THE NEED TO REFORM THE FEDERAL AVIATION ADMINISTRATION AND AIR TRAFFIC CONTROL TO BUILD A 21ST-CENTURY AVIATION SYSTEM FOR AMERICA

(115–15)

HEARING

BEFORE THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE HOUSE OF REPRESENTATIVES

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May 12, 2017

SUMMARY OF SUBJECT MATTER

TO: Members, Committee on Transportation and Infrastructure
FROM: Staff, Committee on Transportation and Infrastructure
RE: Committee Hearing on "The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America"

PURPOSE

The Committee on Transportation and Infrastructure will meet on Wednesday, May 17, 2017, at 10:00 a.m. in 2167 Rayburn House Office Building to hold a hearing on the need for fundamental reform of the air traffic control (ATC) system. The Committee will receive testimony from the Inspector General of the Department of Transportation (DOT IG), the President of the National Air Traffic Controllers Association, a former Clinton and Obama Administration Official, the Director of Transportation Policy of the Reason Foundation, and the President of Hartzell Propeller.

BACKGROUND

The aviation system is comprised of a diverse community, including commercial aviation, general aviation, unmanned aircraft, airports, commercial space transportation, and others. Commercial and general aviation help transport millions of passengers and move billions in revenue ton-miles of freight safely and securely all across the country. Impacts are also seen state-by-state, where airports and air operators help connect large and small communities and create jobs and increase economic output.[1]

ATC services includes safely guiding aircraft between airports, supplying aeronautical information, and operating navigation and communications equipment. In the United States, ATC began as a private sector enterprise in the mid-1930s.[2] The federal government took over ATC in subsequent years and the process culminated in the creation of the Federal Aviation Administration (FAA) in 1958. Today, the FAA provides ATC services within the United States

[1] http://www.faa.gov/airports/planning_capacity/ga_study/
[2] Federal Aviation Administration. "A Brief History of the FAA." https://www.faa.gov/about/history/brief_history/

and certain international airspace.[3] Within that airspace, air traffic controllers handle approximately 50,000 operations daily.[4]

FAA's 35-Year Legacy of Failed ATC Modernization Management

The FAA's day-to-day operation of the ATC system is safe and, generally speaking, reliable. However, the ATC system is still predominantly based on antiquated technologies and procedures that are inadequate to support a modern aviation industry. The long-term growth and success of American aviation requires, among other things, an ATC system capable of meeting the dynamic needs of diverse airspace users and the timely and cost-effective deployment of innovative technologies that improve the safety and efficiency of the system. The FAA's stewardship of ATC system modernization has been one of waste, inefficiency, and mismanagement. There are decades of DOT IG audits, Government Accountability Office (GAO) reports, and independent third party reviews documenting the extraordinary waste of tax dollars and poor management of a continuous string of FAA "modernization" programs dating back to the early 1980s.

One of the FAA's early attempts at modernization was the Advanced Automation System (AAS). The FAA proposed AAS in 1983 with an estimated cost of $2.5 billion and a completion date of 1996.[5] By 1986, the GAO expressed doubts whether the benefits of AAS would exceed its costs and questioned the savings the FAA used to justify the investment.[6] By 1992, cost estimates rose to $5.1 billion and the completion date slipped to 2002.[7] In 1994, the FAA restructured the program because of "severe cost, schedule, and technical problems."[8] As a result, cost estimates rose to $7.6 billion and completion slipped to 2003. Of the $2.6 billion the FAA spent on AAS by 1994, computer hardware and software costing $1.5 billion was determined to have been "wasted."[9] In 1998, the DOT IG reported that AAS failed, "because of overambitious plans" and "poor FAA oversight of contractor performance. . ."[10] One participant in the AAS project was later quoted as saying, "[i]t may have been the greatest failure in the history of organized work."[11] The FAA Associate Administrator for Acquisitions stated that, "[w]e royally screwed up AAS, no doubt about it, in any way that a project could be screwed

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[4] Speech of FAA Administrator Michael Huerta before the Aero Club of Washington, "All for One, and One for All," Oct. 16, 2014, Washington, D.C., *available at* http://www.faa.gov/news/speeches/news_story.cfm?newsId=17554&omniRss=speechesAoc&cid=104_Speeches.
5 U.S. Government General Accounting Office, "Air Traffic Control: Advanced Automation System Still Vulnerable to Cost and Schedule Problems", Report No. GAO/RCED 92-264 at 1 (Sept. 1992).
[6] U.S. Government General Accounting Office, Testimony of Dr. Carl Palmer before the Subcommittee on Transportation and Related Agencies, Committee on Appropriations: "Federal Aviation Administration's Acquisition of the Advanced Automation System", No. GAO/T-IMTEC-87-4, at 6-7, (Apr. 21, 1987).
[7] *Supra* at footnote 5, Report No. GAO/RCED 92-264 at 1.
[8] U.S. General Accounting Office, Testimony of Gerald L. Dillingham, "Air Traffic Control: Evolution and Status of FAA's Automation Program", No. GAO/T-RCED/AIMD-98-85, at 1 (Mar. 5, 1998).
[9] *Id.* at 3.
[10] U.S. Department of Transportation- Office of Inspector General, "Audit Report: Advance Automation System", Report No. AV-1998-113, at 2 (Apr. 15, 1998).
[11] Edward Cone., "The Ugly History of Tool Development at the FAA", *Baseline*, (Apr. 9, 2002): http://www.baselinemag.com/c/a/Projects-Processes/The-Ugly-History-of-Tool-Development-at-the-FAA

up."[12] Throughout the program, FAA repeatedly assured Congress about AAS' progress; a Congressional staffer reported that, "[t]hey would say there were a few problems, but they were being worked out. Everything seems to be going well-- until it collapses."[13]

Today, the FAA is approximately 14 years into the development of its latest modernization initiative known as the Next Generation Air Transportation System (NextGen).[14] FAA initially described NextGen as fundamentally transforming how air traffic would be managed. In 2015, however, the National Research Council found that "NextGen, as currently executed, is not... broadly transformational" and that it "is a set of programs to implement a suite of incremental changes to the NAS [National Airspace System]."[15]

A key example of an oversold program is the Automatic Dependent Surveillance Broadcast (ADS-B) program. ADS-B provides air traffic controllers with the GPS locations of aircraft, which is more precise and timely than radar data. ADS-B was initially touted as a way to help free up congested airspace and enable more capacity. In 2010, the FAA issued regulations mandating most aircraft operators install ADS-B equipment by 2020.[16] However, far from providing congestion relief or reduced separation, in a 2014 report the DOT IG found that ADS-B will offer only limited benefits by 2020 and costs of the ADS-B program will outweigh benefits by as much as $588 million.[17] As it has become unclear what meaningful and cost-effective benefits ADS-B expenditures will result in, aircraft operators, already skeptical of the FAA's promises, are postponing installation of ADS-B equipment until the last minute.[18]

The FAA's management of ADS-B raises broader questions regarding how the FAA manages NextGen programs. For instance, the DOT IG has concerns with the FAA's practice of "divid[ing] its programs into multiple segments, and fund[ing] each segment for a set timeframe or number of milestones..."[19] The DOT IG points out that while this may minimize risk, it "...masks how much a program will ultimately cost by breaking program costs up by individual segments...."[20] In the intervening years between AAS and ADS-B, there are several other examples of the FAA failing to deliver on its capital-intensive technology promises.[21]

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[12] *Id.*
[13] *Id.*
[14] https://www.faa.gov/nextgen/
[15] National Research Council, David E. Liddle and Lynette I. Millett, Ed. "A Review of the Next Generation Air Transportation System: Implications and Importance of System Architecture", at 1 (2015)
[16] 14 C.F.R. §§ 91.225 & 91.227.
[17] U.S. Department of Transportation- Office of Inspector General, "Audit Report: ADS-B Benefits are Limited Due to a Lack of Advanced Capabilities and Delays in User Equipage." Report No. AV-2014-105 at 3, 9 (Sept. 11, 2014).
[18] John Croft, "General Aviation May Not Meet FAA ADS-B Mandate For 2020", *Aviation Week*, (Dec. 23, 2016): http://aviationweek.com/aerospace-2017/general-aviation-may-not-meet-faa-ads-b-mandate-2020
[19] U.S. Department of Transportation Office of the Inspector General, "Total Costs, Schedules, and Benefits of FAA's NextGen Transformational Programs Remain Uncertain", pp 6, AV-2017-009 (November 10, 2016); see also, Department of Transportation Office of the Inspector General, "FAA Reforms Have Not Achieved Expected Cost, Efficiency, and Modernization Outcomes", Report No. AV-2016-015, at 11-12 (January 15, 2016).
[20] *Id.* at 6.
[21] Edward A. Lester & R. John Hansman, Report No. ICAT-2007-2, "Benefits and Incentives for ADS-B Equipage in the National Airspace System", § 2.7.1 (Aug. 2007).

The Decline of American Leadership In ATC

Until the mid-1980's, governments around the world grappled with the same issues currently facing the United States. They had government-operated ATC services that were adequately functional and safe on a day-to-day basis, but were plagued with conflicts-of-interest, wastefulness, inefficiency, and long-term financing difficulties. In 1987, New Zealand took what was then a truly revolutionary step and created an independent ATC service provider separate from the safety regulator.[22] Countries around the world followed suit. Today, over 60 countries have successfully separated their ATC service provider from their government safety regulator. The United States is one of a handful of industrialized countries that has yet to do so.

The results of separating ATC have been quite positive according to multiple audits and studies over the years. In 2005, the GAO studied the experience of independent air navigation service providers in Australia, Canada, Germany, New Zealand, and the United Kingdom and found that safety "*remained the same or improved.*"[23] (emphasis added) The GAO also found that all five countries, "invested in and benefited from new technologies and equipment, which . . . lowered their costs by increasing controllers' productivity, and produced operating efficiencies, such as fewer or shorter delays."[24] These findings were affirmed in a 2008 study published in *Canadian Public Administration*.[25] The researchers found the separation of ATC improved service quality, reduced costs, and maintained financial stability with a neutral or positive impact on safety.[26] In 2014, the MITRE Corporation released a FAA-requested study about the effects of separating ATC on the safety regulatory agencies left behind.[27] The study found that separating ATC has been successful in each of the six countries studied: the United Kingdom, Canada, New Zealand, Australia, France, and Germany; and further found that there was unanimity among the safety regulators that separating out the ATC enterprise was "worth it".[28] The International Civil Aviation Organization has also recognized the potential for efficiency and performance gains by separating ATC from government in its guidance.[29]

While the United States used to be the unquestioned leader in aviation, FAA's inability to modernize ATC has put this leadership into doubt. ATC providers around the world are increasingly looking to Canada's independent ATC service provider, NavCanada, for its expertise in supplying and deploying the latest ATC systems.[30] NavCanada is also leading the effort to commercialize an American-invented technology to monitor air traffic from space

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[22] https://www.airways.co.nz/

[23] U.S. Government Accountability Office, "Air Traffic Control: Characteristics and Performance of Selected International Air Navigation Service Providers and Lessons Learned from Their Commercialization," Rpt. No. GAO-05-769, at 4 (Jul. 2005).

[24] *Id.*

[25] Glen McDougall and Alasdair Roberts, "Commercializing Air Traffic Control: Have the reforms worked?", *Canadian Public Administration*, Vol. 51, No. 1, pp. 45-69, (Mar. 2008)

[26] *Id.*at 68.

[27] Dan Brown, Tom Berry, Steve Welman, and E.J. Spear, "CAA International Structures", MITRE Product, MP140527 (Oct. 2014)

[28] *Id.* at 9.

[29] *ICAO's Policies on Charges or Airports and Air Navigation Services*, Doc 9082, at I-1, Ninth ed. (2012).

[30] http://www.navcanatm.ca/en/portfolio.aspx & Alan Levin, "Paper-Pushing Flight Controllers See Future in Canada's System", (Apr. 12, 2016) https://www.bloomberg.com/news/articles/2016-04-12/paper-pushing-flight-controllers-see-future-in-canada-s-system.

around the globe. In the meantime, the FAA remains unable to acquire and deploy that same technology.[31] Canada is not alone. The United Kingdom's NATS service provider also actively markets its expertise around the world.[32] The FAA, on the other hand, continues to focus its resources on its own customized systems, such as Standard Terminal Automation Replacement System (STARS) and its offshoots, which it began implementing in 1996.[33] The FAA is also working on its En Route Automation Modernization (ERAM) system. Sadly, FAA still requires manual handoffs by telephone of aircraft crossing the Northern border whereas Canadian controllers already have automated digital handoff tools.[34] Unless the United States changes course, it is plausible, or more likely inevitable, that American ATC will become a follower rather than the standard-setter in new ATC technologies.

FAA Personnel, Procurement, and Organizational Reforms Have Not Worked

While many opponents of separating ATC from the FAA call for "targeted" reforms of the FAA to address widely recognized problems, most of the reforms called for have already been tried and failed. Congress has attempted various legislative fixes starting in 1995, with reforms to FAA's acquisitions and personnel systems.[35] The results have not been encouraging. Between 1996 and 2012, the FAA's budget increased by 95 percent while productivity "decreased substantially."[36] FAA was freed from federal procurement and personnel laws, but developed processes very similar to and with the same bureaucratic red tape, as the laws they were freed from. With limited exceptions, the FAA's performance in procuring and managing the development and implementation of capital projects has not improved. In 1996, Congress required the FAA to develop a cost accounting system so it could measure its financial performance.[37] The FAA spent approximately $66 million on the systems, but does "not regularly analyze the operational and cost data generated to determine if it could reduce costs or improve productivity."[38]

CONCLUSION

Bottlenecks, failures, and inefficiencies in the ATC system cascade throughout the rest of the aviation system and broader economy. The cost is growing larger and more apparent each year. The mismatch between bureaucratic decision-making of a government agency and the business decision-making required to ensure the long-term success of ATC in the United States

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[31] https://aireon.com/news/

[32] "NATS and JANS strengthen relationship with formal agreement", Mar. 8, 2017, http://www.nats.aero/news/nats-jans-strengthen-relationship-formal-agreement/ & "Redesigning airspace in the UAE." (undated): http://www.nats.aero/news/projects/redesigning-airspace-in-the-uae/

[33] *Supra*, footnote 19, Report No. AV-2016-015, at 11.

[34] Aaron Karp, "NATCA president: FAA falling behind on ATC technology", *Air Transport World*, Aug. 24, 2016.

[35] *Department of Transportation and Related Agencies Appropriations Act, 1996*, Pub. L. 104-50, 109 Stat. 460, § 347(a) (Nov. 15, 1995); *Federal Aviation Reauthorization Act of 1996*, Pub. L. 104-264, §§ 253 & 276, (Oct. 9, 1996); *Wendell H. Ford Aviation Investment and Reform Act for the 21st Century*, Pub. L. 106-181, § 303, (Apr. 5, 2000), *FAA Modernization and Reform Act of 2012*, Pub. L. 112-95, § 204, (Feb. 14, 2012).

[36] *Supra* footnote 19, Report No. AV-2016-015 at 2, 5.

[37] *Federal Aviation Reauthorization Act of 1996*, Pub. L. 104-264, § 276, (Oct. 9, 1996).

[38] U.S. Department of Transportation Office of the Inspector General, "Assessment of Cost Accounting System and Practices- Federal Aviation Administration", Report No. FI-2008-045, at 1 (Mar. 21, 2008); *Supra* footnote 19, Report No. AV-2016-015 at 10.

cannot be reconciled through further legislative reforms of the FAA. The proven and demonstrably successful approach of separation from government is the only approach to ensuring America's long-term leadership in aviation.

WITNESS LIST

Hon. Calvin Scovel, III
Inspector General
U.S. Department of Transportation

Mr. Paul Rinaldi
President
National Air Traffic Controllers Association

Mr. Robert Poole
Director of Transportation Policy
Reason Foundation

Ms. Dorothy Robyn
Former Special Assistant to the President for Economic Policy

Mr. Joseph W. Brown
President
Hartzell Propeller, Inc.

THE NEED TO REFORM THE FEDERAL AVIATION ADMINISTRATION AND AIR TRAFFIC CONTROL TO BUILD A 21ST-CENTURY AVIATION SYSTEM FOR AMERICA

WEDNESDAY, MAY 17, 2017

HOUSE OF REPRESENTATIVES,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
WASHINGTON, DC.

The committee met, pursuant to notice, at 10:04 a.m. in room 2167, Rayburn House Office Building, Hon. Bill Shuster (Chairman of the committee) presiding.

Mr. SHUSTER. The committee will come to order.

I now recognize Mr. LoBiondo for a motion.

Mr. LOBIONDO. Pursuant to rule 1(a)1 of the rules, Committee on Transportation and Infrastructure, I move that the chairman be authorized to declare recess during today's hearing.

Mr. SHUSTER. The question is on the motion.

All those in favor, signify by saying aye.

All those opposed, signify by saying nay.

In the opinion of the Chair, the ayes have it, and the motion is agreed to.

I want to thank everybody for being here today. This is an important hearing we are having here today and talking about some, what I consider to be, extremely important legislation. And I believe everybody on the committee, both sides of the aisle, believe that the reauthorization of the FAA, reforming it to making it a better system for all Americans, is extremely important to all of us.

The way America travels, moves goods, and conducts business today depends on an efficient transportation network. And in order to remain competitive, we need a 21st-century infrastructure with modern, 21st-century technology.

This is especially true of our aviation system, but the fact is the FAA's infrastructure is increasingly obsolete, and its technology is still cemented in the last century. And to just quote my colleague, my esteemed colleague from Oregon, in a hearing we had not too long ago, he said that "The FAA is the only agency of Government worse at procurement than the Pentagon." Congress has tried to reform it. It didn't stick. We have got to try something different to get it to be more agile, to give us the 21st-century equipment and software we need.

Then there is the issue of the actual sort of shape of the FAA bureaucracy. Congress, back in 1986, gave the FAA the license to reform personnel practices to deal with some of the mid-level man-

agement bulge and to streamline the agencies and decisionmaking process, but that didn't take either.

And he goes on to propose a 21st-century, constitutionally chartered corporation in order to accomplish these goals and make it self-funding, self-sufficient, and not subject to appropriations or shutdowns or anything else that a Congress might imagine.

