

Memorandum

**Re: Final Emerging Issues Paper
Contract Tower Funding Challenges**

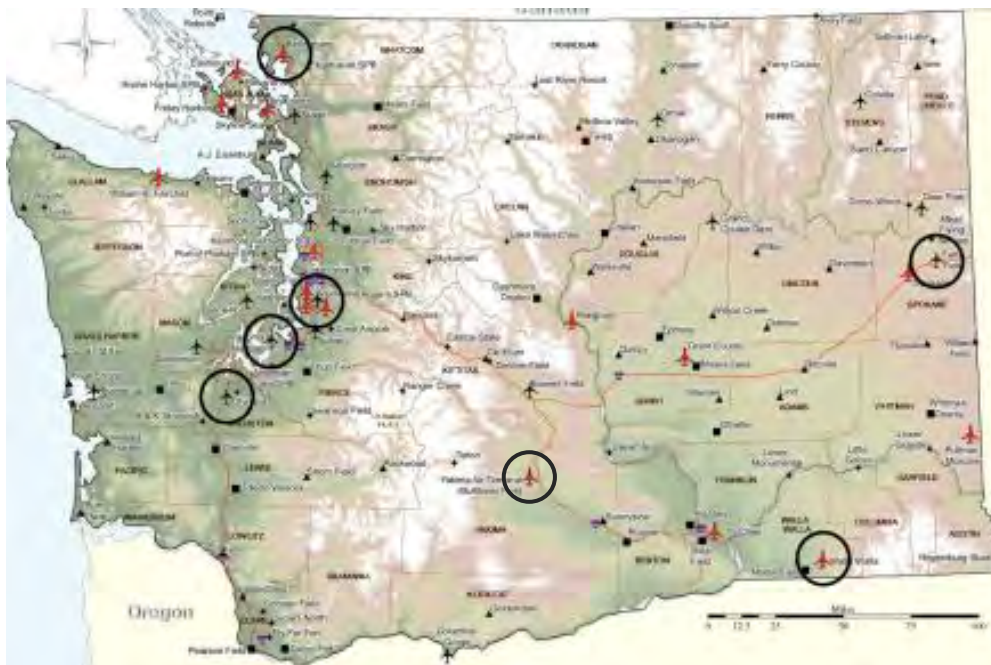
This technical memorandum summarizes funding challenges related to contract air traffic control (ATC) towers and the impacts of these challenges on the State of Washington.

Introduction

An Air Traffic Control (ATC) tower is a facility that uses air/ground communications, visual signaling, and other devices to provide services to aircraft operating in the vicinity of an airport or on the movement area of an airport.¹ Prior to 1982, civil ATC towers were operated solely by FAA personnel. In 1982 the FAA initiated the FAA Contract Tower (FCT) Program where ATC services were contracted to the private sector at numerous visual flight rule (VFR) airports throughout the United States and its territories.

In 2014, there were 264 FAA operated towers and 252 contract towers in the United States. Of the 252 contract towers, Washington State has seven currently in the Program:

1. Bellingham International (BLI)
2. Felts Field-Spokane (SFF)
3. Olympia (OLM)
4. Renton (RNT)
5. Tacoma Narrows (TIW)
6. Walla Walla Regional (ALW) (Cost Sharing Program)
7. Yakima (YKM)



¹ FAA Order 7210.54B FAA Contract Tower Operations and Administration, 2006

With fluctuations in national aviation policy, fluctuations in the economy, and as technology advancements are achieved, there are several issues surrounding the long-term future of the FCT Program. Issues regarding contract towers include funding, eligibility to be in the FCT Program, opposition to the Program, future support of the Program, and strategies to address significant changes to the Program including emerging ATC technologies. The following provides a brief synopsis of these topics.

