costs involved with implementing this OTS hiring scheme could be better used to offer minority scholarships at CTI degree-granting institutions;
- Form an open, working relationship between the FAA and CTI college programs to further explore and resolve issues such as diversity in the workforce;
- Commission an independent panel to study the cost effectiveness of the CTI program vs OTS hiring process;
Summary

The newly proposed hiring criteria were developed without regard to safety and cost and lacked input from the stakeholders in a knee-jerk reaction to quickly elevate minority numbers in the air traffic controller workforce. This move discounted approximately 3,500 CTI college graduates (including minorities, veterans, and females) that are trained, tested and ready to be employed immediately. By invalidating the current AT-SAT test scores held by these CTI graduates, nearly $2.4 M was wasted. The BQ selected applicants with little or no aviation background or experience and often rejected the most qualified applicants -- those with proven ATC experience and training. This will undoubtedly compromise air traffic safety by not offering positions to the most qualified applicants and by doing so will delay filling critically understaffed air traffic control positions in ATC facilities nationwide.

By implementing this costly new hiring process, the FAA is not being accountable to the American public. There are more safety conscious, cost effective solutions to improving controller workforce diversity, and the CTI Partnership is clearly the best course of action as it already has strong diversity.

The AT-CTI program has been successfully serving the FAA for 24 years. As stated in the FAA’s Air Traffic Collegiate Training Initiative (AT-CTI) Partner School Diversity and Outreach 2012-13 Report, the CTI program has sufficient diversity and it is clear that the FAA AT-CTI schools are making great strides to incorporate minority students and faculty into their programs.

The FAA established the CTI partnership program with 36 colleges and universities who invested millions of dollars in curriculum, instructors, and simulation facilities at zero cost to the FAA. The FAA advertised the CTI Program in numerous publications, on its website and other media as the way to be hired as a controller. Based on the FAA website, thousands of students were drawn to the CTI approved colleges and invested time and money in completing the FAA approved CTI degree programs only to find now that the FAA has misrepresented itself. To not recognize the CTI degree is wrong and devalues the air traffic control profession.

The CTI program is the most expeditious and cost effective means of selecting and training professional air traffic controllers. Students that take the initiative to attend a college program are much more invested in the program and are more likely to succeed. Much of the process of qualifying and screening CTI applicants is done through the training and recommendations at the CTI approved colleges. CTI schools eliminate poor candidates prior to hiring, saving the FAA money on lost training time and ensuring that those who receive appointments to the FAA academy are highly likely to succeed. Furthermore, CTI graduates do not have to attend the 5-week AT-Basics course at the Academy. The CTI program brings the FAA quality training and experience.
Major Points to Consider:

SAFETY – Why the FAA Should Hire the Best Qualified Candidates

- With safety being the FAA’s primary focus, shouldn’t the FAA hire the most qualified applicants for this safety-critical position in which the lives of so many depend?
- Air Traffic Control is a very demanding job with a great deal of responsibility; one mistake can kill hundreds of people or cause untold damage!
- Air Traffic Controllers are required to think quickly, react decisively, and communicate clearly and effectively.
- The “dumbing down” of standards and simplified AT-SAT exam will result in a less qualified pool of applicants.
- FAA facilities are now critically under-staffed and there are 3,500 CTI graduates who are trained, AT-SAT tested, and ready to be hired immediately!
- Air Traffic Control is a profession; most professions require a college degree or some form of undergraduate education.

COSTS – The CTI Program Represents the Best Value to the FAA

- The CTI Program has been successfully serving the FAA for over 24 years. It is the most cost-effective way to select and train highly qualified air traffic controllers.
- Hiring applicants with aviation education has been recommended by the DOT IG to realize cost savings at the FAA Academy.
- Hiring OTS candidates is inefficient and expensive from both a financial and an operational standpoint.
  - OTS candidates will take longer to train and are more likely to be lost to attrition during training than a CTI graduate.
  - OTS hires must take the 5-week AT-Basics course at the Academy; CTI graduates do not.

*This new hiring criteria will cost millions of dollars more, only to produce a less qualified workforce which will take longer to train. The FAA is critically understaffed in many ATC facilities nationwide.*

BIOGRAPHICAL QUESTIONNAIRE (BQ) – A mystery: what is it really looking for?