Now, I think that we can see by that statement, and I think as we talk here today, we agree there is a problem. There is a solution at hand. It is just the forum that we are going to debate vigorously on what we think is the best outcome. But as a result, over these past 30 years, the shocking amount of taxpayer dollars that we have wasted over the last 3½ decades, over $50 billion, and that is why this is one of my highest priorities this year is a comprehensive FAA reform and reauthorization bill.

So far this year we have held reauthorization hearings looking at air transportation, manufacturing, airports, and new entrants and innovations. Today we will focus on the need for air traffic control reform, divesting the high-tech service, 24/7 service business, from Government and shifting it to an independent, not-for-profit entity.

It is appropriate we are holding this hearing during Infrastructure Week. No other single infrastructure reform has as much potential to improve travel for the average American flyer or to ensure our hard-earned leadership in aviation.

Although our aviation system is safe, the FAA's structure and how air traffic is managed have been broken for decades. The decisions we make in the FAA reauthorization bill this year will either move us toward a 21st-century aviation system America needs or doom us to repeating the failures of the past over and over again.

Everyone should be reminded of what happens if we choose the status quo. It means our system will be subject to more budget constraints, sequestration, and threats of Government shutdowns. Sequestration isn't gone. In 2013, sequestration led to furloughs and reduced operations, controller hiring and training suffered, and the FAA bureaucrats tried to shut down contract towers.

Fiscal constraints continue to be tight—so is the Federal budget—and that is not going to change anytime soon, and it may get worse. We continue to rely on the unstable, dysfunctional annual appropriations cycle. We have had no stand-alone transportation appropriations bill since 2006, and over that time period Congress has passed 42 continuing resolutions to keep Government doors open.

The FAA also relies on authorizing legislation, and it took Congress 23 short-term extensions over 5 years before it passed the previous long-term FAA authorization bill.

Under these conditions, the FAA bureaucracy has been trying to undertake a high-tech modernization of air traffic control systems for over three decades. It is not working, and it is never going to work. Sadly, in today's digital age, our controllers still manage planes with paper strips, which of course I have brought a few to remind people of that. And if anybody hasn't been in a control tower, they ought to go into a control tower and see it.

Some argue that the latest attempt to modernize—NextGen—is showing some signs of progress, but we all know any progress is

incremental at best, and only in locations where the FAA partnered with the private sector. And let's remember, the name "NextGen" was really just a rebranding of the FAA's ongoing, failed efforts to modernize the system. "NextGen" is just a marketing term, not an actual technology or innovation, but it sounds catchier, so Congress will fund it year after year.

But the bottom line is there should be far more progress by now. Money has never been the problem. Congress has provided more than $7.4 billion for NextGen since 2004. Results are the problem. According to the FAA's own calculations, the return on the taxpayers' $7.4 billion investment has only been about $2 billion in benefits. And we have still got a long way to go.

According to the DOT inspector general in 2014, the projected initial cost for NextGen was $40 billion, but they have said it could double or triple and be delayed another decade. Over the years, the FAA has described NextGen as a transformation of America's air transportation network. They also said it will forever redefine how we manage the system.

But in 2015, the National Research Council confirmed what was already becoming painfully clear. According to the NRC, the original version of NextGen is not what was being implemented. It is not broadly transformational, and it is not a fundamental change in the way the FAA handles air traffic. Only in the Federal Government would such a dismal record be considered a success.

While the FAA continues to fall behind, the rest of the world is moving on, with new technologies, without the United States involvement. Nothing less than America's leadership is at stake in an industry that we pioneered and have led since Kitty Hawk.

Some have proposed targeting reforms to fix the FAA's problems, but that is an approach we have already tried many, many times, starting in the 1980s. Since 1995, Congress has passed various reforms to allow the FAA to run more like a business.

Procurement reform in 1995 for the FAA to develop a more flexible acquisition management system. Additional reforms in 1995 exempt the FAA from most Federal personnel rules and allowed the FAA to implement more flexible rules for hiring, training, compensating, and assigning personnel. Procurement reforms in 1996 developed a cost accounting system.

Additional personnel reforms in 1996 allowed FAA to negotiate pay. Organizational reforms in 2000 to establish a COO position. Additional reforms to allow greater pay so the FAA could recruit good candidates, particularly for a COO position. Additional reform in 2000 by the Executive order to create the Air Traffic Organization.

Organizational reforms in 2003 to establish the Joint Planning and Development Office to better coordinate NextGen. Reforms in 2012 to establish a chief NextGen officer. Property management reforms in 2012 to allow a better process for realignment and consolidation of facilities.

All have failed to result in the FAA being run more like a business. The FAA has always performed like a massive bureaucracy and will continue to. It is the only DOT agency that serves as both transportation service provider and safety regulator. Regulating itself is an inherent conflict of interest, and separating the two

functions is simply good Government. It is time for reform that is truly transformational.

Real change can be difficult—we have learned that over the years—but the broader lesson over the last several decades is that the true risk lies in doing nothing. Last year's bill that passed out of committee will serve as a framework for new legislation, but we are open to change. We want to talk to people and get their ideas, and that is what we hope to hear today.

As we continue to move forward, our air traffic control reform proposal will be based on the following principles. Create an independent, not-for-profit corporation to provide air traffic services. Fund the new service provider by fees assessed for air traffic service. Free the new service provider from governmental dysfunction, political interference, and the uncertainty of the Federal budget process.

Create a governance structure that is right-sized and balanced, and a board with sole fiduciary responsibility to the organization. And I need to repeat that: fiduciary responsibility. That is a legal term. If you are on a board of directors in the United States, and you have the fiduciary responsibility, it is not to who appointed you to the board; it is to the board. It is to that organization is who you are responsible for, and that is the law. That is just not some pie in the sky. People can be removed and be prosecuted if they are not doing their fiduciary responsibilities.

Ensure connectivity, access to the airspace, and the continuity of air services for general aviation, small and rural communities, and airports that serve them. And let me for the record remind people, I am from a rural district. I have one very small airport. I doubt I have more than a handful of people that work for the airline industry, but I have several hundred GA pilots.

So if anybody thinks that I want to harm the GA or rural communities, they just don't know who I am and where I am from because I am committed to make sure what we do protects small and rural communities and protects the GA community. The GA community is over a $1 billion industry. Why in the world would I want to harm an industry that produces so much good for this country?

We want to ensure full access to airspace and air services to support our armed services and their national security mission. Free the air traffic control business from the FAA's bureaucratic procurement process and the appropriations cycle. End the Federal Government's decades long pattern of costly, delayed, and failed management of modernization. Give the new service provider the ability to access financial markets, leverage private funding for multiyear capital projects needed to modernize the system.

Allow the FAA to focus on its safety mission and certification mission. Ensure continued oversight of the air traffic services by the FAA, DOT, and Congress.

And, of course, lots of people are out there saying that that is not what we are going to do, but let me be clear: the FAA, the Department of Transportation, and Congress will still maintain vigorous oversight to the airspace of this country and ultimately allow all users of the system, including airline passengers and the general public, to realize the significant benefits of a modern air traffic con-

trol system, including decreases in delays, flight times, and congestion.

Previous efforts to reform the FAA and modernize the system teach us that the only way to realize these benefits is to get the Government out of the way. As President Ronald Reagan said, "Government is not the solution to the problem; Government is the problem." And we see all over the world people turning to the private sector, whether it is Europe or it is Asia, Australia, New Zealand, Canada, look around the world. Countries, governments are looking to partner with the private sector because they see they do it better.

Since the introduction of the AIRR Act [Aviation Innovation, Reform, and Reauthorization Act] over a year ago, this has been an ongoing process of education and discussion. We have held over 130 meetings with stakeholders, including both supporters and opponents of the AIRR Act. We have had numerous meetings with Members of the House, the Senate, the White House, and other committees. These meetings have been extremely productive and given us new ideas to improve the legislation.

As I said, I want to hear the same thing from today's witnesses. What are your ideas that we can build upon on the principles that I have outlined? We have also gone to Canada to see their system firsthand, and we will go again with more Members. And I would encourage any Member that wishes to go on May 25, Thursday, in the afternoon, we will be heading up to Canada and coming back on May 26 to, again, go up there not so we can imitate their system but to learn from the lessons of their system, to learn to help to fix our own broken structure.

Over 60 countries have followed this kind of reform, and it has worked in each case. Opponents of reform either ignore the evidence or must believe we are less capable than the other 60 countries, and for me that is a bit outrageous. We are the United States of America. We can do this. We can do this better than anybody else. So it is time for us to take a look and to move forward.

Air traffic control is not inherently a governmental function. It is a 24/7 technology service. For those who worry that the system is too complex, I would say this. The most complex thing in the airspace is not the air traffic control system; it is the airplane. It is the people at Boeing and Airbus and Cessna and the people that build these aircraft. That is the most complicated thing in the system.

And the FAA already oversees those highly sophisticated private sector aircraft manufacturing, maintenance, and flight operations at arm's-length. We don't build airplanes today; the Government doesn't, and that is the most complex thing in the system.

Overseeing air traffic control is not going to be more complicated than anything else the FAA already does. This transformational reform will fix our obsolete and dysfunctional air traffic control structure, move beyond the wasteful, inefficient status quo, and benefit all of the users of the system.

Ultimately, reform will give the American flyer a safe, efficient, aviation system, using 21st-century technology to ensure more on-time departures, more direct routes, using less fuel, which will be better for the environment, and less wasted time on the tarmac.

Ladies and gentlemen, again, I thank the witnesses for being here. And with that, I will yield to the ranking member for an opening statement.

Mr. DEFAZIO. Thank you, Mr. Chairman. Jim would have been proud. That is the longest opening statement since former chairman Jim Oberstar, but you only did it in one language. So we could have—we could add a simultaneous translation perhaps.

Thanks for the time, Mr. Chairman. First off, I spent about over an hour with Dr. Dillingham from the GAO, who I would say is the foremost expert and the longest term critic of the FAA, its procurement process, and movement toward a 21st-century system. And I am not aware that any other member of the committee has spent that time with him, and he has not been invited to testify.

He has a different story to tell today, and he thinks it will be a mistake—and I am paraphrasing—but we are now on the cusp of a 21st-century system that will be the envy of the world. And he and other experts—MITRE Corporation, others—say a massive change now, where you cleave the FAA into parts, you leave the most vital thing to our manufacturers' certification, subject to appropriations, sequestration, and shutdowns.

You leave the most vital thing that is important to the American public, which is safety and oversight of safety, subject to sequestration, shutdowns, and political meddling. The only thing that gets moved is the ATO, and the ATO would be moved and essentially effectively controlled by the airlines. I note the airlines aren't here today, perhaps because they haven't looked so great recently in public, and I would also note that the airlines themselves have had outages 36 times, major outages, 36 times since 2015.

I am not aware that the national air traffic control system has had a major disruption, with the exception of deliberate sabotage by a contractor who knew how to get the system and the backup system. But the airlines, on their own, with no sabotage, have managed to melt down their dispatch and their reservation systems 36 times, stranding millions of people, so they can do it better. Right? That is an interesting question.

So I think that members of this committee that want to be educated on this should take—and maybe we can invite them in here and spend that hour with Dr. Dillingham and hear the story of how things have changed and the progress we are making and the potential for disruption at this point in time.

In terms of funding, the FAA is currently projected over the next decade to be 97 percent self-funded. Unfortunately, the way our colleagues around here and the budget process works, despite the fact they are self-funded, they can be sequestered or shut down. That is a simple, simple fix. Take it off budget; make it into a trust-funded program. They are raising the revenues. That is a simple fix.

No, we are going to cleave it in half, put vital functions over here, still subject to sequestration and shutdown, and take this one part and put it over here and say somehow they are going to self-fund.

Now, the question of course is, how are they going to self-fund? The airlines have told me time and time again they hate the ticket tax, they hate the ticket tax. They say, "That is our money."

I say, "No, it is not your money. I buy a ticket, I pay the tax, the tax goes to the Government. It is not your money."

They say, "No, no. That affects the price of the ticket, and competition and everything else. It is a horrible thing."

So if they do away with the ticket tax, there goes 70 percent of the revenues. What are they going to put in its place? It is going to be a per operation charge, or something. We don't know. Congress will have no say over this.

Now, there will be a board, if I could have that slide, and a construct which is—we will show here—for the person running the slides, if you could put up this slide, please. And this is the new construct. Anything that affects competition will go through this process. The board makes a decision about a new approach, a new route, new fees.

All that goes through this process and then goes to the Secretary. The Secretary will have established a large, new office of consultants within his, or at this point her, office who will advise the Secretary, he will have a limited period of time, and if the Secretary and the board disagree, they go to court. Now that is a great way to deal with new approaches, funding, and a whole bunch of other things.

Congress will have nothing to say about what people or the American people are charged for running this system. When the ticket tax goes away, what happens to the AIP [Airport Improvement Program]? What happens to safety? What happens to certification?

We had testimony from a gentleman in here who has an intriguing new model to serve small and mid-sized cities. And he said his biggest problem is certification, and he said people are good at the FAA. There aren't enough of them doing certification. They don't have enough funding.

Well, is this new enlightened board going to generously fund that also? We have assurances, "Don't worry about those things." You can put that down now.

Now, we have heard other things here that are, you know, an interesting construct, which is we are way behind because we don't use ADS–B [automatic dependent surveillance-broadcast]. If I could have the first slide, please. Can we get a slide?

OK. This is the oceanic airspace, and you will notice that a vast majority of the planes are in oceanic control by U.K. and Canada. So they are using ADS–B. Makes sense. Now, we are not. Currently, airlines pay, to have satellite-based navigation, a fee in this low part of the chart. There aren't that many because people do the loop to the north.

So, in fact, you know, we have—NAV CANADA has one aircraft in continental airspace for every aircraft in oceanic airspace. We have 1 aircraft in oceanic airspace for every 51 in the air over the United States of America.

Now go to the second slide. Oh, by the way—yes, go to the second slide. Now, see all that yellow? That is the U.S. That is going to be totally ADS–B, satellite-based, in 2020, with an exception.

The airlines have petitioned and been given permission from the FAA for exceptions because many of their older planes do not have modern enough GPS systems to use the new ADS–B. The airlines,

again, have petitioned that they have a number more years before those planes would be able to use the ADS–B system—not the FAA, the airlines themselves.

Now, Canada is going to continue to have a radar-based system because they don't have much domestic traffic. And so we are being criticized because we won't pay a bunch of money for the few planes that use our oceanic airspace, but we are going to put, you know, 100 times that many plans under ADS–B in 2020.

Now, here is my fear. My fear is there were disruptions in Canada, there were disruptions in Great Britain, including the bankruptcy of the system, and a bailout, and, you know, every system that has transit, and all the others in the world have gone to Government-based corporations or Government-controlled corporations.

And there are only two countries that have gone the other way. And MITRE has done studies; others have done studies. There will be a period of disruption, particularly when you are cleaving the agency in half, and the certification people over here who have to certify the new approaches, who have to certify the new equipment, oh, they are on furlough because the stupid Congress did another shutdown or sequestration. Oh, but the ATO is up and running. Well, you can't use those new approaches because the people over here who have to certify it can't work.

Now, splitting this agency in half does not make sense to me. Now, the chairman talked about the failed reforms. I sat down with the FAA Administrator, who also has not been invited to testify before this committee on this subject, who I think has made tremendous strides and brought the agency way under control compared to anyone else in recent history.

And he said, well, they failed because Congress failed to say that the trolls at OMB and the Secretary couldn't meddle. So the proposed reforms didn't go forward because OMB took control, as they do over too many things, and then the Secretary messed with it and they ended up with a system—I know, Mr. Poole, you find this amazing, you know, but, you know, that is the way it happened, and these did not go forward.

So, simply, you can just say we are going to give authority to reform procurement, we are going to give authority to reform personnel, to the head of the FAA whose proposals will not be subject to OMB because they are now self-funding, and will not be subject to meddling by the Secretary of Transportation and her staff. That would be a significant way to get there. Put it off budget.

It is already raising the revenue it needs, but, no, we are going to have a new corporation that is going to figure out a different way to raise revenue, and, oh, by the way, forget about safety, forget about certification. They are afterthoughts over there in the Government, not funded by any stable source.

I have invited a witness today, and I hope people listen carefully, Joe Brown. He is the president of Hartzell Propeller. His family has been involved in the aviation business since the Wright Brothers, actually.

It is an interesting story, but he won't have a chance to tell that today because I want him to focus on his experience, both in that industry and as a pilot, and to talk about what he sees as the things that are at risk as a pilot, a GA pilot in this country, and

things that we have done that are extraordinary for GA pilots that would be at risk in a new system because, why would the commercial airlines give a darn about all those GA airports and all those new, improved approaches and updating those, because that costs money and that is not in their interest. They don't use them. They don't care.

So we will hear from him, and I think his testimony is going to be a little more compelling than a couple of think-tank people that we are going to hear from yet again and again and again. But we haven't heard from the FAA Administrator, we haven't heard from Dr. Dillingham, but Ms. Robyn is here for the second or third time, and Mr. Poole for the umpteenth time from his wonderful right-wing think-tank.

So that is what we have before us, Mr. Chairman. I do think there are things we could agree upon, but, you know, I do not believe that privatizing the ATO is the answer.

Thank you.

Mr. SHUSTER. Well, I thank the gentleman. You almost equaled my opening statement. You were 2 minutes short. But, look, this hearing is going to be about—it has to be about knocking down things that just aren't true. What Mr. DeFazio puts up on his chart, it is not my proposal. I don't know whose proposal it is. It may be Mr. DeFazio's proposal, but it is not mine. And let me just start off. To undermine the whole thing, start at the very, very top. It says on his chart if they decide to increase passenger aviation taxes, they cannot—they cannot—this new entity cannot increase taxes. They don't—under law, they cannot do that.

Second, it says the corporation decides to change—let me finish with that.

Mr. DEFAZIO. Are we having a debate, or are we having a hearing?

Mr. SHUSTER. Well, we are going to have a debate, I think. The only person that can raise taxes is the United States Congress. So that is patently false.

The second thing at the top is the corporation decides to change ATC safety procedures. That can't happen. They have to come back to the regulator, to the FAA. So, again, I don't know whose chart this is. It is certainly not my chart. So as we move forward, I hope folks——

Mr. YOUNG. You might want to call that fake news.