Funding of the FCT Program

The FCT Program is a partnership between the FAA, local governments and the private sector and is intended to provide the same quality of ATC services to aviation users at a substantially reduced cost to taxpayers. The U.S. Contract Tower Association (USCTA), which is an affiliated organization of the American Association of Airport Executives (AAAE), estimated in 2014 that the 252 contract towers (out of the total 516 towers including FAA) handled 28 percent of all ATC tower operations in the U.S. but only accounted for 14 percent of the FAA's overall budget allocated to tower operations.² In 2012, the U.S. Department of Transportation Inspector General's audit of the Program concluded that 'FAA contract towers continue to provide cost-effective and safe air traffic control services and operate at a lower cost than similar FAA-operated towers'.³

Contract towers can be fully funded by the FAA or operated on a cost-sharing basis with the airport sponsor. The level of cost-sharing is dependent on an FAA benefit/cost analysis.⁴ As of July 2015, 16 of the 252 contract towers were in the cost-sharing program (including Walla Walla Regional Airport). The program is intended to allow airports to achieve accelerated deployment of eligible facilities or equipment, and to help expand aviation infrastructure. In 2014, the cost-share program established a maximum local contribution of 20 percent.⁵

The FCT Program is funded by annual DOT/FAA appropriations. In 2015, \$149 million of dedicated funding was appropriated for the FCT Program and cost-share program. However, the cost-share program is set by Congressional statute, an important distinction. As of August 2015, the draft 2016 fiscal year federal budget includes \$154.4 million to fund the Program. Congress is set to readdress the appropriations for the FAA budget in 2016.



Contract Tower Eligibility Requirements

The FAA has authority to establish or discontinue ATC tower service when activity levels or other safety considerations merit such action. The qualification criteria for candidate sites is established in 14 CFR Part 170 "Establishment and Discontinuance Criteria for Air Traffic Control Services and Navigational Facilities." For an airport to qualify for an ATC tower, the following must be met:⁶

1. The airport must be open to and available for use by the public as defined in the Airport and Airway Improvement Act of 1982;
2. The airport must be part of the National Plan of Integrated Airport Systems (NPIAS);

² U.S. Contract Tower Association, Newsletter, July 2015

³ U.S. Dept. of Transportation, Office of Inspector General, "Contract Towers Continue To Provide Cost-Effective and Safe Air Traffic Services, but Improved Oversight of the Program Is Needed", November 5, 2012, <https://www.oig.dot.gov/library-item/28865>

⁴ U.S. Contract Tower Association, website accessed 8/18/15, <http://www.contracttower.org/>

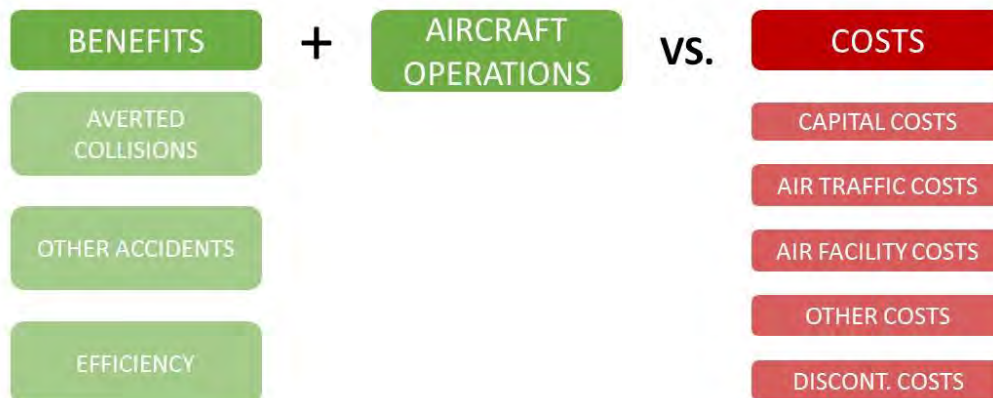
⁵ U.S. Contract Tower Association, 2014 Annual Report

⁶ 14 CFR Part 170 "Establishment and Discontinuance Criteria for Air Traffic Control Services and Navigational Facilities.", January 2014

3. The airport owners must have entered into appropriate assurances and covenants to guarantee that the airport will continue in operation for a long enough period to permit the amortization of the control tower investment;
4. The FAA must be furnished appropriate land without cost for construction of the control tower; and
5. The airport must provide a benefit-cost ratio greater than 1.0 when comparing the ATC tower's life cycle benefits to its life cycle costs (benefits/costs \geq 1.0). The benefit cost analysis considers site specific activity forecasts and calculates benefits as prevented collisions, prevented accidents and reduced flying time. Life cycle costs include staffing, maintenance, equipment, supplies, facilities, equipment, and start-up costs.