- The BQ results have been unreliable and did not pick the best qualified applicants.
- This survey does not appear to have been validated properly. Why not give the BQ to 500 CPCs to validate this survey instrument?
ETHICAL CONSIDERATIONS – College Students and Institutions were misled:

- Part of the implied “contract” that the FAA has with CTI students guarantees those students a priority in the application process. CTI students have invested tens of thousands of dollars in their CTI degrees with the expectation that they will have an advantage in the hiring process. The FAA reneged on these stated conditions on their website and publications.
- The FAA knowingly and willfully mislead its CTI partner programs during this process, stating and implying that the role of the CTI program was going to expand, while simultaneously planning to hold an OTS announcement and devalue CTI status.
- The FAA misrepresented itself to the colleges who in good faith invested millions of dollars to maintain leading edge technology for training students. Some of this was funded by Federal Perkins Funding.

THE BARRIER STUDY – Incomplete, Biased and Inaccurate:

- The author of the barrier study, Dr. James Outtz, in the course of his narrative fails to recognize that there are 2- and 4-year schools in the CTI program, several times making reference only to 4-year schools. This speaks to the incomplete nature of the research.
- The figures in the report themselves are suspect, and do not appear to accurately represent the correct student populations. The numbers themselves do not appear to have been validated, as the totals in each category for ethnicity and gender total more than 100%.
- The data tables contain simple math errors – Hawaiian CTI students show 16 applicants over 5 years, for a percentage figure of 0.9%. The actual figure should be 0.5%. (16/3372)
- The report erroneously equates job applicants with CTI enrollment, assuming that those who apply for a job with the FAA represent the sum total of CTI students. The report does not take into account students that, for whatever reason, during the 12-24 months it takes the FAA to hire, seek other employment.
- The report makes frequent mention of 4-year schools and either ignores or is not aware of the fact that a significant number of CTI schools are 2-year schools. Of the 36 participating CTI schools, 15 are 2-year institutions. Once again, shows minimal or incomplete research went into this report.
- The Barrier Analysis Study seems focused on four-year CTI colleges. Community Colleges do not have the same selective admissions process that 4-year colleges do and have more diverse student populations – this was not considered in the Barrier Analysis Study.
CTI DIVERSITY & MINORITY SUCCESS – *CTI Colleges Have Diverse Populations*

- CTI Colleges have sufficient diversity as stated in recently published FAA publications;
- Student grants are available to assist minorities in attending a CTI College;
- Most colleges actively recruit from inner city high schools and have special college visitation days to introduce aviation career opportunities to minorities;
- Many colleges have dedicated departments for aiding and assisting minority students – for example, an Office of Multi-Cultural Affairs;
- Most colleges have local, state, and federal grants and scholarships for which minority students will qualify;
- Many colleges employ special pedagogical strategies directed at improving minority success;

**Additional Resources:**
Below are some links to reports and other Air Traffic Control Organizations to provide additional insight.

**CTI Approved Colleges & Universities** – [Listing of the 36 FAA approved CTI Programs](faa.gov).

**Association of Collegiate Training Institutions (ACTI)** -- [www.ctiassociation.org](http://www.ctiassociation.org) - website run by a coalition of FAA approved CTI Colleges & Universities.

**ACTI Talking Points** – *Summarized, 2-page version of this position paper.*

Excellent articles on the CTI program & new hire practices written by the **Reason Foundation:**
- [Controversy Over FAA Controller Hiring and Training](http://reason.com/archives/2014/02/01/controversy-over-faa-controller-hiring-and-training) February 2014 ATC Newsletter #110

**Air Traffic Control Association (ATCA)** – [www.atca.org](http://www.atca.org)
International association promoting Air Traffic Control.

**National Air Traffic Controllers Association (NATCA)** – [www.natca.org](http://www.natca.org)
Association representing FAA Air Traffic Controllers.
References:


DOT IG, (2005), *OIG: FAA Has Opportunities To Reduce Academy Training Time and Costs by Increasing Educational Requirements for Newly Hired Air Traffic Controllers.*