Mr. SHUSTER. I don't want to go there. I don't want to go there.

And just one other point that the gentleman said, Congress—he said Congress and OMB failed. He is absolutely right. He is making my case. We have to take this out of the Congress, out of the OMB, stopping the way they operate. It is crazy. But, again, I am concerned that he is taking it all out. Will there be any oversight in his new idea of how to run it?

But, again, this chart, the chart that he put up there, that is not my chart. So, ladies and gentlemen, I have got to be very clear on that.

Mr. DEFAZIO. Mr. Chairman, if I could rebut for 1 minute.

Mr. SHUSTER. You certainly can.

Mr. DEFAZIO. Thank you, Mr. Chairman. They can set user fees. User fees I consider to be taxes. I consider the ticket tax to be a

user fee, but we can argue semantics over that. But they are going to determine how the system is funded, which is tantamount to taxation without review by the Ways and Means Committee or Congress.

And, secondly, I am not proposing—I am proposing to give the FAA Administrator that authority free of OMB and secretarial interference, and also we would give them a budget that is free from sequestration and shutdowns through their own funding mechanism. Congress would set the funding, if it needs to be adjusted. Congress could intervene if they felt the reforms weren't warranted, unlike in your privatized system.

Thank you, Mr. Chairman.

Mr. SHUSTER. I thank the gentleman, and we will now go to our witnesses. I would like to welcome again our panel. I believe everybody has testified before us before on at least one occasion, or maybe a few.

First, the Honorable Calvin Scovel III, the inspector general of the United States Department of Transportation. He has been here many times.

Joseph W. Brown, the president of Hartzell Propeller, Incorporated. I believe you testified in 2014, so this is your second time here.

Mr. Robert Poole, director of transportation policy at the Reason Foundation, who has been thinking deeply about this subject for many years.

Mr. Paul Rinaldi, the president of the National Air Traffic Controllers Association, who has been before us before.

And Dorothy Robyn, the independent policy analyst and former Clinton administration official, who, again, has been through the wars on this many, many times, and we appreciate you being back here to look at your insights.

So, again, I look forward to hearing your testimony. I ask unanimous consent that our witnesses' full statements be included in the record. And without objection, so ordered.

Since your written testimony has been made part of the record, the committee would request that you limit your oral testimony to 5 minutes.

And with that, Mr. Scovel, you may proceed.

TESTIMONY OF HON. CALVIN SCOVEL III, INSPECTOR GENERAL, U.S. DEPARTMENT OF TRANSPORTATION; JOSEPH W. BROWN, PRESIDENT, HARTZELL PROPELLER, INC.; ROBERT W. POOLE, JR., DIRECTOR OF TRANSPORTATION POLICY, REASON FOUNDATION; PAUL M. RINALDI, PRESIDENT, NATIONAL AIR TRAFFIC CONTROLLERS ASSOCIATION; AND DOROTHY ROBYN, INDEPENDENT POLICY ANALYST

Mr. SCOVEL. Chairman Shuster, Ranking Member DeFazio, members of the committee, thank you for inviting me to testify on FAA's efforts to implement reforms and modernize the National Airspace System. My testimony today will focus on OIG's past and ongoing work regarding FAA's efforts to implement various agency-wide reforms, as well as its progress and challenges with NextGen.

Mr. SHUSTER. Can you pull the mic a little closer to you?

Mr. SCOVEL. Yes, sir.

Mr. SHUSTER. Don't be afraid of it.

Mr. SCOVEL. While my office does not make policy recommendations, I will also discuss how other countries have structured their aviation systems and highlight key factors that policymakers may wish to consider in evaluating FAA's structure.

Over the last two decades, FAA has made several reforms in response to congressional mandates to improve operations, cost effectiveness, and management. These include establishing new employee compensation systems, as well as an acquisition management system. FAA has also undertaken multiple reorganizations to improve the agency's efficiency and reduce expenses.

In addition, FAA achieved more than $2 billion in cost savings over a 13-year period by outsourcing flight service stations.

Despite this progress, FAA's reforms have not achieved their intended cost or productivity outcomes. Instead, budgets have increased, with a 35-percent increase in FAA's total budget after adjusting for inflation between fiscal years 1996 and 2015.

In addition, FAA's productivity initiatives for its air traffic controller workforce have not yielded improvements, in part because FAA did not establish measurable productivity and cost goals or metrics.

FAA's reforms have also fallen short in improving its ability to deliver key NextGen technologies on time and within budget. This is due to longstanding management weaknesses, such as overambitious plans, unreliable cost and schedule estimates, unstable requirements, and ineffective contract management. For example, FAA has made progress with its six NextGen transformational programs, such as installing the ground system for ADS–B. However, FAA has not determined when the programs will start delivering benefits or how they will improve the flow of air traffic or controller productivity.

Although FAA currently estimates the six projects at $5.7 billion, their total costs and completion dates remain unknown, in part because their requirements continue to evolve.

Furthermore, weaknesses with internal controls and oversight problems have hindered FAA's contract management, which we found in our reviews of sole source, service support, and small business set-aside contracts. To its credit, FAA has worked with industry to identify and launch some of the highest priority NextGen capabilities. For example, a key priority is performance-based navigation, or PBN, which allows more fuel-efficient aircraft routes and reduces airport congestion.

FAA fully deployed these procedures at the northern California metroplex in 2015, well ahead of schedule. FAA has also deployed new technologies at some airports to enhance controller-to-pilot data communications and runway operations, yet many risks remain to complete these and other NextGen priorities, and full benefits for users remain years away.

Key challenges include addressing community noise concerns with PBN routes, resolving avionics issues, and integrating complex, onboard systems and controller technologies.

As Congress, the administration, and stakeholders consider FAA's structure, other nations may offer a helpful comparison. At the request of this committee, we reviewed the aviation systems of

Canada, France, the United Kingdom, and Germany. All four have separated their safety and oversight functions, which remain Government-controlled, from the air traffic control functions.

Air traffic control has been commercialized—their term—into air navigation service providers via various organizational structures. These providers finance their operations through user fees, and may finance their infrastructure and modernization efforts with long-term bonds and other debt instruments. They also embark on smaller modernization efforts and roll them out incrementally using a variety of methods, such as modifying commercial off-the-shelf products.

Yet, any discussion on FAA's structure should consider our Nation's unique characteristics. As you know, the U.S. runs the busiest and most complex aviation system in the world, with more operations each year than the other four nations combined. Safety, financing, and labor issues will also be key questions.

Ultimately, safety will remain the top priority in overseeing our National Airspace System. Regardless of what the future looks like, strong controls and oversight will be vital to maintain a safe, innovative transportation system.

This concludes my statement, Mr. Chairman. I look forward to answering questions you or the committee may have.

Mr. SHUSTER. Thank you, Mr. Scovel.

And with that, Mr. Brown, you may proceed.

Mr. BROWN. Chairman Shuster, Ranking Member DeFazio, members of this committee——

Mr. SHUSTER. You can bring your mic closer. Get right up close to it because then we can hear you better. We want to make sure——

Mr. BROWN. Is this better?

Mr. SHUSTER. Better.

Mr. BROWN. Chairman Shuster, Ranking Member DeFazio, and members of the committee, I would like to thank you for inviting me here today. My name is Joe Brown, and I come today as a businessman and a pilot. I also represent a company called Hartzell Propeller, a 100-year-old aviation business whose roots trace to the Wright Brothers.

Located in rural Ohio, we do our business out of a 4,000-foot runway that takes us all over this country to our customers, in Texas and Florida and Georgia and Minnesota, and everywhere in between. Because our customers build airplanes, they are around airports. Our business depends, and their business depends, on the amazing infrastructure that the citizens of this country have put into the national airspace.

And we also depend on another thing, which is the incredible freedom to fly that we enjoy in this country. And because of those things, we have made a market in this country like no other for aviation, and we are very grateful for that and deeply invested.

Now, as a pilot, 400 to 500 hours a year my office is the cockpit. And when I fly, I find a modern system, a high-functioning system, and I have seen it evolve over time right before my eyes. I find controllers that do their job well. I find easy access and powerful technology.

I can file a flight plan from my smartphone and get my proposed route, back before I get to the airport, in a text. When I take off, I have GPS navigation systems on board that allow me to fly point-to-point all over this country. A couple of months ago, I took off out of the Dallas/Fort Worth metro area and got cleared direct to Burlington, Vermont, 1,300 miles ahead.

And while I am flying, I have the veil of safety brought to you by ADS–B which is, in fact, deployed, giving me traffic callouts and separation cues and weather in my route of flight. And when I come in for landing, I can pick from 3,000 precision approaches brought to me by a NextGen feature called WAAS [Wide Area Augmentation System], including at my home airport, which I value tremendously on foul weather days.

So the bottom line for me is, NextGen is working. It works for me every day, and it is getting stronger all the time. And from a technology standpoint, I believe we are on the right track.

It is proper to ask in modernization, where should we go next? Many are arguing that what we should do is spend the next 5 to 7 years focusing on the structure and the governance of our Air Traffic Organization. I don't like that risk profile. I don't think we should be distracted.

As a businessman, I think that what we will find is that we will raise more questions than we can answer, questions that don't have clear answers, and questions that will burn up precious time trying to answer, like how will we assure equity among users, and how will we finance this organization, and what borrowing risk can it take.

And what about new market entrants; how do they fit into this picture? And that doesn't even address whether the people are better served by the structure after we transfer so much national wealth to it.

Because I am a business guy, I get to evaluate a lot of companies, and I have bought several. And we have a simple framework when we are looking at an investment. We say, what are its strengths? Can they be leveraged? Do they differentiate it in the business we are trying to do? And what are its weaknesses, and do we understand those weaknesses, and can we fix them?

And when both of those things are true, we buy that company because we know if we elevate strengths and reduce weaknesses that we will create value. And in my calculus, the ATO presents exactly that risk profile—enormous strengths, world-class systems, and very specific weaknesses that we can address.

The conclusion I have drawn is that we should not spend 5 to 7 years distracted by change, knowing that things take longer and cost more, with the hope that at the end this restructuring journey will deliver a big payoff.

What is next? I think that we should stay on track with the technology plans that the NextGen Advisory Committee and the FAA have agreed to. The stakeholders are already aligned, and the technology that is in the field works, and there is more technology coming.

Let's keep tuning and strengthening the collaboration that has been driving so much progress. Even Government overseers recognize that the NextGen Advisory Committee is having impact, and

it has been run by an airline executive, so clearly the strongest voice is setting the priorities.

Let's expand on the technologies that are already deployed. For example, DataComm is in the field today at 55 towers in the country and will be delivering en route services to aircraft by 2019. NextGen is deployed and getting better all the time, but let's tackle specific weaknesses that we have in the system, like the way we finance the FAA and the ATO, and the way we give them mechanisms for doing long-term capital planning and investment.

And, finally, let's work on that ATC infrastructure. There are a number of ways that private-public partnerships could put these guys in better buildings. In the next 5 to 7 years, we could have them all in better buildings.

I encourage us to take a different path to think about options that are fixing the fixable and elevating strengths. Thank you for the time today. I look forward to questions.

Mr. SHUSTER. Thank you very much, Mr. Brown.

Mr. Poole, you may proceed.

Mr. POOLE. Good morning, Mr. Chairman, Ranking Member DeFazio. As some of you know, I have been researching this subject for close to four decades. Most recently, I have been part of two working groups, one for the Business Roundtable and the other for the Eno Center.

Both groups have concluded that we have major fundamental funding and structural problems and that corporatization of the ATO is the best solution. That was also the conclusion that the FAA Management Advisory Council reached unanimously in their 2014 report that called for corporatizing the ATO.

My focus this morning is primarily on the issue of governance. The Business Roundtable group recommended a nonprofit corporation in which customers and other stakeholders govern. This is basically a user co-op, except for the addition of other stakeholders——

Mr. SHUSTER. Can you pull that mic a little closer to you?

Mr. POOLE [continuing]. Users.

Mr. SHUSTER. That thing moves, I think. Pull the whole box towards you.

Mr. POOLE. All right.

Mr. SHUSTER. Please. Thank you.

Mr. POOLE. The structure proposed is basically a user co-op with the addition of other stakeholders.

And the governance model that was proposed in last year's bill, as recommended by BRT [Business Roundtable] and Eno, was intended to be a U.S. adaptation of NAV CANADA's nonprofit, stakeholder-governed corporation, running in the best interests of all the stakeholders. But the stakeholder board from last year has been described misleadingly as giving control over the airspace to the major airlines.

This, of course, has led to serious concerns from general aviation groups, people in small towns with small airports, and rural legislators. But in a nonprofit, user co-op, there are no shareholders. Every board member has an equal vote with any others, so even if there were airlines on it, which there won't be, they would only have a small minority of the members, and they could easily be

outvoted by other members because all votes are equal. It is not like in a corporation where you have preferred shareholders.

Now, this model is consistent with international aviation law, with ICAO [International Civil Aviation Organization] principles, and with global best practices. And the proposal did not originate with the airlines. I would like to set the record straight on that. The Business Roundtable group began in 2011, made an initial presentation to A4A [Airlines for America] in the spring of 2012.

We got a pretty cool, if not negative, reception at that point. No one wanted to restart the battles that had raged over this issue in previous decades. Everything changed in the spring of 2013, thanks to the sequester. Controller furloughs, a closed FAA Academy, threatened closure of 189 contract towers, got everybody's attention. In response, A4A, NATCA [National Air Traffic Controllers Association], and AOPA [Aircraft Owners and Pilots Association] all requested new conversations with the BRT working group.

And, in May 2013, all three groups in the conference room at Business Roundtable agreed that an air traffic control corporation—converting the ATO into a corporation, self-funded and out of the Federal budget, was the best approach.

After this happened, that fall, Governor Engler and several others briefed Chairman Shuster on the proposal. This was not coming from the airlines.

The BRT group included a former FAA Administrator, a former Chief Operating Officer of the ATO, two former senior officials of U.S. DOT, and several consultants. Our governing model, as I said, was patterned after NAV CANADA's. Their stakeholder board represents airlines, general aviation, unions, and the Government, plus four other private citizens selected by the stakeholder members.

No board member at NAV CANADA can hold any paid position in an aviation organization. It is a system that really works. And of four seats elected by airlines, two are from major airlines, retired people. One is from an air tour company, and one is from a regional airline serving the Far North.

Now, the U.S. is larger and has a much larger general aviation community. GA, as a key stakeholder, should have more than one seat. Since small airports are so vital, airports definitely are a stakeholder that should be electing a board seat as well.

And I think in terms of the airlines, regional airlines and cargo airlines should be defined as stakeholders in addition to perhaps two seats from the major carriers. My written testimony gives one example of a proposed 15-member stakeholder board.

Let me close with the concerns of small airports. Having airports and regional airlines as stakeholder is part of the answer, but Congress needs to deal with the fears about loss of control towers at small airports and worries that somehow service might be dropped in rural areas.

First of all, Congress could specify that any airport meeting a reasonable benefit-cost test should be assured of getting tower services, which is the standard today.

Second, FAA would be in charge of aviation safety, and no changes in procedures or equipment could happen without its OK.

They might be proposed by the corporation, but would have to pass muster with the FAA, and could not be done unilaterally.

Third, ATO's inadequate funding today gives airports the short end of the stick. There has been a moratorium on contract towers since fiscal year 2014. So small airports are losing today, not getting what they need, because of FAA's ongoing budget problems.

A self-funded corporation would mean improvements for small airports, thanks, number one, to predictable user fee revenues and a financed capital improvement program for facilities. Secondly, a corporation would very likely implement remote tower technology that would increase the benefits from having a tower because of better surveillance, and reduce the costs; therefore, the benefit-cost ratio would be higher, and more small airports would qualify. This would be a boon for small airports, not a detriment.

That concludes my testimony, and I will be happy to deal with questions.

Mr. SHUSTER. Thank you very much, Mr. Poole.

And with that, Mr. Rinaldi, you may proceed. Thank you.

Mr. RINALDI. Good morning, Chairman Shuster, members of the committee. Thank you for the opportunity to testify——

Mr. SHUSTER. Microphone.

Mr. RINALDI [continuing]. In front of you today.

Mr. SHUSTER. Slide that whole thing towards you, the whole box. There you go.

Mr. RINALDI. How about that? We currently run the largest, safest, most efficient, most complex, most diverse airspace system in the world. It contributes $1.5 trillion to our gross domestic product and provides over 12 million American jobs.

Our National Airspace System is unique, unequalled, and unrivaled by any country. This is due, in large part, to the impeccable work the men and women that I represent do every day. NATCA members guide approximately 70,000 flights per day in the United States, ensuring over 900 million passengers arrive safely at their destination every year.

The United States airspace system is considered the gold standard in the aviation community, but that status is at risk. Unstable, unpredictable funding and the status quo threaten it. We need a stable, reliable, predictable funding stream to operate our current system and allow for growth in the United States aviation system.

Although NATCA is calling for change, we cannot support any proposal without fully reviewing all its details. It is not only that we oppose the status quo, which is very much broken, we also oppose any system that would put ATC in a for-profit model.

In order for NATCA to consider support of any proposal, it must meet our four core principles of reform. First, any new system must keep the safety and the efficiency of the National Airspace System the top priority.

Second, any reform must protect our members' employment relationship. This must maintain our members' pay, benefits, retirement system, healthcare system, as well as their work rules and our contract.

Third, any reform system must have a stable, predictable funding stream, adequately enough to support air traffic control services, growth, new users, staffing, hiring, training, long-term mod-

ernization projects. Also, this reform must provide a stable funding stream through the transition period.

Fourth, any reform must maintain a dynamic, diverse aviation system that continues to provide services to all segments of the aviation community and to all airports across America. I cannot emphasize enough how important it is to continue to provide services to many of the diverse users in the National Airspace System.

Both large and small, new and old, big city to rural America, the United States has a vibrant, general aviation community that relies upon us. Rural America's economic success is tied to access to the National Airspace System.

Last year, NATCA supported the AIRR Act of 2016 because it met these four core principles. While we do not believe there is only one solution to the problems, we will carefully review all proposals using the same standard. Please don't take NATCA's position as a need for stable, predictable funding as to mean the appropriators have not done their job.