Meeting these criteria does not guarantee that an airport will receive an ATC tower – it just makes it an eligible site. If an airport meets these criteria, an airport sponsor can request to establish a contract tower. The FAA can either elect to pay for the service in its entirety, or enter into a cost-sharing agreement with the sponsor, depending on the results of the benefit-cost analysis that is required to be computed. The benefit-cost model considers benefits such as preventing accidents or collisions and the number of operations compared to the costs required to operate the ATC tower and the ratio must exceed 1.0.

Existing ATC Tower Benefit-Cost Model



Source: Kimley-Horn and Associates.

Note: Benefit to Cost Ratio Must Exceed 1.0 to Establish/Maintain Eligibility

The FAA indicates that the agency provides benefit-cost ratios every other year for both fully funded FAA towers as well as cost-share towers to identify any potential changes in funding. Should an existing ATC tower's benefit-cost ratio drop below 1.0 for its remaining life, service and/or FAA funding can be discontinued. The only exception to this criteria is if the closure of a tower would be against the national interest of the U.S. These national interest considerations include:

- Significant threats to national security as determined by the FAA in consultation with the Department of Defense or the Department of Homeland Security;
- Significant, adverse economic impact that is beyond the impact on a local community;
- Significant impact on multi-state transportation, communication or banking/financial networks; and
- The extent to which an airport currently served by a contract tower is a critical diversionary airport to a large hub.

It is important to recognize that the FAA conducts the official benefit-cost analysis, not the airport. For new start ATC towers, they must meet the establishment criteria previously identified. For existing ATC

towers, the FAA has periodically provided benefit-cost ratios (although not since about 2009). It is estimated that the result of the FAA updating its cost-benefit calculations will lead to significant increases in the number of ATC towers enrolling in the cost-sharing program.

Opposition to the FCT Program

Opposition to the FCT Program has been expressed by the National Air Traffic Controllers Association (NATCA) for several reasons including:⁷

- Increasing costs and overstated cost savings of the Program
- Level of safety, security and controller experience provided by contract towers
- Government control versus private entity management of the Program
- Application of contract towers at commercial service airports as compared to general aviation airports

These issues have been strongly refuted by USCTA stating that private contractors have the same level of professional training and have greater flexibility in meeting the operational needs of the various individual facilities. The USCTA states that contractors can utilize part-time controllers, assign controllers to more than one facility, and adjust staffing to reflect seasonal variations in traffic. They assert that this level of flexibility and efficiency is not available to FAA controllers. They also emphasize that the FAA provides continuous oversight and monitoring of the contract towers and that all contract controllers are certified by the agency. A contributing factor to the lower operational costs achieved by contractors is that most contract employees have previously been trained as air traffic controllers and funds are not required to move people to higher level ATC facilities. It should be noted that Washington State membership of the USCTA includes one representative from the Washington Airport Management Association, two from the City of Renton, two from Spokane International Airport, two from Walla Walla Regional Airport, one from the Port of Bellingham, and one from Olympia Regional Airport.⁸

While NATCA has representation at approximately 75 FCT towers⁹, their opposition to the FCT Program has spanned many years and is mainly intended to bring those controllers back into the federal sector. It is NATCA's position that all ATC facilities operate under the same supervised structure and that the FCT Program could jeopardize the safety and efficiency of the air traffic monitoring system.

In 1994 NATCA filed suit against the FAA challenging the agency's 1993 privatization of 115 low-activity air traffic control towers. The case had been traveling back and forth between the district court and the appellate court until August 2011 when the U.S. Court of Appeals for the Sixth Circuit¹⁰ affirmed a lower court opinion that dismissed the lawsuit and held both that NATCA lacks standing and that the FAA has authority to contract for these services.

