

Review of ATC Reform Proposals

Testimony of
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Chairman Shuster, Ranking Member DeFazio, and fellow Members: my name is Robert Poole, Director of Transportation Policy at Reason Foundation, a nonprofit think tank with offices in Los Angeles and Washington, DC. I received my engineering degrees from MIT and began my career in the aerospace industry, before moving into the think tank world.

I have been following the performance of the U.S. air traffic control (ATC) system since the late 1970s, and have written many reports and journal articles on the subject, including for the Transportation Research Board's peer-reviewed journal *Transportation Research Record* as well as *The Journal of Air Traffic Control*. Over the years I have visited corporatized air navigation service providers including Airways New Zealand, NATS, and Nav Canada, and have given presentations at conferences hosted by ATC organizations such as Air Traffic Control Association (ATCA) and the Civil Air Navigation Services Organization (CANSO). I am a member of the GAO's National Aviation Studies Advisory Panel, and during the last several years served on the ATC reform working groups of both the Business Roundtable and the Eno Center.

We are here today because there is a growing consensus that the U.S. air traffic control system is not performing as well as it should. While it remains the world's largest and one of the world's safest, it is "no longer has the most modern equipment, the most efficient airplane routings, or the best technology of any of the world's air traffic control providers." Those are not my words: they are the conclusion of all three former Chief Operating Officers of the FAA's Air Traffic Organization, as well as three former Secretaries of Transportation.¹ We have lost our global leadership position in air traffic control.

The question before Congress is: What is the best approach to reform the provision of air traffic control in the United States? Before I give you my answer, let me provide some context.

The Global ATC Corporatization Trend

In 1987 the government of New Zealand shifted its ATC system out of the transport ministry and converted it into a government-owned corporation, paid directly by its aviation users. This was one of a series of government-wide reforms that included the corporatization of a number of government departments that provided direct services to various customers. The good performance of Airways New Zealand after it was corporatized inspired a wave of similar actions during the 1990s—including the creation of Airservices Australia, Nav Canada, and DFS (in Germany). Airways NZ was also the inspiration for Vice President Gore's reinventing government proposal for U.S. air traffic control, which resulted in legislation to separate our ATC system from the FAA as a government corporation dubbed USATS—U.S. Air Traffic Services. (Needless to say, that legislation was not enacted.)

¹ Letter to Chairman Bill Shuster from former federal aviation officials, Feb. 1, 2016

In the decades that followed, more than 60 countries have corporatized their ATC systems, and some of those new air navigation services providers (ANSPs) created an international organization called CANSO—a counterpart of ACI for airports and IATA for airlines. Of the 87 full members of CANSO as of last year, 51 are commercialized, defined as being self-supporting from fees and charges paid directly to them by their customers and regulated at arm's length by the government's air safety regulator. In 2001 ICAO called for the organizational separation of air safety regulation from ATC service provision, to increase transparency and avert conflicts of interest between regulators and providers.

Reviewing the nearly three decades of ATC corporatization, three common features apply to those that are commercialized:

1. Separation of safety regulation from ATC service provision;
2. Self-funding via customer charges, to ensure independence from government budgets; and,
3. Designed to operate as a customer-serving utility.

There are three different organizational forms among those 51 self-supporting ANSPs:

- Government corporation (Airways NZ, Airservices Australia, DFS, etc.)
- Private, for-profit corporation, with rate regulation (NATS)
- Nonprofit user co-op (ARINC, RAMSA, Nav Canada)

Those three alternatives are also found in various public utilities in the United States. In electricity, the for-profit/regulated model is most common, but we also have government utilities (e.g., the Los Angeles Dept. of Water & Power) and many hundreds of electric and telephone user co-ops. These three alternatives offer three different ways to deal with the monopoly status of those utilities. In the case of for-profit companies, external rate regulation is the standard model. Government utilities are presumed (not always accurately) to be operating in the public interest and have no external rate regulation. User co-ops are self-regulated, since the governing board consists of rate-payers and sometimes other stakeholders.

The very first (rudimentary) U.S. air traffic control was provided for several years by an airline user co-op called Aeronautical Radio, Inc. (ARINC). It operated that service until the government's Commerce Department took it over in 1936. ARINC remained in business providing air-ground communications for airlines and developing new avionics. After World War II, it also helped start ATC user co-ops for Cuba (RACSA) and Mexico (RAMSA), both of which were later taken over by their governments. Nav Canada is the largest and most successful ANSP organized as a stakeholder co-op (although it does not use that term).