The appropriators in both chambers of Congress on both sides of the aisles have done their job well. The problem stems from lack of regular order we have been experiencing for over 10 years now. This lack of regular order has led to stop-and-go funding, many threats of shutdown, and our current staffing shortage.

We are at a 28-year low of fully certified controllers. We have 10,532 certified controllers; approximately 3,000 are eligible to retire at this time.

In addition, unstable funding has prevented on-time implementation of NextGen modernization projects. NATCA takes pride in our role in partnering with the FAA in developing and implementing important modernization projects. We have successfully worked on many over the years. Unfortunately, all have been impacted by uncertainty of funding.

If you just look at fiscal year 2018, as we approached April 28 of this year, the FAA shifted its focus from NextGen to shutdown. We then received a 1-week funding extension, followed by a 5-month funding bill. While we are elated over the funding bill, 5 months is certainly no way to plan for the future in aviation.

Congress needs to pass an FAA reauthorization bill that provides stable, reliable, predictable funding. Congress should exempt the FAA employees from indiscriminate sequester cuts. Otherwise, we will see a hiring freeze, reduced staffing, furloughs, delays, reduced capacity, and suspension of key NextGen programs.

I want to thank you for calling this hearing. We must all remain vigilant and focused on the horizon as we try to expand and modernize the National Airspace System.

Thank you.

Mr. SHUSTER. Thank you, Mr. Rinaldi.

And with that, Ms. Robyn, you may proceed.

Ms. ROBYN. Thank you, Chairman Shuster, Ranking Member DeFazio, members of the committee. I appreciate being here this morning.

I am a policy wonk, and I am a Democrat. I testified before some of you during the 5 years I spent in the Obama administration, first as the Deputy Under Secretary of Defense for Installations

and Environment, and then as the GSA Public Buildings Commissioner following the scandal at GSA.

Previously, I spent 8 years on President Clinton's White House economic team, where during his second term I was the point person on aviation and air traffic control, among other issues, a policy focus I maintained after leaving the White House, first at Brookings and then as an economic consultant.

The first point I want to make this morning is that corporatization of the air traffic control system is not a radical idea, nor is it a Republican idea. The Clinton administration tried unsuccessfully to do this in 1995 with its proposal to create a self-supporting Government corporation, USATS, which would be run by a CEO and a board and regulated at arm's-length by the FAA.

At the time, only four countries had corporatized their air traffic control system. Now more than 60 other countries have done so.

The second point I want to make is that the rationale for USATS applies no less today than it did in 1995. Let me briefly restate it.

One, air traffic control is not an inherently governmental function. To repeat, it is not inherently governmental. Keeping planes safely separated is complex and safety-critical, but it is a purely operational process that follows well-established rules.

Like running an airline or manufacturing a Boeing 787, air traffic control can be performed by a nongovernmental entity as long as it is subject to oversight by FAA safety regulators whose job is inherently governmental.

Two, precisely because of the operational nature of the air traffic control system, the Federal Government is poorly suited to running it. The consensus of countless blue ribbon commissions and expert reports is that air traffic management is a 24/7 technology-intensive service business trapped in a regulatory agency that is constrained by Federal budget rules, burdened by a flawed funding mechanism, and micromanaged by Congress and the Office of Management and Budget.

Is it a monopoly? Yes. At least for now. But the telephone system was a monopoly for many years, and we didn't have the Government operate that.

My final—the final rationale for USATS, the current arrangement is flawed on safety grounds. This is important. Echoing safety experts worldwide, ICAO, the International Civil Aviation Organization, has long called for the air traffic control regulator to be independent of the operation it regulates in order to avoid conflicts of interest. We are one of the only industrial nations in which the same agency both regulates and operates the air traffic control system.

In sum, 22 years after USATS was dead on arrival when it got to Congress, the international aviation community treats air traffic control as a commercial service business, and most countries have spun it off as an autonomous self-supporting entity, both to give it the agility that a business needs and to provide the necessary separation from the safety regulator. The U.S. has gone from failed innovator to laggard.

The current proposal, the AIRR Act, differs from USATS in one important way. USATS was a Government corporation because that was the only model that existed in 1995. NAV CANADA,

which came along a short time later, has shown us a better approach for the reasons you have heard and that we will discuss further this morning.

Had NAV CANADA existed in 1995, I strongly suspect that it, rather than New Zealand's Government corporation—the best model at the time—would have been the prototype for the Clinton administration's USATS proposal.

In closing, let me say that I have listened long and hard to the arguments made by opponents of the chairman's proposal, particularly Democrats. I look forward to discussing these criticisms this morning, but I think it is a mistake to view this proposal as ideological, as one committee member characterized it last year.

I believe in a robust Federal role in many areas, and I think the Federal Government gets far too little credit for its accomplishments. But I also believe that the Federal Government has often excelled by recognizing where its direct involvement is necessary, and where it is not, to achieving its objectives.

And sometime I would like to tell you about privatized military family housing as the greatest quality of life program the Defense Department has ever implemented. That is not ideology; that is good Government.

Thank you.

Mr. SHUSTER. Thank you very much, Ms. Robyn.

We are going to start with questions. I would ask all Members to stick to 5 minutes. If we need to go to a second round, I will be more than happy to indulge.

First question I have to Mr. Brown. Mr. Brown, I really appreciate you being here. It is the second time you have testified before this committee, and you and I have sat down I think on a couple of occasions to talk privately about your concerns in the industry and in general.

And of all the witnesses there, I feel like I am a kindred spirit with you. I was a business owner myself, so I know what you do every day, getting up, making sure you are meeting the bills, making sure your operations are functioning. And, again, in a world that you have got to deal with an agency like the FAA sometimes can be challenging.

But as a business owner, would you allow your businesses to grow a budget, your operational budget, 95 percent over a 10- or 15-year period, while at the same time the cost of service increases 75 percent and all the while you are losing customers? Would that be something that you would tolerate as a business owner?

Mr. BROWN. Of course not. I would be very concerned about that if I was a business owner.

Mr. SHUSTER. Absolutely. And I would, too. And I think you are absolutely on the mark. When you look at a business, you look at the strengths, what can you leverage, how can you make it stronger, and the weaknesses, and can you change them.

And so I would say on that business model, when you are in the business world, that works. But when you are dealing with the Federal Government, that weaknesses part, there is not a way we can change this. We have tried for 30 years to change it, and the only way to do it, I believe, is separation.

I also—I don't want to speak for Mr. DeFazio, but he believes separation, but looks different than I do. So, again, I really appreciate you being here. I appreciate you laying out. But the thing we are really up against here is trying to change something that has not been able to be changed for 35 years, and that is the real challenge we face here and we have to address.

But thank you so much for being here. I appreciate that.

I would like to ask Mr. Rinaldi, I brought the paper strips here today that I was introduced to by Mr. Rinaldi. These are the paper strips of the DC area TRACOM [Terminal Radar Approach Control] for 1 day. This is what we use. And, Mr. Rinaldi, could you talk to me a little bit about the paper strips? Why do we use them, and what is our most modern towers? I think we have our most modern towers we can throw up on the screen there.

Mr. RINALDI. Well, those are paper strips that we stuff all day long in our towers across the country and move—as we move the control of an airplane from position to position, we pass the strip to controller to controller.

We have tried, and we are actually in the process one more time—and this is another reason why an interruption in funding could be a problem—we are working right now with the agency and with Leidos on a new program that would actually move that to 100 percent electronic as other countries around the world are using electronic.

It is an efficiency thing. If you look at our new towers in San Francisco——

Mr. SHUSTER. Is that San Francisco?

Mr. RINALDI. That is San Francisco right there on a foggy day, which happens a lot in San Francisco, and ground stops. The controller is actually just moving paper around that little work area because—just to keep some type of order of how the airplanes are going to come out.

Mr. SHUSTER. And can they put up the Las Vegas tower, too?

Mr. RINALDI. That is the first—yes, that is Las Vegas right there. These are both brandnew FAA facilities. They are——

Mr. SHUSTER. They are the most modern.

Mr. RINALDI. Well, they are the newest facilities. They were actually supposed to have an electronic flight strip program in them. The problem is, because of reduced funding, we were never able to make it on time. So we are using paper now, which is still very safe. We are just losing some efficiencies.

Mr. SHUSTER. Right.

Mr. RINALDI. But we would like to get to an electronic flight strip program as they use around the world.

Mr. SHUSTER. And the thing that tipped me off that this is the most modern tower you have is that is a plastic container they are putting them in, not a wooden crate. So they have advanced to plastics, so that is pretty impressive. But show us the NAV CANADA tower. That is—can you talk a little bit about what NAV CANADA does?

Mr. RINALDI. Well, as you can see, the controller has a good line of sight, head is not down looking at paper. All the information is in front of them, and it is definitely more efficient.

Mr. SHUSTER. And can I ask you one further question? Would you say that the London airspace is the most or least complex airspace in the world?

Mr. RINALDI. I would say that—around London Heathrow; is that what you are talking about?

Mr. SHUSTER. Yes.

Mr. RINALDI. London Heathrow Airport, I would say it is a very busy, complex airspace——

Mr. SHUSTER. Extremely complex. And what system are they using?

Mr. RINALDI. They are using the NAV CANADA flight strip program.

Mr. SHUSTER. NAV CANADA. OK. All right. I thank you very much for that, and I yield to Mr. DeFazio.

Mr. RINALDI. Thank you.

Mr. DEFAZIO. Thank you, Mr. Chairman.

Mr. Brown, I don't think you quite got a chance to respond to Mr. Shuster's question. Would you like to expand on your answer there?

Mr. BROWN. Yes, I would. The way that I have been thinking about this is as a businessman, and I think the national airspace is a fundamental economic driver in our country. Our country is more aviation centric than any other country in the world. You can see that in the traffic patterns, in the utilization, in the number of pilots.

And the way I think about this whole, what is the value of return on the level of investment that we make in our ATO and our airspaces, what industry have we created in this country? What are the returns on that industry?

So what I think is that when you have a question like that sent to somebody like me, I immediately go to the larger and very, very significant economic value of an industry that exists uniquely in this country. We are the market leader in aircraft production of every type and stripe. We are the market leader in engine production of every type and stripe. We have the best avionics manufacturers in the world, and that is generating an enormous public return in tax revenues and jobs.

So I think you have to put all of the economic value in the bucket before you ask a question that is just yes or no, in my opinion.

Mr. DEFAZIO. Thank you. Mr. Rinaldi, I am sure you are familiar with the 2002 collision between DHL and a Russian passenger aircraft under the aegis of Skyguide, the Swiss Government corporation. What caused that?

Mr. RINALDI. That was caused between lack of communication between ANSPs.

Mr. DEFAZIO. And wasn't there one person on duty who had multiple tasks because——

Mr. RINALDI. It was a fatigue issue with the controllers also.

Mr. DEFAZIO. Right. So a little bit problem with cutbacks in the controller workforce under the private corporation. Oh, but they have kept safety oversight separate; is that correct, from the Government corporation?

Mr. RINALDI. That is correct.

Mr. DEFAZIO. Yes.

Mr. RINALDI. That is correct.

Mr. DEFAZIO. When is the last time we had an air-to-air collision here due to a controller error?

Mr. RINALDI. A very long time, and I don't like to talk about it.

Mr. DEFAZIO. Right. So you must have said at least 20 times during your testimony and your answer—funding, stability, sequestration, furloughs, talking about the new—our much more sophisticated electronic flight strips, which are going to integrate other aspects of the system and have much more capability than the much more static model used by NAV CANADA that actually was offered to the FAA a decade ago here, and they didn't think it made it up with all the new capabilities of NextGen.

And I think you said there—you weren't saying, "I don't think it will work." You said, "We are worried about delays and reduced funding," did you not?

Mr. RINALDI. That is correct. I have no doubt we will be able to develop our own system. It really comes from we are working collaboratively with the manufacturer, along with the FAA. It really comes from a lack of funding or funding uncertainty as we move forward.

Mr. DEFAZIO. So, Mr. Scovel, would you agree that that is a significant problem?

Mr. SCOVEL. I would, Mr. DeFazio. Funding is a significant problem, as you and Mr. Rinaldi have pointed out. However, I would also say that there are other issues to bear in addition to funding.

Mr. DEFAZIO. That is fine. But, and so, let's see, if I think about it, funding, sequestration, shutdowns, that all has to do with Congress. So if we had the FAA with its current funding sources, 97 percent projected over the next 10 years, so just a few efficiencies would get us to 100 percent self-funded without meddling, exempt them from sequestration and shutdowns, would that solve many of your concerns? I am not saying all, but would that solve many of your concerns, Mr. Rinaldi?

Mr. RINALDI. Yes. As I said in my opening statement, we don't believe there is one answer to the problems here, but we do believe the status quo is unacceptable, and we would not look at a for-profit model. But we would look at anything that was proposed and just hold our core principles against what——

Mr. DEFAZIO. Well, let me just interrupt. Quickly, Mr. Brown, when we had, you know, our last hearing, one of the many Mr. Poole has been to, he said if there was a problem and ATC became insolvent, customers would have to pay more. And then the question, of course, becomes, if it then fails, who is responsible? Who would be responsible if the ATC failed financially in this country?

Mr. BROWN. Now, that is one of my risk calculus when I think about this problem. The day the assets move out of the public sector and into the private sector, we have moved the essence of the system and the people with it. And there is no way we can spend 1 day without that system full functioning and healthy and thriving. And so all the financial risk accrues to the people regardless of where that monopoly reports.

Mr. DEFAZIO. So too big to fail.

Mr. BROWN. Too big to fail is my concern.

Mr. DEFAZIO. I think I have heard that before. Thank you.

Mr. SHUSTER. I thank the gentleman.

With that, Mr. LoBiondo.

Mr. LOBIONDO. Thank you, Mr. Chairman.

Mr. Scovel, for you, over 3 years ago, Mr. Larsen and I directed the FAA and the NextGen Advisory Committee to come up with four capabilities that could provide near-term benefits, given the constrained Federal budget that we work with. These priorities were supposed to be the low-hanging fruit, the things the FAA could get done and prove to the industry that they can deliver the benefits.

I think I am now hearing you say that for many of the NAC priorities full implementation of all capabilities and a realization of those benefits remain years away. So the question for you, Mr. Scovel, is: why are the NAC priorities or the easy things taking 6 to 7 years to implement?

Mr. SCOVEL. Thank you, sir. You are right. The four NAC priorities have been the focus of effort for both industry and FAA. Perhaps unbeknownst at the time, or certainly not fully appreciated at the time, there were significant risks to each of them, whether we are talking about PBN, DataComm, surface operations, or multiple runway operations. Each of those presented its own problems in bringing them to fruition.

I would say that right now we are at the point where the timeframe of 2019 is perhaps when DataComm in the en route environment will begin to be implemented, through maybe 2021 will be what we in my office are calling a pivot point for the realization of benefits from these four NAC priorities.

Mr. LOBIONDO. So with this pivot point, I mean, what is your assessment if we don't make this? I mean, does this ripple out for how long, or can you talk about that a little bit?

Mr. SCOVEL. Sure. We don't know. Yes, FAA has had problems, it is no secret, making completion deadlines before, honoring representations to Congress and the Secretary as to where they are in different programs.

FAA, together with the NAC, have an implementation program and a working group that is birddogging it as closely as they possibly can. However, the problems that are outlined in my written statement are significant. They may yet derail the program to some extent. The choice, at that point, is to continue to press forward. So it may go on beyond 2020, 2021, but at this point we don't know.

Mr. BROWN. Congressman, would it be OK if I added something to that?

Mr. LOBIONDO. Yes.

Mr. BROWN. One of the things that I don't think is getting fair discussion in the modernization effort that we are in is that first you have to invent and deploy the technology, which has generally been the FAA's purpose. But then the user community has to equip, and in many cases change equipment to experience the benefits. And that is exactly where we are right now, and that is why there is an inflection point coming up.

We have ADS–B fully deployed on a nationwide basis in terms of the ground structure, but only a percentage of the aircraft flying

enjoy the benefits because they are not ADS–B compliant. Likewise, that will be true of DataComm and other technologies.

So where we are right now is the FAA has done a lot of heavy lifting, and the users have to equip. And in the next several years, that is why the transformative change is going to flow into the system.

Mr. LOBIONDO. I would like to yield my time to Mr. Shuster.

Mr. SHUSTER. I thank the gentleman. I just want to point out we continue to come back to this argument that—and not an argument, but the facts are it is the Congress and it is OMB and the political process that causes a big part of these problems, along with the bureaucracy.

So taking an agency out of Government, and already going right to failing and going bankrupt, if everybody recalls, on 9/11 we injected I think it was $15 billion into the airline industry to prop them up. We had to have an aviation industry.

So I am not willing to sit here and say this agency is going to fall because I don't believe it is, because most of the money can be provided by the users. And if you look at the model that we have been looking at in Canada, they have a reserve fund. They did not require the Federal Government of Canada to inject money.

The British did, the British for-profit. And as Mr. Rinaldi says, I have no intent, I would not—I would oppose going for a for-profit organization. I think that, again, using this as too big to fail, we faced that in 2001, but there are models out there that we can look at and learn from to make sure that they are set up in a proper form.

But the most important thing—and, again, I keep hearing agreement over and over again—it is the bureaucracy, it is OMB, it is the Congress, the starts and stops would cause these problems.

With that, I recognize Mr. Larsen for questions.

Mr. LARSEN. Thank you, Mr. Chairman. First off, I would ask unanimous consent for the written statement of PASS [Professional Aviation Safety Specialists] and the National Business Aviation Association to be entered in the record. Mr. Chairman, unanimous consent?

Mr. SHUSTER. Yes.

[The written statements of the Professional Aviation Safety Specialists and the National Business Aviation Association are on pages 133–146.]

Mr. LARSEN. Thank you very much.

So, for Mr. Rinaldi, you are a member of the FAA's Management Advisory Council; is that correct?

Mr. RINALDI. I am, sir.

Mr. LARSEN. So on March 15 of this year, the MAC, shorthand is MAC, issued a letter calling for reforms that would not require splitting up the FAA, and you signed the letter, along with other members of the MAC. So do you agree with the MAC's recommendations, or how should we read that, from your end of things?