Further support for the FCT Program came in 2012, when the U.S. DOT Office of the Inspector General issued an audit report where they found "that contract towers continue to provide air traffic control services at a lower cost than similar FAA towers. On average, a contract tower costs about \$1.5 million less to operate than a comparable FAA tower, mainly due to lower staffing and salary levels. In addition, contract towers had a lower number and rate of safety incidents compared to similar FAA towers, and users remain strongly supportive of the Program."¹¹

Threats to FCT Program and Future Considerations

⁷ U.S. Contract Tower Association, <http://www.contracttower.org/ContractTowerMythsFacts.doc>

⁸ U.S. Contract Tower Association, website, accessed 8/18/15, <http://www.contracttower.org/ctamembr.html>

⁹ National Air Traffic Controllers Association website, accessed 8/18/15, http://www.natca.org/who_we_are.aspx?zone=Who%20We%20Are&pID=489

¹⁰ <http://www.ca6.uscourts.gov/opinions.pdf/11a0220p-06.pdf>, accessed 8/18/15

¹¹ U.S. Dept. of Transportation, Office of Inspector General, "Contract Towers Continue To Provide Cost-Effective and Safe Air Traffic Services, but Improved Oversight of the Program Is Needed", 2012, <https://www.oig.dot.gov/library-item/28865>

A possible threat to the FCT Program includes potential changes to the program's participation requirements that could prevent new towers from entering the system, remove existing contract towers from the Program, or shift the financial burden to the communities who may not be able to afford it. There are moves within the aviation industry urging FAA to reform its current benefit-cost analysis process to a new process to help ensure the long-term sustainability of this Program. In June 2015, the Chief Operating Office of the FAA's Air Traffic Organization briefed the USCTA that the agency is in the process of updating their benefit-cost model and until that process is complete, they are waiting to admit new towers into the program. However, the FAA had already decided to add one new contract tower in Aurora, Oregon, bringing the total number of contract towers to 253.¹² According to the FAA's Office of Policy, International Affairs, and Environment 2015 Business Plan, the agency identified having a revised benefit-cost criteria as a "core initiative" to be completed by September 30, 2015.¹³ As of November 2015, a new benefit-cost model has not been published.

Another potential threat to the Program is the U.S. House of Representatives proposed version of the FAA 2016 reauthorization bill (the "Aviation Innovation Reform & Reauthorization Act") which includes the establishment of an independent, "non-profit ATC Corporation" to operate the nation's ATC system. The industry, including the USCTA, AAAE, National Business Aircraft Association (NBAA), and others fear that there is insufficient protection of the FCT Program within this proposed legislation. Some believe that if the current FCT service contracts are transferred to an ATC Corporation, those contracts could be cancelled at any time and towers could be closed without any congressional oversight or review. Congress will readdress this issue before final passage in 2016.

In April 2015, the FAA executed new, five-year ATC service contracts to three incumbent contractors – RVA, Midwest ATC, and Serco. An unanticipated element of these agreements was that the FAA included a clause that would allow the cancellation of the contracts up to 30 days after they went into effect.

With an appropriation required to maintain the FAA budget, including the ATC towers, the threat of losing federal funding and having to close contract towers is always a concern. This concern was nearly realized in 2013 when the FAA was required to meet a \$637 million target savings under the mandatory "sequester". Sequestration is a process that automatically cuts the federal budget across most federal departments and agencies. As part of this sequester, the FAA notified 149 airports across the country that federal funding for their contract towers would end in mid-June 2013. These were considered by the FAA to be "lower activity" ATC towers which cumulatively handled less than 3 percent of the commercial aircraft operations and less than 1 percent of the passengers. The sequester did not affect the 16 towers in the cost-sharing program as Congress sets aside funds for these airports each year. Communities still had the option to keep their towers open if they were able to provide the necessary funding. These closures were estimated to result in a savings of \$33 million to the FAA. The towers at Tacoma Narrows (TIW), Olympia (OLM), Renton (RNT), Felts Field (SFF), and Yakima (YKM) were on this list in 2013.

The sequester also resulted in the temporary furlough of 47,000 FAA employees, including ATC controllers. This action spurred objections from many lawmakers, communities and aviation industry groups citing degradation of safety, reduced access, and increased flight delay as the adverse impacts. Congress responded with the passage of the "Reducing Flight Delays Act of 2013" (Public Law 113-9) which allowed the FAA to transfer funds to its operating budget to keep the contract towers open and unfurlough the other FAA controllers. This did not, however, relieve the FAA of their \$637 million target savings, it just allowed them to better manage where the budget cuts were made. It was decided that the majority of the cuts would come from the Airport Improvement Program (AIP), which meant less funding for AIP grants to support airport development.