ATC Corporations' Track Record

There have been about a dozen independent studies of the performance of corporatized ANSPs, during the past decade. The Government Accountability Office carried out a review of five corporatized ANSPs in 2005, finding that after the change, safety either

improved or remained the same; that costs were reduced and efficiency increased, and that investments were made in new technology.² The MBS Ottawa study, with support from three universities, compared before/after performance of ANSPs on seven key performance measures, including safety.³ Across the board, performance was either the same or improved. Academic researchers Oster and Strong published the first book on ATC corporatizations in 2007, generally finding them to be successful and drawing lessons for reform of the U.S. ATC system.⁴ The same authors did a report on the potential for U.S. ATC corporatization for the IBM Center for the Business of Government.⁵ More recently, the Congressional Research Service provided a good overview of issues involved in ATC corporatization, drawing on the track record from other countries.⁶ The MITRE Corporation published an assessment of arm's-length safety regulation of ANSPs in six countries and found that it worked well and that in no case would either the ANSP or the safety regulator want to return to the prior situation.⁷ And a second book-length study, which also found positive results from corporatization, was published in 2015.⁸

The U.S. ATC Problem

Broadly speaking, the problem facing the FAA's Air Traffic Organization is three-fold: inadequate and uncertain funding, a flawed governance model, and a status-quo-oriented organizational culture. These problems are inter-related, and in my study commissioned by the Hudson Institute, I concluded that the most serious underlying problem is the organizational culture.⁹ In that study, I compared the performance of the ATO and corporatized ANSPs in dealing with seven disruptive ATC innovations. In each case, the other ANSPs had acted far more like high-tech service businesses than our own ATO.

The question I then set out to answer was "why." Reviewing the case studies and interviewing ATC experts within and outside of the ATO, I identified five reasons for the ATO's status-quo culture:

1. Self-identity as a safety agency rather than as a business serving customers;

² Government Accountability Office, "Characteristics and Performance of Selected International Air Navigation Service Providers and Lessons Learned from their Commercialization," GAO-05-769, July 29, 2005

³ MBS Ottawa, Inc., *Air Traffic Control Commercialization: Has It Been Effective?*, January 2006 (www.mbsottawa.com)

⁴ Clinton V. Oster and John S. Strong, *Managing the Skies: Public Policy, Organization, and Financing of Air Traffic Management*, Ashgate Publishing, 2007

⁵ Clinton V. Oster and John S. Strong, "Reforming the Federal Aviation Administration: Lessons from Canada and the United Kingdom," IBM Center for the Business of Government, 2006

⁶ Bart Elias, "Air Traffic Inc.: Considerations Regarding Corporatization of Air Traffic Control," Congressional Research Service, CRS 7-5700, R43844, January 5, 2015

⁷ Dan Brown, Tom Berry, Steve Welman, and E. J. Spear, "CAA International Structures," MITRE Corporation, October 2014

⁸ Rui Neiva, *Institutional Reform of Air Navigation Service Providers: A Historical and Economic Perspective*, Edward Elgar Publishing, 2015

⁹ Robert W. Poole, Jr., "Organization and Innovation in Air Traffic Control," Hudson Institute, January 2014 (http://reason.org/files/air_traffic_control_organization_innovation.pdf)

2. Insufficient technology expertise;
3. Inadequate management expertise;
4. Excessive (but well-meaning) oversight—the “too many cooks” problem; and,
5. Lack of customer focus (i.e., seeking to please Congress more than its aviation customers).

All five factors were verified by an extensive set of peer reviewers convened by the Hudson Institute to review the draft of this report.

I concluded that the keys to fixing these problems were the following:

- Separate safety regulation from ATC service provision, to permit a technology-innovation culture to develop in the new ANSP, constrained of course by arm’s-length safety regulation.
- Change the funding system to that of airports and other public utilities, in which the customers pay the provider directly for using the infrastructure. This provides enough resources and the flexibility to recruit and retain top-notch technologists and program managers, as well as the ability to issue revenue bonds for large-scale modernization efforts, as airports and public utilities do.
- Shift the governance model from numerous outside overseers to a core group of stakeholders—those who use the ATC system (aircraft operators and passengers) as well as those who make it run (management and controllers).

These three features are best represented by the user co-op model of corporatization, of which our best example is Nav Canada.

Evaluating the Reform Proposals

This committee is faced with two reform proposals. One proposal, from Chairman Shuster, is to convert the FAA’s Air Traffic Organization into a federally chartered, nonprofit, self-funded ANSP with a stakeholder board. Ranking Member DeFazio’s alternative would exempt the Trust Fund from sequestration and annual appropriations, as well as mandating further FAA procurement and personal reforms. While these reforms are well-intended, experience suggests they will not do the job.

The ATC Corporation proposal meets all three of the criteria outlined above, and is consistent with global ATC best practice as it has evolved over the last three decades. For reasons I have explained, it would address all three problems plaguing the Air Traffic Organization: funding, governance, and culture.

The DeFazio alternative, by contrast, would keep air traffic control and air safety regulation within the same organization. There are several problems with doing this:

- It is contrary to ICAO principles set forth in 2001 and now adhered to by nearly all developed countries;
- It retains the current conflict of interest between regulation and service provision, which should be at arm’s-length from one another; and,

- It reinforces the identity of the ATO as part of a safety agency, rather than as a service delivery entity with external safety oversight, which leaves the status-quo organizational culture problem un-addressed.