Mr. RINALDI. I do. As I said in my opening statement, there are many ways to fix this problem. We don't think there is just one. Just so you do know, that letter was circulated. I did offer edits, and it was not incorporated into it, but I do support that letter,

that we need stable, predictable funding, and flexibility in our budgets.

Mr. LARSEN. And there are different—and you argued there are different ways to achieve that goal.

Mr. RINALDI. Absolutely.

Mr. LARSEN. Yes, right.

Inspector, we heard in some comments today that the air traffic control system is safe, but it is broken. I fly 2,306 qualified air miles one way on United Airlines and back again for my commute. Can the system be safe and broken, or should I drive?

Mr. SCOVEL. It is safe, of course, and that is——

Mr. LARSEN. How can it be safe if it is broken? It seems to me that there is a fundamental argument going on here that says we have to go to privatization because the system is broken that actually controls the airspace. And if it is broken, I don't know how it could be—happen to be safe, and so it would support the privatization argument.

However, if it can't be safe and broken, it would seem to undermine the whole argument for privatization.

Mr. SCOVEL. I would characterize the system currently certainly as safe, and the record shows that. For a number of years now, there have been no commercial aviation fatal accidents. As far as broken, I would take issue with that characterization. I would say certainly modernization has been lagging far behind where it should be, but it is not broken.

Mr. LARSEN. Well, that is good to hear. I will cancel my car rental.

Mr. Brown, I just want to explore a separate issue with you, but it is tied because we are trying to get an authorization bill done. And I think largely there is bipartisan support on a lot of issues, including with differences around the edges, UAS incorporation into the airspace, certification reforms.

It seems to me all of these are being held up by this debate on the "to be or not to be" question with regards to privatizing the air traffic control system. Can you talk a little bit, again just briefly, about why certification is important, and why some of these other issues are important that we move forward on, but yet we ourselves are lagging on getting them done because we continue this debate over and over on privatization?

Mr. BROWN. I am happy to do that. I would say that Congress has been incredibly supportive of the idea of facilitating improved ways to market through certification. We have had great support and friends in Congress come to our aid to try to make our United States aviation industry as strong as possible, and that has been matched with very good appropriations support as well.

So the thing is is we all tend to agree that there are opportunities, and we tend to line up behind them. What is troubling is when they get stopped in mid-stride because they can't get into the regulatory basis. And what that means to me is that we are market leaders in all of our product categories in aviation, and when we can't go to market in the ways that these reforms allow us to do, well, then somebody else is gaining on our heels, and at the end of the day I always care about extending competitive advantage.

Of course, the other thing that has often been a problem is that if you create uncertainty, customers have no idea whether they want to invest now or later, and they err on the side of later. So for me there is something really important about keeping the vital function of certification up and running and manifesting the reforms that we all agree to.

Mr. LARSEN. Well, I appreciate hearing that, and I wanted to be sure folks did hear that. I thought that would be the answer. It is just that this main point is that this is not—we are not working on a privatization bill. We are working on an FAA reauthorization bill. It has many moving parts, many of which we agree on, Democrats and Republicans, and yet it is being—those are being held up by this one debate. And it seems to me we can move forward on the things we agree on moving forward.

So I yield back. Thank you.

Mr. SHUSTER. I thank the gentleman and now recognize Chairman Young.

Mr. YOUNG. Thank you, Mr. Chairman, and thanks for having this hearing. This is a very interesting one. But you know my interest in—my interest in my State. Eighty percent of our communities are not connected by highways. We have—in that area of aviation, we have 700 airstrips, more than any State in the union, by the way. We have 8,000 pilots and 10,000 per capita as far as aircraft.

And my interest in general aviation—and the chairman and I have discussed this before—and as long as Alaska is taken care of and their need for general aviation are not being run by the larger airlines, I will be somewhat interested in what we are doing.

And it means a lot to me some of you haven't been—and I think, Mr. Brown, you did fly in Alaska; did you not?

Mr. BROWN. I sure did.

Mr. YOUNG. For, what, 2 years?

Mr. BROWN. I had a chance to spend a few weeks up there flying around the back country.

Mr. YOUNG. OK. And did you have any trouble with air traffic controllers?

Mr. BROWN. I did not.

Mr. YOUNG. That is good because——

Mr. BROWN. They are few and far between.

Mr. YOUNG [continuing]. I think they are some of the best.

But I would like to ask, Mr. Scovel, did Canada file—its system file for bankruptcy?

Mr. SCOVEL. Not that I am aware, sir.

Mr. YOUNG. Are you sure? I am just curious about that because that always concerns me.

I would suggest, Mr. Chairman, my interest, I think we may be addressing the one spot is—probably the best part in the FAA is the air traffic controllers. But the FAA itself, the management, is not in good shape. I don't know how you change that. I think maybe we ought to spend our time on studying the regulations that they pass. I don't know, the last time I checked there was a book about that big of regulations, why the FAA doesn't work.

I have a classic example in Alaska where they came down with a regulation where a village that does not have navigation or an

onsite weather reporter or any modern technology have not done so, aircraft would come in, and because—it is perfectly clear, aircraft can come in, but cannot land because they have to have someone on the ground to tell them what the weather is. That is the regulation.

So I think, Mr. Chairman, I am interested in seeing what we can do about revamping the whole FAA, but not the air traffic controllers so much, but the system they have is badly managed. And if we can do that, I am willing to listen to a lot of things you have got to suggest.

Mr. SHUSTER. Will the gentleman yield the rest of his time to me?

Mr. YOUNG. Yes.

Mr. SHUSTER. I appreciate the gentleman saying that, and that is what we are after. And the gentleman knows, maybe I should say the gentleman is guilty because you have been here since 1973 or 1974.

Mr. YOUNG. Abraham Lincoln and I flew airplanes. Go ahead.

Mr. SHUSTER. You were involved in every one of those reauthorizations, and you know better than anybody else——

Mr. YOUNG. That is right.

Mr. SHUSTER [continuing]. That they have not worked. They have failed every single time. I think there are some in this room that might say—and I won't point them out—that 25 years ago there were four or five layers of management at the FAA. Today there are 9 or 10. That is what we do across the system in Government.

We say we are going to reform something and we just put a couple more layers in there. We never take the system down and rebuild it, and that is what you do when you have a failed system. You take it out, you say we are going to do something different, and, again, we have got lots of ability to look around the world to see who has worked and who hasn't worked.

Mr. Brown, I think you made a very great point. Something that I believe in, and part of my passion for this is to get the certification right. We are the leaders in the world. We invented aviation. But you said something else very important. When you can't go to market with your products because of the certification process, the competition is nipping at your heels.

Well, if we don't fix certification, they are not just going to nip at your heel; they are going to take big chunks out of the back of your leg and eventually they are going to cause you real problems in the marketplace. So this certification is critical—critical—to this reform that I am putting forward.

And when you look at what the MITRE Corporation said in their report, first of all, they interviewed six of the different CAAs around the world, and it was unanimous stating that the separation of CAA from air traffic control provision was worth it. Among the benefits expressed are an increase in focus by the regulator and the ANSP—the focus on safety by the regulator and the ANSP and improved efficiency.

That is what I am talking about here. If you separate them, you make the FAA focus on their core mission and that safety and that certification. Now they are running this big organization, and they

are doing a lousy job of it. And, again, when I point my finger at the FAA, as my mother always told me, there are three fingers pointing back. And that is the Congress, OMB, the administration.

This is an opportunity to take it out and let it function like it has been able to around the world. And getting certification right is absolutely paramount in what I am trying to accomplish and what we hope to be able to accomplish in this reform.

And with that, I yield to Ms. Norton.

Ms. NORTON. Thank you very much. Mr. Chairman, if I may say so, especially under my colleagues on the other side, structural reform has always proved very difficult. Almost all the structural reforms that have been made in the United States have been made by Democrats, and they are not calling for structural reform as we have just done with the Affordable Healthcare Act.

I have a question. It could be Mr. Poole, it could be Mr. Reason. It is a question that is a rising issue and one that I have requested a hearing on. It has to do with airplane noise. When I say "a rising issue," I mean all over the United States.

Here in my own jurisdiction—and I represent the people of the Nation's Capital—but across—so much so across the Nation that we formed a Quiet Skies Coalition, a bipartisan coalition, to respond to issues that, by the way, NextGen has just left right out there. NextGen, we are making progress in the air; on the ground, people are complaining.

And, of course, as a result of those complaints, I have been able to have the FAA come to see me. I have asked for a hearing by this committee, and I would like to get some responses about how this private corporation might respond to an issue like Quiet Skies.

So who would my constituents and the constituents of my colleagues call if they had noise complaints? Mr. Reason, Mr. Poole?

Mr. POOLE. My understanding, Congresswoman, is that this would still be the FAA as the safety regulator that would have to approve procedures or deny new procedures. And so if procedures are changed so that noise goes up in a community impact, it would be the FAA's jurisdiction to say yes or no or how to modify it. It would not be the corporation's discretion to just unilaterally do those things.

Ms. NORTON. Did you have——

Mr. SHUSTER. If the gentlelady would yield——

Ms. NORTON. Yes.

Mr. SHUSTER [continuing]. I can answer that question also.

Ms. NORTON. Yes, sir. Yes.

Mr. SHUSTER. Will the gentlelady yield?

Ms. NORTON. Yes, sir, I will. But it will not take from my time, I hope.

Mr. SHUSTER. Mr. Poole is absolutely correct. If there is a noise issue, or flight patterns change, there is a NEPA [National Environmental Policy Act] process and major Federal actions that the FAA will continue to have after this transaction. Again, let me dispel the notion. This organization is not going to control the airspace. It is going to operate in the airspace with the FAA control over it.

And so they have to go through this Federal process by the NEPA, which is the FAA sets up a review process and approves

significant airspace changes. So if there is—and especially related to metroplex's major large-scale airspace redesign projects, they are going to have to go to the FAA, conduct a NEPA review, and any action taken will have to, again, be approved through the FAA.

So, once again, this is not just giving away willy-nilly, the airspace. We will still—not only will we own the airspace; we will still have oversight over the airspace.

And I yield.

Ms. NORTON. I thank the chairman for his response. And I have never heard of anything so bureaucratic in my life. In fact, I can't understand why we could leave one part of this operation under Government control and take the other part—even though both are vital to all we do in the skies, I have never heard of efficiency being—and, by the way, I hope my time wasn't taken because the chairman had an intervention, which I think was appropriate.

So I don't understand how you could bifurcate the system, expect it to be more efficient, expect it to be more safe.

Now, let me take an elephant in the room off the table. I will do it, if I may, by asking Mr. Rinaldi, have you received any assurances from any of the proponents of this bill concerning collective bargaining, pensions, other workers' rights? Because otherwise I see a fresh controversy on top of the many controversies this bill has already given us. Mr. Rinaldi?

Mr. RINALDI. Thank you for the question, Madam. At this time, there is no bill in front of us, so there is nothing I can compare it to. In the 2016 AIRR Act, there was strong language that gave us a fair bargaining process, and that was in there, and also a robust transition period that would allow us to keep everything we have and keep the workforce whole.

Ms. NORTON. And I take it you would insist upon that in exchange.

Mr. RINALDI. Absolutely. That is bullet number 2 of reform.

Ms. NORTON. Thank you very much.

Mr. SHUSTER. I yield the gentlelady an extra 30 seconds, since I took some of your time.

Ms. NORTON. That is all right. With that question, I yield back.

Mr. SHUSTER. I thank the gentlelady.

And with that, Mr. Barletta is recognized for 5 minutes.

Mr. BARLETTA. Thank you, Mr. Chairman. I would like to address some comments made by Mr. Brown. Mr. Rinaldi, you are one of the foremost experts on aviation and air traffic safety in the world. Would you support a legislative proposal that jeopardized safety?

Mr. RINALDI. Absolutely not. That is our first core principle.

Mr. BARLETTA. Would you support a proposal that jeopardized national security?

Mr. RINALDI. Absolutely not.

Mr. BARLETTA. Would you support a proposal that further weakened our ability to modernize the aviation system?

Mr. RINALDI. Absolutely not.

Mr. BARLETTA. Finally, do you support the air traffic control proposal and the AIRR Act last year?

Mr. RINALDI. I did, yes.

Mr. BARLETTA. Thank you.

Mr. Poole, some have suggested that ATC reform is a giveaway of assets. We understand that taxpayers have already paid for them in fuel, ticket, and cargo taxes. If a new entity had to buy them, won't the same people pay twice?

Mr. POOLE. That is correct, Congressman. They have been paid for by aviation excise taxes over the years, and all we are talking—we are not talking about selling the system or giving it away.

We are talking about transforming the existing Air Traffic Organization into a better organizational model that would be insulated from the travails of the Federal budget, and able to operate as it should be, like a business, paid for by its customers.

Mr. BARLETTA. Dr. Robyn, as a public policy expert, what is your response to such an allegation?

Ms. ROBYN. As to the question of whether the assets should be transferred at no cost: It has been handled different ways. In the Canadian case, there was some payment for assets. I can certainly see the argument that Bob Poole makes, however. I think if that were the only debate, then we would be making real progress, if we could agree on everything except what the dollar price on the assets should be.

Mr. BARLETTA. Thank you.

Thank you, Mr. Chairman.

Mr. SHUSTER. Thank you, Mr. Barletta.

Mr. Sires is recognized.

Mr. SIRES. Thank you, Mr. Chairman. You know, my colleague said he takes the plane home every week. I take the train home every week, and it is safe or broken, but I don't expect you to say anything, Mr. Scovel.

My issue is I have problems when we get compared to Canada. Big problems.

Mr. SHUSTER. Mr. Sires, can you speak more directly into the mic? We didn't quite hear you.

Mr. SIRES. I will have to eat it if I get any closer.

Mr. SHUSTER. Like you are going to kiss it.

Mr. SIRES. I have a problem when we get compared to Canada. It reminds me of the argument with the health bill. They have a great health system. We don't. Canada only has 40 million people; we have 350 million people. It is a lot easier to set up a health system for a country that only has 40 million people.

I have some fears regarding this. They have 40 towers; we have 500 towers. Obviously, can you assure me that, if we go this route, that we are not too large to fail? Because I also have a concern regarding the airlines. I think the airlines are getting so big that it is very difficult to manage, and I raised that issue the other day when we had a hearing here.

Can you assure me that my fears are wrong, that this big effort, I am wrong about it? Well, I will start with Mr. Brown.

Mr. BROWN. I love flying in Canada, and I love the country of Canada, but I do not——

Mr. SIRES. Well, I don't dislike the country of Canada.

Mr. BROWN. Exactly. But I don't think——

Mr. SIRES. I just don't want to be compared to Canada.

Mr. BROWN [continuing]. I don't think the comparison of our national airspace and management system to Canada is anything

other than an exercise in gleaning some observations. But it is not proper to directly compare. I mean, for sure, in our system, we are driving a much more substantial portion of our economy out of the aviation sector and the airspace that supports it.

I mean, we have 10 times more pilots, 50,000 flights a day. It is a wholly different organization. So for me, when I think about Canada, I believe that they made a choice that they thought suited their purposes with the role of aviation and its infrastructure, but we are faced with entirely different objectives here.

And as far as I am concerned, the system that we have been living in has done a masterful job of adjudicating all of the interests of stakeholders, all of the interests of our expansive country and the States that are in it, and their needs. And so I can applaud things they have done that have worked for their country, but I also very much applaud things we have done in our country.

And I would take exception to one thing Ms. Robyn said, which is she characterized our system as a laggard. That is just false. We have the technology deployed in our system today that no other country can rival. We lead in our NextGen initiative. So, you know, I am pretty proud of where we are and, by the way, I know it because I fly it. It is not a mystery, and it is not a theory.

Mr. SIRES. Thank you.

Mr. Poole, can you answer?

Mr. POOLE. Yes. First of all, Canada's system is the second largest in the world in terms of flight operations. So it is the best comparator we have. You know, we are nine times bigger in terms of flight activity, but their model has worked extremely well for 20 years. It is not too big to fail, and neither would ours be.

If you go to the credit markets, the people who finance revenue bonds for these, they give investment grade ratings to the Brits, the Germans, the Australians, the Canadians, because they have a dependable user fee revenue stream that you can basically bank on.

And neither NATS nor NAV CANADA declared bankruptcy. Both were hit hard by 9/11 because of the North Atlantic traffic. NATS was brandnew and got an additional investment from their two main owners, the British Government and the airline group. NAV CANADA simply raised their rates somewhat, maybe I think it was 10 or 15 percent for a couple of years, and built up their reserve fund. And since then they have a substantial reserve fund, in case of another serious downturn, that they can work through without having to——

Mr. SIRES. Mr. Scovel, can you just—I have got 30 seconds left.

Mr. SCOVEL. Sure. As you know, my office looked at the air traffic control organizations for the other four countries, and we were told by officials in those organizations that they considered part of their borrowing authority to be leveragable or be recognized by private lenders because ultimately, should something drastic go wrong, the Government would step in behind them.

I am not representing that that would be the case here. That is your policy call to make. I am simply relaying what officials for other air traffic control organizations have told us about their systems.

Mr. SIRES. Join those four countries that were on the hook; is that what you are saying?

Mr. SCOVEL. Conceivably. They may be. There would be policy calls for their legislatures and executive branches.

Mr. SIRES. Thank you, Mr. Chairman.

Mr. SHUSTER. Thank you.

I now recognize Mr. Meadows for questions.

Mr. MEADOWS. Thank you, Mr. Chairman.

Mr. Poole, let me follow up a little bit on what you were just talking about in terms of the Canadian system versus the air traffic control system here in the United States because there are people that would say, well, we are 10 times the size of that in Canada.

And so as you look at that larger size, let's talk about scalability. Is there any way that you can look at the scalability of the Canadian model versus what we would employ here and make some conclusions?

Mr. POOLE. Sure. First of all, we already have the scale. We are not talking about building from scratch an air traffic system. We already have the scale, the facilities, the technology.

Mr. MEADOWS. So what you are saying is——

Mr. POOLE. We are talking about an organizational model.