¹² U.S. Contract Tower Association, Newsletter, July 2015

¹³ FAA Website, accessed 8/18/15,

http://www.faa.gov/about/plans_reports/media/2015/apl_business_plan.pdf

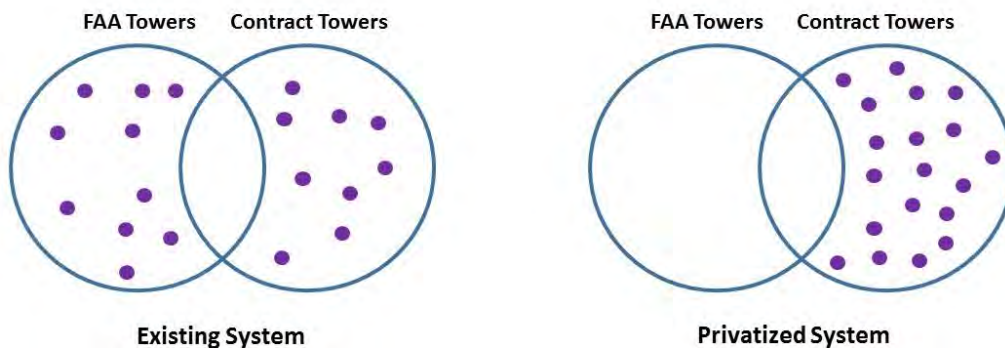
Strategies for Future ATC Services

Air Traffic Control Privatization

In 2015, members of the House Transportation and Infrastructure Committee started discussions regarding privatizing air traffic control services currently provided by FAA. The reasoning provided is to separate the FAA’s regulatory duties from those of providing ATC services to remove the services from the appropriations process that has previously resulted in sequestration, furloughs, and other challenges that result from this politically charged process. It has also been suggested that a “federally chartered, fully independent not-for-profit corporation to operate and modernize our ATC services” would create “operating efficiencies, and...annual savings” according to a speech given by Representative Bill Shuster (R-Pa.) to the Aero Club of Washington in June 2015.

Approximately 50 other countries have privatized ATC services, including Canada that are paid for by user fees. The opposition to privatized ATC services is concerned with the fee structure and what that might mean to smaller aircraft and communities that do not have commercial airline service. The primary impact attributed to a change in tower operations to a privatized facility would be that the local community would assume responsibility to fully fund the tower’s operation. Non-federal towers are still regulated, but not funded by the FAA.

Existing vs. Privatized ATC Tower Categorization



● Represents Airports with Control Towers (Not indicative of actual # of towered U.S. Airports)

Source: Kimley-Horn and Associates.

Remote ATC Tower Technology

With growth in technology and stagnating opportunities for airports to receive ATC services from the FAA, even through the FCT Program, other options are being tested and sought after. One such option is a remote ATC tower concept. Also referred to as “virtual towers”, the basic concept is to provide ATC services at an airport from a remote control room with video-sensor type surveillance equipment instead of *out-of-the-window* views from a traditional ATC tower. The objective is to provide consistent, high-quality ATC services in a more efficient and cost effective manner. The video equipment provides real-time imagery of the runway, airfield and nearby airspace on large monitors providing a 360-degree virtual view to the controllers. In addition to the live video feed, the controllers have all the same air traffic management computer systems as they would in a local control tower including voice communication, meteorological data, and flight plans.



Source: Saab Solutions, Sweden First in the World with Remotely Operated Air Traffic Management, April 21, 2015, <http://saabgroup.com/Media/news-press/news/2015-04/sweden-first-in-the-world-with-remotely-operated-air-traffic-management/>



Source: Saab Solutions, Sweden First in the World with Remotely Operated Air Traffic Management, April 21, 2015, <http://saabgroup.com/Media/news-press/news/2015-04/sweden-first-in-the-world-with-remotely-operated-air-traffic-management/>

The first operational remote tower system was developed by Saab Corporation and manages traffic at two connected airports in northern Sweden. Saab is in the process developing similar systems for an airport in Australia and two in Norway.¹⁴ In 2015, Saab was also contracted by the Irish Aviation Authority to develop a Remote Tower Centre at Dublin Airport that would control remote tower installations and operations at Cork and Shannon Airport.¹⁵