A second problem concerns the funding change. The ATC Corporation would be paid for directly by its customers, like other utilities. That would create a customer/provider nexus that refocuses the organization's attention on serving its aviation customers. By contrast, the DeFazio alternative would retain funding via excise taxes paid to the government and parceled out to the ATO from the Trust Fund. Since these funds would still be federal tax money, all the existing federal oversight would remain, since the funds would still be *taxpayers'* money. The current set of ATC overseers includes OMB, GAO, the DOT Inspector General, the FAA Administrator, the DOT Secretary, and 535 Members of Congress. No one can manage a high-tech service business in the interest of its customers while having to report to that many overseers. Moreover, major investments in the ATC system would still have to be paid for out of annual cash flow, rather than using long-term financing via the bond market, as corporatized ANSPs (and U.S. airports) do.

Finally, I am dubious about further attempts at personnel and procurement reform, after reading two decades of GAO and Inspector General reports on the failure of previous efforts along these lines. We know that previous reforms of this kind have failed to address the underlying culture problem, while we have seen the transformation in country after country of former inwardly focused transport bureaucracies into customer-focused ATC service business. My engineering training tells me to go with what has been demonstrated to work, not with what has been demonstrated to fail.

Closing Comments

There are several factors that make the United States unique among countries when it comes to air traffic control. It has by far the largest airspace jurisdiction and the highest level of flight activity, both commercial and non-commercial. It has a larger and more-diversified general aviation community than any other country, which is valuable not only for recreation but for providing transportation access to numerous rural areas and small towns not served by commercial airlines. The United States also has the world's largest aerospace and avionics industries, with potential that is likely not fully tapped on a global basis, because our ATC system has lagged behind others in modernization.

These factors all need to be taken into account in considering corporatization. In terms of scale, two points are not fully appreciated. First, the ATO's current system is *already at the scale needed* for our vast airspace and high levels of flight activity. Changing the funding and governance of the ATO is not creating a new ATC system from scratch; it is simply providing a better way to pay for and manage *the system that already exists*. Second, there are significant economies of scale in ATC, such that the airspace with the highest level of flight activity can spread fixed costs over a larger customer base, meaning lower unit costs. The current ATO's productivity level is above average, but that of Nav Canada is significantly higher, despite Nav Canada's smaller airspace and much

lower overall flight activity. This suggests that better funding and management could and should lead to lower unit costs, thanks to increased productivity.

Any transformation of the ATO must also take seriously the valuable roles played by business and commercial aviation. Imposing significantly higher costs on those users, or not including them as stakeholders in the governance model, would be very ill-advised.

The promise of NextGen has yet to be realized in terms of significant improvements in routings, time saving, fuel savings, better performance despite bad weather, etc. To be sure, the NextGen Advisory Committee has demonstrated that a diverse group of stakeholders can work together to set near-term priorities. But the context for NAC's activities has been the need to perform *triage*—to decide which few bits and pieces of NextGen can be implemented given recent years' reductions in capital investment budgets, stop-and-start funding, mismatches in the timing of ATC system investments and aircraft equipage, etc. A self-funded ANSP focused on meeting its customers' needs offers the best hope of faster implementation of all those elements of NextGen that truly have sound business cases.

My assessment is that the ATC Corporation proposal meets these tests. It provides for arm's-length safety regulation, making possible the development of an innovative corporate culture. It would free the ATO from the constraints of the federal budget, with a reliable and bondable revenue stream at a level that makes sense from both an operations and a capital modernization standpoint. It provides for a carefully balanced governing board of aviation stakeholders, enabling serious focus on serving its aviation customers. It provides strong protections for current and future employees. It would exempt—by statute—direct user fees for piston GA and non-commercial turbine aircraft. It provides an appeal process for fees that a user considers unwarranted. And it includes mandates for continued access to the national airspace system for rural areas and small communities.

What impresses me most of all is who has declared in favor of this reform—aviation professionals who know the system inside and out. That includes the controllers and it includes all three former Chief Operating Officers of the ATO. Each of them tried very hard to run the ATO like a business. And each concluded that this was simply not possible given the constraints of being trapped inside a large, tax-funded bureaucracy. I take their judgments very seriously, and I hope you will, too.

This concludes my testimony. I will be happy to answer questions.

Postscript:

The late Glen A. Gilbert is remembered as the “father of air traffic control.” He helped set up the first ARINC centers, as an American Airlines employee in the mid-1930s. When the government took over ATC, Gilbert became its first controller, and remained there for most of his career. In retirement in the late 1960s, Gilbert proposed that the ATC system be separated from the FAA and converted into a federally chartered

nonprofit corporation similar to Comsat.¹⁰ So the idea of an ATC Corporation has a longer pedigree than many people realize.

¹⁰ Glen A. Gilbert, "Gilbert Offers ATC Master Plan," *American Aviation*, Dec. 23, 1968.