Mr. MEADOWS [continuing]. Because of what we already have in place, that we can make better——

Mr. POOLE. We can easily transition to a different governance model and a different funding model, and hopefully that will lead over time to an organizational culture that is more innovative, that can innovate and implement things faster than the large bureaucracy at FAA.

The inspector general reports for 25 years have said FAA continually fails to manage programs properly. They take far longer than they were scheduled. NAV CANADA has a superb track record on that. If you scale up NAV CANADA's capital investment, annual capital investment to our size, and say what would we be investing if we had their system, they are accomplishing all their modernization for, in equivalent terms, half of what we spend on capital investment.

Mr. MEADOWS. Hold on. Let me make sure I understand that. They are actually improving their system for half of the cost that we are spending?

Mr. POOLE. Yes, sir. Demonstrated fact.

Mr. MEADOWS. Mr. Scovel, would you agree with that? Because I saw you shaking your head yes on a lot of the things he was saying. Don't ever play poker, by the way, but go ahead.

[Laughter.]

Mr. SCOVEL. Wouldn't dream of it. No, and if I was shaking my head, it wasn't necessarily to agree or to assent. My office, quite frankly, hasn't examined that part of NAV CANADA's operation. We don't know the degree to which their capital improvement program might compare against our scaled up system.

Mr. MEADOWS. All right. So when will NextGen be completed, Mr. Scovel? We have had other—this is not your first rodeo, nor mine, so at what point will NextGen be completed? Because we continue to allocate unbelievable sums of money, and I hear at best

ambiguous dates of when it will be completed. So what does the inspector general's office say?

Mr. SCOVEL. Well, let me say, first, FAA's estimate is 2030 at a cost of $36 billion split between Government and private industry.

Mr. MEADOWS. But would you agree that this has been one of the few times that we can see that even under this best case scenario we continue to exceed an unlimited budget?

Mr. SCOVEL. I would have to say we don't know. We don't know what the total cost might be, nor do we know what the completion date will be. It is important to note, though, that NextGen——

Mr. MEADOWS. Do you not see why that would be a problem for somebody who is a fiscal hawk like me, that we continue to allocate money with no end in sight?

Mr. SCOVEL. Absolutely.

Mr. MEADOWS. All right. Mr. Brown, let me come to you. I am a little confused because you seem like you are a business guy. Are you a business guy?

Mr. BROWN. I would certainly think so.

Mr. MEADOWS. OK. Well, as a business guy—and I am one, too—are you suggesting that we need more Federal control?

Mr. BROWN. I am suggesting that we have a system that is delivered and——

Mr. MEADOWS. That is not what I asked. It is a great answer to a question I didn't ask. Are you suggesting that we need more Federal control?

Mr. BROWN. I am suggesting our control is proper.

Mr. MEADOWS. All right. So let's talk about general certification, something you probably know, and it is one of my sweet spots being from North Carolina. Would you say that we need more Federal control in the certification process?

Mr. BROWN. I think what we have is proper.

Mr. MEADOWS. So you don't want it to be more streamlined?

Mr. BROWN. But that is not the same as reducing control. That is about efficiency.

Mr. MEADOWS. Well, it is. It is about regulation, so at some point you have to transfer that. So let me go and let me tell you where I am concerned with. We have got NextGen that may or may not get done by 2030. We continue to spend billions of dollars. In fact, I have stakeholders who continue to implement it from a stakeholder standpoint, and from a Federal Government standpoint we are lagging behind.

We actually have monies that have been allocated for NextGen that get kind of pilfered over to maintain legacy computer systems under the FAA. I have under good authority that we are doing that, and so as we look at that, why would you suggest that the Federal Government can do something more efficiently than perhaps private stakeholders?

Mr. BROWN. You know, my calculus——

Mr. MEADOWS. Can the Federal Government run your business better than you do?

Mr. BROWN. I would hope not.

Mr. MEADOWS. I would hope not either. So why would you suggest that they can do that here?

Mr. BROWN. Well, because we are talking about a range of interests here that is much larger than my business. I mean, my business, I get to pick my product, I get to pick my customers, I get to decide what I think the value proposition is, I get course corrected by——

Mr. MEADOWS. And it is efficient that way, right?

Mr. BROWN. Yes. But the point——

Mr. MEADOWS. So what if we had stakeholders who were making the same exact decisions that you are making with some parameters that are out there, wouldn't you think that that would be more efficient?

Mr. BROWN. Actually, you have outlined my top concern, which is that if this organization picks their customers and picks their service level and picks their product, they are no longer going to be——

Mr. MEADOWS. But the chairman has already said that that can't happen. We have an airspace that is available to everybody.

Mr. SHUSTER. The gentleman's time has expired.

Mr. BROWN. Thank you for making that point.

Mr. SHUSTER. Mr. Brown, you can finish if you wish.

Mr. BROWN. I believe that I have made my point, which is that the thing about this enterprise, one of the things that I am concerned with, is that it is a coalition of stakeholders with a shared purpose, which is to serve their own ends. And the thing that I like about the Federal role in our airspace today is that it adjudicates an enormous diversity of needs in this community. Whether it is the Alaskan pilot who is flying kids to school or whether it is my business in Ohio or air tractors in Olney, Texas, they all have a seat at the table. And this has been demonstrated in this room today.

Mr. MEADOWS. Yes. My time has expired. I appreciate it.

Thank you, Mr. Chairman.

Mr. SHUSTER. I thank the gentleman.

I now recognize Mr. Johnson for questions.

Mr. JOHNSON OF GEORGIA. Thank you, Mr. Chairman. I think I am probably like most Americans, and what we really want out of the air traffic control system is safety, safe operation.

And, Mr. Scovel, in your testimony you stated that, since 1958, the FAA has overseen the safe operation of the busiest and most complex air traffic system in the world. And you stated during your testimony that there have been no commercial aviation accidents over the past few years. Do you believe, sir, that the American-controlled airspace is the safest airspace in the world?

Mr. SCOVEL. I haven't looked at all the others, sir, but I would say it is definitely safe. We are in the golden era of aviation safety right now.

Mr. JOHNSON OF GEORGIA. Well, we are in the golden era, and I think, Mr. Rinaldi, you mentioned that we are the gold standard of air traffic control in the world; did you not?

Mr. RINALDI. We are, sir, the largest, safest, most efficient.

Mr. JOHNSON OF GEORGIA. And, Mr. Brown, you fly every—well, you put in 500 hours a year minimum flight time, and you are strongly committed to the concept that our airspace is safe and

that the operations that make it safe are up to par, and it is joyful to fly under that system.

Mr. BROWN. I agree. And most pilots will tell you it is one of the most amazing experiences you can have, and it is something the Government does extremely well.

Mr. JOHNSON OF GEORGIA. Now, Mr. Poole, you would not disagree with that; would you?

Mr. POOLE. No, I don't disagree at all. We have a very safe——

Mr. JOHNSON OF GEORGIA. We have a safe air traffic control system.

Mr. POOLE. Right. But we are paying a price——

Mr. JOHNSON OF GEORGIA. Well, I am going to get to that in second.

Mr. POOLE. OK.

Mr. JOHNSON OF GEORGIA. I mean, we are safe, and we have been safe since 1958 under FAA control, and the argument is being made that we need to change that. Mr. Brown, I think I heard from both you and Mr. Rinaldi the concept of if it ain't broke, don't fix it.

And, Mr. Scovel, I heard you, in terms of there have been some FAA reforms that have not achieved the expected outcomes in the areas of personnel, acquisition, and organizational reforms. But those failures don't lead you to the conclusion that the air traffic control system should be privatized, correct?

Mr. SCOVEL. Respectfully, I don't believe that is my call to make. The Congress and the administration are the policymakers, the decisionmakers. I am trying to present information for your consideration in making those decisions.

Mr. JOHNSON OF GEORGIA. Thank you.

And, Mr. Poole, you are an advocate for privatization. You are an advocate to turn the air traffic control system over to the free markets. Your website for the Reason Foundation states that the Reason Foundation is committed to advancing the values of individual freedom and choice, limited Government, and market-friendly policies.

So I am assuming that you would be of the mind, as stated by the chair of the committee, that Government is the problem and not the solution. And so, therefore, you want to take the Federal Government or the FAA out of this equation, which has been so safe for Americans——

Mr. POOLE. May I respond?

Mr. JOHNSON OF GEORGIA [continuing]. Since at least 1958?

And, Ms. Robyn, you agree with him, and you say that, first of all, the air traffic control system can be performed or can be run more effectively by a nongovernmental entity, and you also say that Government is poorly suited to run——

Ms. ROBYN. Yes.

Mr. JOHNSON OF GEORGIA [continuing]. The air traffic control system——

Ms. ROBYN. Yes.

Mr. JOHNSON OF GEORGIA [continuing]. Despite the comments that we have heard from Mr. Scovel, Mr. Brown, and Mr. Rinaldi, and the clear fact that we haven't had—I mean, our airspace is safe. But you say that——

Ms. ROBYN. Could I respond, please?

Mr. JOHNSON OF GEORGIA. You say that it could be done better. Why do you say that?

Ms. ROBYN. If we wanted to have the safest system possible, we would keep——

Mr. JOHNSON OF GEORGIA. We don't have it now?

Ms. ROBYN [continuing]. Keep all planes——

Mr. JOHNSON OF GEORGIA. We don't have the safest——

Ms. ROBYN. If we wanted to have a——

Mr. JOHNSON OF GEORGIA. We don't have the safest system now?

Ms. ROBYN. If we wanted to have perfect safety——

Mr. JOHNSON OF GEORGIA. Isn't it—OK. Well, let me ask——

Ms. ROBYN [continuing]. You would leave——

Mr. JOHNSON OF GEORGIA [continuing]. You this question. Isn't it a fact that we have the safest air traffic control system in the world right now?

Ms. ROBYN. We have a system that is operated and regulated by the same entity. That——

Mr. JOHNSON OF GEORGIA. Is it a good one? Isn't it a good one, though?

Mr. SHUSTER. The gentleman's time has expired.

Ms. ROBYN. That is——

Mr. SHUSTER. But if the gentleman wishes to allow the witness to answer——

Ms. ROBYN. We are not in compliance——

Mr. SHUSTER [continuing]. Would you—Ms. Robyn, 1 second. The gentleman's time has expired. If you want, though, I will allow her to finish answering the question or not. It is up to you.

Mr. JOHNSON OF GEORGIA. Please respond.

Mr. SHUSTER. Ms. Robyn.

Ms. ROBYN. If we wanted to have zero accidents, we would have the air traffic control system keep all planes on the runway. You would have no planes in the air. That would guarantee perfect safety. That is, obviously, not what you want. You want a system that contributes to the economy while being safe. We haven't——

Mr. JOHNSON OF GEORGIA. That is not the kind of system that we have.

Mr. SHUSTER. The gentleman's time has expired. Ms. Robyn, thank you very much for answering the question.

With that, I recognize Mr. Woodall for 5 minutes.

Mr. WOODALL. Thank you, Mr. Chairman. Since my friend from Georgia and I share a county back home, I will just pick up where he left off with Ms. Robyn.

I appreciate your written testimony because I think so often, as perhaps your exasperation shows, we——

Mr. SHUSTER. Can you speak into the mic, Mr. Woodall?

Mr. WOODALL [continuing]. We have a tough time talking to each other about these——

Mr. SHUSTER. Speak directly into the mic. We can't hear you very well.

Mr. WOODALL. After you have given that advice to every member of the panel, you would have thought I would have internalized that, Mr. Chairman. I cannot pull my box closer, though, as—I can pull the chair closer.

Ms. Robyn, I want you to help me with the language to talk about this issue because it does seem when we talk about change so often we end up with—it is Mr. Weber's big head that I can't get past. I can't move both the microphone and—Mr. Weber, can I—thank you.

[Laughter.]

Mr. WOODALL. It is just between me and Ms. Robyn here that we are working on it. It is a physical manifestation.

Mr. WEBER. Mr. Chairman, do I get equal time?

Mr. WOODALL. It is a physical manifestation of your head. It is not an ego issue. It is actually a physical.

Help me with the language about how we talk about this, because I have been to see the NAV CANADA operation. And thinking about Mr. Poole's reference to scalability, it does seem like the successes they have had we could have in an exponential fashion. And it is not as if this is the chairman's idea or the President's idea.

This is something that policy wonks have been talking about for decades. Help me create this conversation in a language—I sit on the Budget Committee. I hear my friend Mr. DeFazio say, "Well, you know, if only we could fund the system better and deal with sequestration and get Congress to work better," yes, those are kind of the issues we have been working on for three or four decades, and we have only finished the budget process on time four times in 40 years. So help me talk about this in a nonpartisan way.

Ms. ROBYN. The FAA is two-hatted. It does two very different things. It regulates all aspects of aviation, and that is an inherently governmental activity. You cannot write a contract that makes it possible for the private sector to carry that out. It requires judgment calls that the private sector can't make.

It also operates in the air traffic control system. That is not inherently governmental. That is operational. That is no different than when GSA goes to the private sector and has them build a building. It is not an inherently governmental activity.

The idea that the regulatory part of the FAA needs help, I agree with Mr. Brown. The idea, though, that in order to fix that you don't spin off the nongovernmental part, that is illogical to me. That is exactly what you want to do—spin off the noninherently governmental part, so that the FAA can focus on its regulatory function.

Mr. WOODALL. Well, let's talk about that just for a moment because I agree with Mr. Brown. The American taxpayer, the American flying public, has invested an amazing amount of time and treasure into building what is the busiest airspace on the planet.

So when we talk about changing that from a governmental function to a—well, I don't know anybody who talks about a private function. I hear them talk about a corporatized function, a cooperative function. Tell me what that looks like.

Ms. ROBYN. Well, so we—in the Clinton administration, we proposed a Government—we proposed moving into a Government corporation because that was the only model that existed. That model works very well in many parts of the world. But in this country, Government corporations are politicized and they cannot function effectively as businesses.

And so NAV CANADA has come up with a model that takes it out of Government altogether, and that is appropriate. It works in theory and, more important, it has worked in practice beautifully.

Mr. WOODALL. The business folks that I talk with back home often prefer the devil they know to the devil they don't know.

Ms. ROBYN. Yes.

Mr. WOODALL. And I can only imagine the strain it puts a private operator under to say, "We are going to yank the pendulum back and forth with the political winds." But it was the conclusion of the Clinton administration that the best way to avoid the political winds in this space was this spinoff proposal?

Ms. ROBYN. Yes. Yes, absolutely. Yes. This was something proposed early on. It came out of a blue ribbon commission, one of many that has looked at this issue, and we proposed it in 1995. It was dead on arrival on Capitol Hill.

Mr. WOODALL. Mr. Chairman, I think Mr. Brown was right when he talked about all of the amazing economic developments and successes that have been the product of our second-to-none airspace system. I hope that we can follow this pattern to keep the politics out and move us on to best-in-world space.

Mr. SHUSTER. You are absolutely right. And, again, as I said earlier, there is no way I want to mess up, screw up, the economic impact that the aviation industry across the board has.

So, with that, I yield to Mr. Carson for 5 minutes.

Mr. CARSON. Thank you, Chairman.

Mr. Brown, it seems the FAA is already in the process of implementing much of the NextGen infrastructure you are calling for. We have been told that 2020 deadlines will be met. As a pilot, sir, can you tell us about the NextGen technology that is already online and how you are using it? And do you believe we need to replicate these systems through privatization?

Mr. BROWN. Great question. I was just thinking about this about a month ago or so. I took off from Piqua, Ohio, population 20,000, from a small airport and flew to Albany, Georgia, a small town with a very vital aviation manufacturer that is a global leader and a big exporter. I flew point to point. Because of GPS navigation, I had en route weather on the way, and I shot a WAAS approach into Albany, Georgia, precision to the numbers.

Now, these two towns, in the grand scheme of things, in the grand scheme of our national airspace, have been treated to their resources to build two global leaders in their space and have the airport infrastructure to thrive.

And I look at that as a perfect example of how Government in this case is working for the economy, because without that kind of infrastructure and the technology that is driving the flying to and from those places, I don't think these businesses would be located in Piqua, Ohio, or Albany, Georgia. And, frankly, I think that is a victory for the people.

Mr. CARSON. Thank you, sir.

Lastly, this is a general question. I am very concerned that, as introduced, this new private air traffic control panel does not include one of the largest users of U.S. airspace, the DoD. I would like to hear from any of the witnesses their view on how this will

impact the close coordination that currently takes space and takes place, and what impact there will be to our national security.

Ms. ROBYN. I will answer that, and let me start by saying that, although I spent 3 years in the Pentagon, air traffic control was not part of my portfolio. I did, however, work very closely with the people in the Air Force who have the day-to-day liaison with the FAA. I worked with them on issues of interference of wind turbines and long-range radar among other things.

The Department of Defense has huge equities in the National Airspace System. DoD manages 15 percent of the national airspace. DoD has 15,000 aircraft, which is more than all U.S. commercial airlines put together. DoD depends heavily, as a user, on the air traffic control system.

And they support the spinoff of the air traffic control system. There is a letter from Secretary Mattis to Senator McCain stating that while it has to be done carefully, so as to protect the arrangements that are currently in place, it is not inconsistent with national security.

Mr. CARSON. Sure. Yes, sir.

Mr. POOLE. This is an issue that has come up in every one of the 60 countries that has corporatized their system in one form or another. Australia today has a joint project between the Australian military and Airservices Australia to modernize the overall basic air traffic software.

It is being developed jointly, will be used jointly, with side-by-side military and civilian controllers. There are side-by-side military controllers in NATS in the U.K. working together. This is pretty much a routine function now.

And, in fact, there is an annual conference on military air traffic control that is cosponsored by the Air Traffic Control Association in conjunction with the ATCA's own national conference each year.

So this is an issue. As Dorothy Robyn said, it needs to be handled very carefully to be sure that all the current procedures are incorporated, but it is not considered a problem anywhere in the world that I am aware of.

Mr. CARSON. Thank you, Mr. Chairman. I yield back.

Mr. SHUSTER. I thank the gentleman. I appreciate the gentleman's question.

I want to offer for the record a letter from Secretary of Defense Mattis. Some have said the DoD has come out in opposition to this. Well, this letter does not say that, and any suggestion of it is false. Secretary Mattis has indicated his support for moving ATC service out of the FAA in a letter he wrote to Senator McCain who requested that.