Within the United States, Saab is partnering with the State of Virginia's SATSLab, and Leesburg Executive Airport (JYO) to demonstrate and evaluate this technology for implementation at busy general aviation airports within the U.S. This is the first U.S. airport to field-test this technology during regular activity. The testing began in August 2015 and is scheduled to continue until mid-2016.¹⁶ Initially, the test serves only in an observation mode. If the testing goes well and the FAA approves, the next step would be to allow the traffic to be controlled from the remote tower. FAA Administrator Michael Huerta mentioned the upcoming demonstration project in Leesburg during House testimony on March 3rd, 2015. He told Congress members that "if the results are promising, this is something that I want to move out very aggressively on—because it holds great potential to address the need [for new control towers]."¹⁷

Summary of Impacts on Washington Airport System and Recommended Actions

FAA forecasts predict that the number of aircraft operations at U.S. airports with VFR towers will increase from 9.6 million in 2013 to 10.6 million in 2035.¹⁸ This represents an average annual growth rate of 0.4 percent. Similarly the FAA forecasts activity at Washington State airports with VFR control towers to increase from 286,000 to 339,000 operations, at an average annual rate of 0.8 percent – twice that of the nation as a whole. With this anticipated increase in activity, maintaining effective ATC service for travelers and pilots should be considered an important policy decision.

Annual appropriations to fund the FCT Program, potential changes to the Program's cost-benefit calculation, and the proposed change to a non-profit ATC Corporation all present threats to long-term sustainability or continuation of contract control towers as they are operated today. The threat is most

¹⁴ SAAB website, <http://saab.com/security/air-traffic-management/air-traffic-management/remote-tower/>, accessed August 2015

¹⁵ International Airport Review, <http://www.internationalairportreview.com/19700/airport-news/iaa-signs-remote-tower-system-contract-with-saab/>, accessed August 30, 2015

¹⁶ City of Leesburg, <http://www.leesburgva.gov/government/departments/airport/remote-air-traffic-control-tower>, Accessed August 28, 2015

¹⁷ U.S. Contract Tower Association, July 2015 Newsletter, <http://www.contracttower.org/ctaannual/July2015newsletter2.pdf>

¹⁸ FAA Terminal Area Forecasts, <http://taf.faa.gov/>, accessed 9/2/15

apparent to those communities that have lower activity towers and strained financial resources. Acknowledging that both commercial service and general aviation airports are a vital resource in supporting economic vitality, the closure of any ATC tower has the potential to adversely affect that airport's use. While there are many airports that operate safely and efficiently without ATC towers, many times the operators of high-performance, corporate type aircraft and especially airlines providing commercial service, prefer to operate at towered airports that have ability to manage the traffic between differing aircraft types. Without towers, these airports may see a reduction in activity by these operators, which may be significant to the economy in terms of business support and accessibility. As the technology continues to evolve, and pending adoption by the FAA, the establishment of remote tower systems has the potential to expand ATC service to non-towered airports within the U.S. It also has the potential to reduce operating cost for those airports currently providing traditional FAA or contract tower services.

As part of the WASP, WSDOT Aviation convened working groups to discuss aviation issues. A working group was established to discuss contract towers. This group recommended the following actions be considered:

POLICY CONSIDERATION: WSDOT should identify airports at risk for losing FAA-manned towers and potentially being downgraded to a contract tower as a result of the revised cost-benefit analysis, and those at risk to be eliminated from the contract tower program.

POLICY CONSIDERATION: The FAA should consider remotely monitored ATC services as an alternative to the cost-sharing program or keeping existing airports uncontrolled/unmonitored. Furthermore, the FAA should explain the cost savings of remote towers versus the potential impacts and limitations on airport performance and increased risk to air safety.

POLICY CONSIDERATION: While the overall impacts of new FAA policies toward ATC towers and funding have yet to be fully understood, Washington State airports should work with groups such as the U.S. Contract Tower Association (USCTA) and the American Association of Airport Executives (AAAE) to develop strategies to continue to operate in a safe, efficient manner that benefits all airports and the communities they serve.