So without objection, I want to offer this for the record.

[The information follows:]

SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

MAY - 4 2017

The Honorable John McCain
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

Thank you for your March 13, 2017, letter regarding possible privatization of air traffic control (ATC) services provided by the Federal Aviation Administration (FAA). Specifically, you asked for our views on privatizing these types of services from the perspective of Department of Defense (DoD) operations. You also requested DoD's recommendations on how privatization could be accomplished while preserving our inherently governmental responsibilities for national security, aerospace control, and sovereignty operations, and necessary prioritization of military airspace use for test and evaluation, and training and readiness purposes.

The DoD is supportive of possible privatization of ATC services and recognizes the potential risks regarding DoD's national security responsibilities, as you suggest in your letter. To address these concerns, we have formed an ad hoc committee comprised of Combatant Command and Military Department representatives to assess the current ATC relationship between DoD and the FAA within 120 days in order to delineate the linkages that would be necessary with a privatized ATC entity. Additionally, we are and will continue to be engaged with interagency forums led by representatives from the Office of Management and Budget, National Economic Council and National Security Council to ensure privatization efforts going forward preserve our national security interests.

Thank you for all that you do for our Nation. Please do not hesitate to contact Mr. Kevin Sweeney, Chief of Staff, at [redacted] if you have any questions regarding this letter.

Mr. SHUSTER. And with that, Mr. Rokita.

Mr. ROKITA. I thank the chairman.

I thank the chairman for holding this hearing. I thank the witnesses for their testimony.

Starting with you, Mr. Brown, knowing that you are a private pilot and a member of GAMA [General Aviation Manufacturers Association] and active in AOPA and so on and so forth, and for the record and for the committee members, knowing that you fly 400 hours per year, which is about four times the average general aviation pilot, you are familiar with the system.

Do you believe that general aviation pilots have a right to access airports of any size?

Mr. BROWN. Not only do I believe that, I experience it.

Mr. ROKITA. Yes, on a daily basis. Talk into the microphone, please.

Thank you.

Should they be denied access to an airport?

Mr. BROWN. No, not on principle.

Mr. ROKITA. Can you talk about the danger that would pose to the aviation ecosystem that we are all a part of if that were to happen?

Mr. BROWN. That is an existential threat to the business. Access is everything to the pilot who buys equipment I make and airplanes they fly.

Mr. ROKITA. Right, and every one of those pilots pays into the system, right?

Mr. BROWN. Yes.

Mr. ROKITA. How?

Mr. BROWN. Through the fuel tax.

Mr. ROKITA. Yes, and it is more than adequate for what we use of the system, right?

Mr. BROWN. Yes, and it is not bureaucratic, and it is real time, and there is no bureaucracy associated with it.

Mr. ROKITA. Right. And it is not that we want to fly into international airports every day or cause any problems, but the fact is we have a right to do that because we paid into the system.

And sometimes, like for example your customers, you may need to access an airport like that.

Mr. BROWN. Correct.

Mr. ROKITA. So what are the dangers of a board made up of some members of the ecosystem where board governance suggests that you can have control of a board with as little as 30 percent of the seats?

What dangers does that pose to general aviation if this is all board controlled in terms of access?

Mr. BROWN. One concern I have is that on such a board, you would have centers of gravity that would begin to overwhelm minority voices of any sort and preclude the arrival of new entrants that might have a radical impact in our economy.

Mr. ROKITA. Absolutely, which makes the point that it is good to have a disinterested party in this or a referee or an umpire to decide these issues like we have right now in FAA, or if the members of this witness table who agree with the chairman's proposal here would really want privatization, if they would propose a plan that

actually does that because right now the proposal at least in the AIRR Act, and who knows what we are going to see here when this language is produced, does not do that.

I used to be the Secretary of State of Indiana. I know about privatizing Government assets. We received $3.8 billion when we leased the Indiana toll road with Governor Mitch Daniels. What we did not do is give a monopoly away. We did not take the toll road and give it to an interested party or a board made up of interested parties. We put it out for bid.

So if we really want to privatize something, which is apparently the proposal here, why are we not talking about something like that?

We did not give the Indiana toll road to the truckers and say, "Oh, I am sure you will take care of the cars, too, and I am sure you will not limit access to the on and off ramps that exist along the Indiana toll road, especially when you truckers want to get steel to or from one of those mills up in northwest Indiana."

Because it would not work. It does not make sense, just like this board made up of interested stakeholders, to use Congressman Meadows' term for it, will not work either.

Mr. Rinaldi, if I can paraphrase your testimony, it seems like a lot of it was focused on funding and sequester and Government shutdown and the fits and starts that go along with that, and I completely agree with you.

You also heard Ranking Member DeFazio say, and it is accurate, 97 percent of FAA funding is on its own. It is not from the general fund, and there was a suggestion made that one way to solve this and the problems you bring up in your testimony is to just take it off budget.

Now, I am vice chairman of the House Budget Committee. I am not here to necessarily say that that is the right answer or that I support it, but is that not an answer?

They said there is certainly more than one answer to this problem that we are talking about in this hearing today.

Mr. RINALDI. Absolutely. There is more than one answer, and that is a legitimate answer.

Mr. ROKITA. We could take care of all of that simply by taking this off budget. Again, 97 percent of the funding is not coming from the general fund anyway.

Mr. RINALDI. Yes. That is a good answer.

Mr. ROKITA. Chairman, my time has expired.

Mr. SHUSTER. I thank the gentleman.

Where am I? Ms. Frankel is recognized for 5 minutes.

Ms. FRANKEL. Thank you.

Well, I will just start off by being a little snarky. You know, we put a businessman in charge of the country, and all I can say is OMG about that, and every agency would like to be exempted from sequestration, and I have a solution for that, which is to privatize those of us who are not doing our job.

All right. So enough for the humor. Listen. I am not a mean person, but just on the issue of transparency, and first I want to thank you all and not to impugn anyone's integrity, but we have a list of different organizations or people who are for the privatization, who

are against it. Different airlines are for; some are for, some are against. Consumers groups are for and against.

Could you just tell me here, anybody, do any of you consult with any of these and get paid or consult with any organization or are discussing employment with them? Those of you who are in the public sector included?

OK. Just wave your hand.

Ms. ROBYN. No.

Mr. BROWN. No.

Mr. RINALDI. No.

Ms. FRANKEL. OK. All right. Thanks.

So I am trying to simplify this, which is probably not a smart thing to do, but I am trying to understand it. It sounds to me like there were a number of reasons, those of you who would support a change in the system.

One has to do with a consistency in the funding; is that correct? I know the air traffic controllers did really emphasize that.

Then I think another issue was trying to move more efficiently towards a more modern safety technology. Is that one of them?

And then I think one of the issues was having the regulators separated from the operators. That was it.

Is there another issue there that I am missing?

Mr. POOLE. Well, there is another big issue.

Ms. FRANKEL. OK. Which is that?

Mr. POOLE. And that is the organizational culture of FAA, which gets into the procurement problems, chronically over budget, late delivery of things, not getting productivity out of new technology in the way that it should be done.

Ms. FRANKEL. OK.

Mr. POOLE. That is a big problem.

Ms. FRANKEL. Good. Thank you. I do not know why that skipped my mind, but that is the one I had my next question about. OK?

What kinds of things do you think this new organization could do that the Government is not able to do? I mean, what will you be skipping?

And what would be the potential unintended consequences? I would like those who are for this movement to give us your opinions on that.

Mr. POOLE. Well, I will start. I mean, one thing would be to be able to hire and pay the best talent from private industry as program managers and as expert engineers and software people.

There are good people in the FAA, but they are hamstrung in a system that has a lot of basically career lifers who are happy to be in a process that is very time-consuming and that has numerous people who can say no at many points along the way, that drags out the process, and if you have people who are not performing well, it is very difficult to get rid of civil servants.

Ms. FRANKEL. Does anyone want to defend the honor of the civil servants?

Mr. RINALDI. I will be happy to.

Ms. FRANKEL. Yes, go ahead.

Mr. RINALDI. As I said in my opening statement, we have by far the best aviation professionals in the world working for the FAA.

Aside from the funding stream, one of the things we would also like to see fixed is something that Ranking Member DeFazio also brings up is the procurement requirement process and the multi-agency oversight, which then puts us into a bureaucratic laden process of requirements and procurement, and it delays our process of implementing new technology.

Ms. FRANKEL. I would guess that that bureaucracy, which can drive everybody crazy, was probably gotten, in part, there because of abuses I am going to guess and to try to avoid that, right?

Mr. RINALDI. I think every time we have a hearing there is more oversight that goes into it. So it kind of self-fulfills itself every time we have a hearing of something that is not working right within Government.

Ms. FRANKEL. I only have 15 seconds.

The contract towers, what happens to them?

Mr. RINALDI. Well, we represent 94 of those contract towers and the members that work there. It is very important to us to keep service open to all facilities across the country, all airports, and to continue to have a very diverse system, whether it is big city or rural America.

Ms. FRANKEL. Thank you, Mr. Chair. I yield back.

Mr. SHUSTER. I thank you, Ms. Frankel.

Ms. Frankel, I am not familiar with all of the new words on the computer. OMG, does that mean "oh, man, he's good"?

With that I yield to Mr. Westerman.

Mr. WESTERMAN. Thank you, Mr. Chairman, and thank you for your leadership on this important issue.

I have had the opportunity to visit some control towers, and the first thing I would like to say is to acknowledge that we have some amazing men and women that are working in our air traffic control towers, doing an excellent job.

And we have an air traffic control system that works. The proof is in the pudding. You can see it working every day.

I am relatively new to Congress, and I am new to this committee, but I have a unique background having practiced as a professional engineer for nearly 25 years. Much of my work involved analyzing processes and technologies and helping my clients stay on the cutting edge. I have seen organizations that failed to even embrace technology, and they usually went out of business. I have seen organizations that embraced but failed to implement technology, and they usually went out of business.

To be successful in business, you have to not only embrace new technology, but you have to implement it properly.

Now, ATC is not going to go out of business regardless of the technology it embraces or implements because, quite frankly, it is too critical to fail. And it has been said, and it has been said in this meeting today, "if it ain't broke, don't fix it."

However, I believe this is not a question of a broken ATC, an ATC that does not work, or even an ATC that refuses to embrace new technology. This is a question of how to implement the best technology and operate the safest and most efficient system in the world so that our airline passengers and general aviators get the maximum benefits.

I am studying our existing systems. I am visiting installations and learning as much as I can about the latest technology. I can confidently say that even though technology may be embraced, it is not being successfully implemented as well in the U.S. as it is relative to other systems.

I am from a rural district. I have got one contract-manned tower in my district. There is lots of general aviation and lots of aerospace manufacturing located at the rural airports in my district. Mr. Brown even mentioned airports like these in his testimony.

I am thinking of an airport I visited just a few weeks ago in Mena, Arkansas, that has a lot of aerospace manufacturing there. It is in the mountains, and the radar cannot see it.

They had a radio tower that got blown down in a tornado a few years ago that still has not been fixed. So if you are trying to take off from Mena, you have to pull out on the taxi and call up the air traffic control on your cell phone and try to get clearance to take off, but they still found a way to make it work.

But the point is the last thing I want to hurt is rural airports or service to rural America. I want to see it improved.

Mr. Rinaldi, some of the opponents of ATC reform claim that new service providers would be able to deny access to sovereign airspace in a small community and general aviation airports. From the perspective of those actually providing air traffic control, how do you respond to those claims?

Mr. RINALDI. Thank you, sir. Thank you for the question.

Air traffic controllers have a very simple philosophy when it comes to providing service to all users. It is first come, first serve, and when a general aviation aircraft enters into our airspace or whether it is a commercial airline, it is to expedite their process as safely as possible.

And so we provide service to all users of the system.

Mr. WESTERMAN. Ms. Robyn, I first want to say I appreciate your testimony. I have been in a number of hearings that have been held by the Aviation Subcommittee leading up to this. We have heard some pretty inflammatory rhetoric intended to scare small communities about the future of their commercial air service.

I have got two EAS [Essential Air Service] airports, one of them in my hometown, but two of them in my district, as well as numerous smaller ones. So I have a vested interest in making sure this is not the case.

Do you think a more innovative and agile ATC provider will ultimately provide more options to more communities, such as the usage of remote towers?

I have seen some of those, and it is amazing technology.

Ms. ROBYN. I do, yes, and I think that is critical. I do not understand this assumption that some are making that this entity, a corporatized entity, would somehow be a threat to small communities and rural airports. Air traffic control is a network. The nature of networks is that the bigger they are, the lower the cost. It is relatively inexpensive to add a node to that network, particularly if you can go to newer technology like remote towers.

This small communities argument has been made. It was made in opposition to airline deregulation. It was made in opposition to

trucking deregulation. It is part of the playbook of people who oppose change.

All of those changes, I would argue, have been very, very good for our economy. Small communities, I do not see any reason that they would be hurt by this. It is not in the airlines' interest or certainly not in the controllers' interest; it is not in Government's interest; it is not in the stakeholders' interest to have that happen.

Mr. WESTERMAN. Thank you.

Mr. SHUSTER. Thank you.

Mr. Lipinski is recognized for 5 minutes.

Mr. LIPINSKI. Thank you, Mr. Chairman.

I think it is very important, and I have talked with the chairman, and he has always and continues to have an open mind on this, and I think it is going to be very important to see the text of the bill to have a better understanding of what exactly is in there.

Ms. Norton spoke earlier about concerns about noise around airports, and that is a major concern that I have. I have Midway International Airport in my district, O'Hare not too far away. As the patterns flying in and out of those airports has changed in recent years, there have been a lot of constituents of mine who had a lot of complaints, and we have gotten the FAA now say they are going to do a better job of listening and paying attention to what some of these issues may be.

I have a great concern moving ahead about what exactly the rules are going to be in the future if we did have an ATC moved under a corporation. The chairman says that NEPA would still apply, but I have concerns about what exactly is going to happen to the FAA.

Is the corporation going to propose the patterns and then the FAA has to then have their say on that, approve them or not approve them?

That is a concern that I have. Mr. Rinaldi, I do not know if you have any. The bill that we had last year, do you know anything about what that would have done?

Mr. RINALDI. Well, the regulatory and certification process would have stayed within the FAA. So it would still be ultimately the FAA overseeing noise complaints and new procedures.

Mr. LIPINSKI. Would they have the authority then or would there just be a back-and-forth with the corporation over it? The corporation propose and the FAA then have to approve or how would that work?

Mr. RINALDI. Hypothetically, it is hard to answer that question right now, but I will tell you while we are moving forward with metroplex and PBN in many cities, the FAA is going out and doing joint community meetings along with the users and the stakeholders to explain what we are trying to accomplish in making the skies greener, safer with less noise.

But keep in mind as the technology makes it to be more precise on approaches, there are certainly winners and losers when it comes to noise. That is a fact, and that is a true fact.

Mr. LIPINSKI. Obviously, my concern is to make sure that my constituents and all around the country, those who are going to be impacted by these changes, are going to be able to have a say, and

right now their say is through us here in Congress and through the FAA. I want to make sure that occurs.

But I want to move on to another question before I run out of time. I am concerned that some of the estimates for the timeline for a new ATC corporation are near a decade. We heard earlier 5 to 7 years, and my concern is about air traffic controller hiring.

Will there be a troubling lack of accountability and transparency as this occurs and make ATC hiring and staffing difficult, if not almost impossible, to do during this transition period, Mr. Rinaldi?

Mr. RINALDI. One of the things we would really have to see in the bill is a very robust transition period where we would seek a stable, predictable funding stream so that we can continue to hire and accomplish the goals of the agency while it is still in control and if it was going to a not-for-profit, federally chartered company at the same time, that it would be a robust transition period enhancing the safety of the system, at the same time continuing to hire, train and modernize the system.

Mr. LIPINSKI. The control of the academy for training air traffic controllers, who would have that control?

Mr. RINALDI. I believe in the AIRR Act of 2016, that was left up to the transition on who would actually still control the FAA Academy in Oklahoma City.

Mr. LIPINSKI. So that was not laid out there?

Mr. RINALDI. I do not believe it was.

Mr. LIPINSKI. It is to be determined further on.

All right. Thank you very much. It is something that I look forward to seeing the bill and the details, and I look forward to maybe having another hearing at that point.

But I thank the chairman, and I yield back.

Mr. SHUSTER. I thank the gentleman.

With that I recognize Mr. Smucker.

Mr. SMUCKER. Thank you, Mr. Chairman.

I'd like to pick up where my friend, Mr. Westerman, left off and further clarify some of the issues that he raised.

One is there seems to be some confusion in the debate about what we call "use of airspace" and who will and who will not be making decisions about that. In fact, I believe that some are perhaps incorrectly conflating airline service, business decisions and the provision of providing the ATC's services.

Mr. Rinaldi, you specifically addressed that by saying that you simply provide the services to whoever shows up in the airspace essentially. But I guess I would like to further clarify that.

Mr. Poole, maybe I will ask you. Could you please clarify to me that the new entity that is being proposed will simply provide those ATC services to any entity wishing to receive those services?

And I will put it in a slightly different way. Will this ATC entity decide where airlines fly?

Mr. POOLE. Absolutely not, Congressman. Airlines will decide where they want to fly, and presumably the system will accommodate any desires that they have of where to fly. This, of course, includes air taxis, regionals as well as major carriers.

We are not privatizing the airspace. We would only be privatizing or corporatizing the provision of the air traffic services, including the financing of new facilities and new technology.

But all of the safety regulation and ownership of the airspace remains with the Federal Government in the form of the FAA. That is very, very clear-cut.

Mr. SMUCKER. Thank you. I appreciate the clarification.

Mr. Poole, I will ask you another question. The district that I represent in Pennsylvania includes three smaller airports, no major international or domestic airport in the district, but each of these smaller airports serve a county and are critically important. They are economic drivers in the county, and so concerns have been raised.

I just want to ask you directly about any potential impact of this system on the smaller airports. I have one in particular, the Chester County area of my district, that has an application in for a control tower, and it is just an example.

Mr. POOLE. Right.

Mr. SMUCKER. But I guess I want to hear again. I want to be sure. Do you think we will see under this program an improvement for small airports?

And if so, how?

Mr. POOLE. I do think there will be an improvement. For one thing, because of FAA funding limitations, we have this moratorium on new contract tower approvals that has been going on since fiscal year 2014, and the only way that could be lifted today is if there were a significant budget increase for FAA or they cut out some other funding for other things like NextGen and so forth that nobody would really want to see.

The best hope, I think, for small airports and expanding the reach of control towers is a better funded organization that is also one that adopts a new technology that increases benefits and reduces cost so that the contract tower benefit-cost ratio can be higher for small airports that might not qualify today with a conventional several-hundred-foot-tall structure, but could easily afford a contract tower and actually get better service from it.

Mr. SMUCKER. Thank you.

One quick question, Mr. Brown. You asserted that nongovernmental air service provider would somehow be outside of democratic oversight, and I just want to point that just a few weeks ago we had executives here from United, American, Southwest, and Alaska who were sitting right here in this room where you are and getting grilled by folks up here.

Congress oversees the entire aviation sector, including regulated private businesses. So I would just like to hear. Can you explain why you believe that a regulated air traffic service provider would be outside of democratic oversight?

Mr. BROWN. It is my understanding that this would be empowered as a business that can effectively decide what it invests in, how much it borrows, what technologies it picks, maybe what——

Mr. SMUCKER. But still with congressional oversight.

Mr. BROWN. Well, are we going to have a committee for how they spend their money and what they invest in and where they deploy PAPIs [precision approach path indicators] and VASIs [visual approach slope indicators] and where they put up the next DataComm tower?

Because if we are, why would we carve it out?

Mr. SMUCKER. All right. Thank you.

I yield back my time.

Mr. SHUSTER. I thank the gentleman.

That is what we have today, the United States Congress it is called, and it is not functioning well, and that is what we are trying to get away from so it can operate more like you, Mr. Brown, operate, which, again, you have an extremely successful business, but you decide that based on business decisions, not based on whether Bill Shuster wants a tower or does not want a tower.

So with that I yield to Mr. Duncan, not I am sorry. Not Mr. Duncan. Mr. Payne is recognized. I am sorry.

Mr. PAYNE. Thank you, Mr. Chairman.

Listening to all of this testimony and the different opinions, the American taxpayer has invested more than $50 billion in air traffic control systems in just the last 20 years. Under the chairman's proposal to privatize ATC last year, the Federal Government would have handed over ATC assets worth billions of dollars to a private corporation free of charge.

If the ATC corporation was to hit financial or operational difficulties and needed to be taken over by the Government, it is my understanding, per the takings clause of the Constitution, the Congress would have to pay to reacquire the ATC assets. We would have to pay for what we gave away for free.

What does the panel think about this? Mr. Scovel?

Mr. SCOVEL. Thanks.

As I mentioned earlier, I do not believe it is my role, sir, as inspector general to express an opinion on a purely policy call like that.

However to your point about valuation of assets specifically, our work each year to audit departments' financial statements, to include FAA's financial statements, has shown us that the net book value of FAA assets that might reasonably be considered for transfer to a nongovernmental agency at the end of the last fiscal year amounted to $13.7 billion.

Ideally or probably a lesser figure than that would be actually transferred if the Congress and the administration were to agree to take air traffic control out of Government, but nonetheless, that is a policy decision for you to consider.

A valuation of those assets in any event, whether it is with the request or requirement that the new entity pay back the Government, is still going to be required because potential lenders and borrowers are going to want to see what the value of collateral is that they are putting up their money against.

Mr. PAYNE. Thank you.

Mr. Brown?

Mr. BROWN. I think people are trying to solve problems here, and I, frankly, respect the dialogue.

I am not a status quo guy. I actually think there are real opportunities to improve the management of the FAA, and I have found very often in the certification side, they are willing to listen.

But among the things I am concerned about, besides equity in the system, is whether the logic makes sense in the risk-reward profile. I mean, this is a real question to me, and I am just asking it as a business guy.

I am here because I make my living selling products into aviation, but the lineup that I am concerned about is if we assure the workforce that the future is as they need it to be for the purposes of serving their interests, and we underwrite the risk of this enterprise, more surely than anything else I know that to be true. When we are perhaps enjoined in litigation with this enterprise when it is challenged on things that it does and when we give up our assets, some $20 billion, to do it and empower a monopoly, when I look at that enterprise, I want it to report to the people unequivocally.

It has served us well for 50 years. It will serve us well in the future, and so I wrote in my testimony this is a question of principle for me. It is not a question of challenging other members' objectives or motivations. It is an honest disagreement about the policy play here.

Mr. PAYNE. OK. Thank you.

Mr. Poole?

Mr. POOLE. Well, in the hypothetical event of a bankruptcy, which I guess is what you were talking about as a possibility, you have a liquidation in a bankruptcy, in which case a takings clause thing I do not think would apply. Creditors would be the ones dealing with the bankruptcy situation, and they would potentially be in a position to look for a different operator to take over and restart the system.

Mr. PAYNE. But if there were no takers, if the Government had to step back in?

Mr. BROWN. Well, what if there are takers? I mean, the net effect of your scenario there is that we transfer $20 billion to a company who makes bad bets, and they end up owned by the Bank of New York. That is a bad outcome. Those might be the credit providers.

Mr. POOLE. They might be the credit providers.

Mr. PAYNE. Mr. Rinaldi, in your testimony you talked about the concern for your membership. Any time anything is streamlined, if you think that your benefits and things are going to stay the same under that scenario, I have got a bridge to sell you, too.

But could you answer the question?

Oh, I'm sorry.

Mr. RINALDI. What was the question? What bridge do you want to sell me?

Mr. PAYNE. That is not that question. The original question that I asked that I laid out, but my time has expired. I guess you were not listening.

Mr. RINALDI. I was listening.

Mr. SHUSTER. I thank the gentleman.

There are limits to all infrastructure, technologically and human, and because of that we are taking a 5-minute break.

[Recess.]

Mr. SHUSTER. The committee will come to order.

I now recognize the vice chairman of the full committee, Mr. Duncan, for 5 minutes.

Mr. DUNCAN. Well, thank you, Mr. Chairman.

And as some people here will recall, Mr. Poole and I think others, I chaired the Aviation Subcommittee for 6 years, from 1995 until 2001, and Speaker Gingrich asked me to hold the first hear-

ings on the proposed Air Traffic Control Corporation. Ms. Robyn, I think, will remember that.

At that point I think almost everybody, maybe with the exception of Mr. Poole, was opposed to it, but Chairman Shuster has done an amazing job now and has brought some groups and people onboard that were not in favor of this proposal at the time.

But I am sorry I did not get to hear Mr. Rinaldi's and Ms. Robyn's testimonies because I had other meetings, but I do want to say to Mr. Brown that I was impressed by your testimony, and I can assure you that I think your people will tell you that general aviation has not had a stronger supporter than I have been, and I am sure that the chairman will do everything possible to make sure that general aviation's concerns are heard loud and clear in any proposal that we end up with in this regard.

But, Mr. Scovel, you have been with us several times before, and you know that I have had concerns for a long time about some of these costs and the delays and so forth.

I noticed in your testimony, you say, "However, FAA has not fully identified the total costs, the number of segments, their capabilities or completion schedules for any of the six programs. In addition, FAA has not determined when the transformational programs will start delivering benefits or how they will improve air traffic flow or controller productivity."

These cost things concern me, and you told me in response to questions that I asked in a 2014 hearing, you stated, "We are probably looking years beyond 2025, perhaps another 10 even, and we are probably also looking at the total expenditures in an order of magnitude two to three times that of the initial $40 billion estimate to achieve the original plan."

I am wondering: Do you stand by those statements that you made in 2014 or what is the situation now?

And also you heard Mr. Brown basically say that everything is going pretty good.

Mr. SCOVEL. Thanks, Mr. Duncan.

As part of your introduction, you mentioned your long service on the committee. I still wear with pride the label that you gave me at probably my very first appearance before the committee where you said, "Mr. Scovel, you are the committee's hired skeptic." So I appreciate that and my staff does, too, because that fits our role.

Mr. DUNCAN. You and I have been around for a long time.

Mr. SCOVEL. Yes, we have. Thank you.

I do stand by those numbers, and what I meant to convey when I said that was the uncertainty of the numbers at that point. The numbers appear to have changed a little bit recently because FAA's estimates have come to $36 billion, a completion date thereabouts 2030 or so, but still the uncertainty remains because at least for the six NextGen transformational programs, FAA's segmentation practices in managing those acquisitions have not led to any kind of clear understanding as to total cost or ultimate completion date.

So we are still very much in an uncertain environment with regard to those programs and the price tags. It is clear what has happened over time though is that those programs have become part of a more general and rolling implementation of modernization efforts, to be sure. FAA, to its credit, has worked much more closely

with industry over the last couple of years and the NAC to get their priorities down, and FAA has been working hard to execute on those.

So I do want to be fair certainly to the agency when I say that, but cost and completion dates are still much uncertain.

Mr. DUNCAN. All right. Ms. Robyn, you said that your original proposal when you worked on it was dead on arrival. Why do you think that was and where do you think we are now?

Tell me what you think is different now.

Ms. ROBYN. I think it was dead on arrival because it, frankly, imposed additional financial burden on the users.

At the time, more of the funding of the air traffic control system came from the general fund as opposed to ticket taxes. We, the Clinton administration, our highest priority was balancing the budget, and so our proposal entailed a bill for the users that was unacceptable.

So I think for the airline industry that was a problem. I think for House Democrats it was much of what you hear today. It was an opposition to something that was seen as not privatization, but something like that.

I think this is a great debate. I think we're making progress. We are arguing over the value of the assets that get transferred. You know, there are proposals to create a Government corporation. Admittedly, it would have the regulatory function as part of it, which is, I think, highly flawed, but I think we have advanced the debate.

Mr. DUNCAN. Well, my time has gone by so quickly. Just quickly I would like to ask Mr. Brown there are, they tell me, some 60 countries that have done some form of privatization. We visited them in New Zealand and certain other countries. Have you talked to some of the general aviation people in some of these other countries?

Of course, I know general aviation is very small in many of those countries.

Mr. BROWN. Yes.

Mr. DUNCAN. Have you visited or looked into that any?

Mr. BROWN. I have, and I think those countries made choices they thought were sensible for their taxpayers and their public interest and, frankly, for the scale and scope of their aviation industries, which are quite, quite small.

So my reference point in many of those countries is that general aviation is already a miniscule part of the economy. People do not fly. They do not have the freedom to fly. They do not create pilots. They do not build airplanes.

And so in my mind, they are taking a function that is not critical to their economy and they are outsourcing it. In my mind, in our country what we do with our national airspace is, in fact, an economic engine and a critical one, and I think it works pretty darn well, and that is where the origin of my interest and my point of view come from.

Mr. DUNCAN. All right. Thank you very much, Mr. Chairman.

Mr. SHUSTER. I thank the gentleman.

Ms. Titus is recognized for 5 minutes.

Ms. TITUS. Thank you, Mr. Chairman.

It is interesting what Ms. Robyn just said. Her bill was dead on arrival because airlines wanted it but they did not want to pay for it. Now that they are getting it free, they seem to be all in and it does not seem to be dead on arrival. I find that interesting.

Ms. ROBYN. No.

Ms. TITUS. But the question I want to ask is to Mr. Poole. I want to go back.

We hear a lot about the assets. Let's talk about the people who are involved. You, Mr. Poole, and the Reason Foundation and your donor network have been talking for decades about privatizing all aspects of Government, not just the FAA.

In fact, in 2010, you wrote a piece for downsizinggovernment.org that was a project of the CATO Institute, and you talked about the need to privatize and commercialize the air traffic system back then.

One of the major arguments that you made was the cost of running the system, and in particular, you went into extensive detail about the history of air traffic controllers and the cost of salary and benefits to those professionals who operate the system. You noted that two-thirds of the FAA's operational expenses are due to what you called the high cost of labor.

You have gone on to reference the efficiency of Canada where they have downsized the system, "shrunk the system" I think was the term, and cut down on the number of towers.

So considering all that you have written in this issue, and now we have this bill before us, I want you to walk me through exactly how you are going to address the high cost of labor as you make the system more efficient.

Mr. POOLE. Well, thank you for letting me clarify. What we have seen in countries such as Germany and Canada and others that have corporatized their systems is not downsizing the controller workforce. In many cases, Canada in particular, the need was to increase the controller workforce which was low because of decades or many, many years of underfunding by Transport Canada.

The downsizing that could take place is in the middle management ranks, the bureaucracy, because it is so many layers and so convoluted that it extracts a high cost out of the users, whether they are paying aviation user taxes or actually direct user fees.

That is where the need for looking at that cost is. It is in the middle management ranks of the bureaucracy, not in the day-to-day controller workforce that is undersized for the task at hand today.

As Paul Rinaldi has said, we are at a low point of certified professional controllers today, and it is partly because of the shutdown of the training academy that was out of commission for nearly a year, and also because of some politicization of the selection process that has now been partly overturned, thanks to Congress.

So we do have problems, but it is not controllers. It is the bureaucracy.

Ms. TITUS. I wish that reassured me, but when you talk about efficiency and cutting costs and high cost of labor and benefits and controllers are part of that system, I do not know that I believe that that is where you are going to stop, is at so-called middle management.

But I would ask Mr. Rinaldi. He is sitting right there next to you. He represents these folks. It is not just you. A number of conservative media outlets keep talking about high labor costs, high labor costs. Let's get more computers. Let's have fewer people.

So I would ask you, Mr. Rinaldi: Just what assurances do you have that once your members are under control of a private system that is dominated by representatives of for-profit companies who are looking to run the system as cheaply as possible because it is about their bottom line, you heard they did not want to pay for it before, but they are getting it free now.

How do you know your members are going to be protected once this current contract is over?

Mr. RINALDI. Thank you, Madam Congresswoman.

Great question. First of all, we have nothing in front of us to actually compare to see exactly what type of worker's protections would be in the new language. So anything I would say would be speculating.

But I will tell you we are a highly trained, highly skilled, highly efficient workforce, and we keep hearing about Canada. We keep hearing about the United States. We run roughly 10 times the traffic they do in Canada, but only 5 times the amount of controllers. We are highly efficient.

And I stand behind the work of the air traffic controllers in this country, and I put them against anybody else in the world because we have the best in the world.

Ms. TITUS. I totally agree with that, and that is why I want to be sure they are protected under any kind of new system going forward.

Mr. RINALDI. Me, too, and I am with you.

Mr. SHUSTER. And I would just say, and I think Mr. Rinaldi said this before, under the AIRR Act from last year, we had support from the air traffic controllers as well, if I could for the record, submit letters of support from NetJets, Southwest Airlines Pilots' Association, the Allied Pilots Association, and NATCA.

So I would like to submit these letters for the record.

Without objection, so ordered.

[Letters of support and written statements from NetJets, Southwest Airlines Pilots' Association, the Allied Pilots Association, and NATCA are on pages 126–132.]

Mr. SHUSTER. And with that I recognize Mr. Mitchell for 5 minutes.

Mr. MITCHELL. Thank you, Mr. Chair, and thank you for all of the witnesses remaining for a long day.

Mr. Scovel, you note in your report that FAA reform efforts have not slowed the overall cost growth or improved the productivity, and you talk about the fact that their budget between 1996 and 2015 grew by 95 percent.

Also, earlier Mr. Duncan referenced that the hope is—I stress "hope"—the $36 billion will be the cost to get NextGen up, and sometime around 2030 it may come to fruition. I am hoping to still be around in 2030.

Let me ask you a question, Mr. Brown.

Am I wrong, Mr. Scovel, that that accurately portrays your analysis?

Mr. SCOVEL. Yes, it is correct.

Mr. MITCHELL. Mr. Brown, like you I am a private business guy. I am an aircraft owner. I have owned several aircraft. In fact, one of your props was on one of them. Thank you.

If you had a business that could not tell you what it was going to cost to put out a set of products, could not tell you when they were going to get it done, but said eventually we will get there, how likely is it that you would buy that business or keep it?

Mr. BROWN. That would not be in the category of strong indicators for that business.

Mr. MITCHELL. Thank you.

Mr. BROWN. And it would cause me to ask a lot more questions.

Mr. MITCHELL. Well, let me go to the next question. We talk about the value of the assets. There has been a lot of discussion about that. Mr. Scovel, how do we, quote,"pay for the assets," and I use that term loosely in the case of the FAA? How do we pay for those assets that we already have?

Mr. SCOVEL. Mostly they are funded by excise taxes on ticket sales, gas taxes from GA users. There is an infusion, as well, from the general fund.

Mr. MITCHELL. And, Mr. Brown, you have a lot of assets in your business, and what depreciation schedule do you use on them?

Mr. BROWN. Seven years on capital equipment.

Mr. MITCHELL. About 7 years you have fully depreciated them. Usable life on a lot of the equipment is what, 10 years?

Mr. BROWN. Yes. It can be longer, but yes.

Mr. MITCHELL. Not much longer, especially not in major capital.

Mr. Scovel, what is the average age of some of the equipment that is in the FAA right now? Air traffic controllers.

Mr. SCOVEL. The air traffic control structure is aging and getting older by the minute, obviously. The en route centers that manage high-altitude traffic, maybe 50 years on average, 25 years on average for terminal radar approach control.

Mr. MITCHELL. I would like someone to explain to me maybe in writing some way why we are losing our mind about, quote, "the value of these assets" when, in fact, in the real world outside these hallowed halls, the value of the assets is less than zero.

In fact, the question is how you dispose of them if, in fact, there were a value on those and you could not use those assets because that is what we are talking about. We are talking about assets that have gone beyond the half-life yet we somehow would think we were giving it away to somebody.

In fact, some of these assets we want someone to take them away.

A followup question also if you can, Mr. Poole. The countries that have gone to some version of privatization, third party other than the Government running the ATC system, 60 countries or so, they all had safe, relatively safe airline or flight systems before they divested, right?

Mr. POOLE. Yes, they did, and the study that was done by 3 universities about a decade ago looked at I think it was 5 years before and after comparison of 10 of those countries and found that safety did not go down in any of them, and it was either the same or better following the corporatization.

Mr. MITCHELL. Mr. Rinaldi, same question. Have they all had safe systems as they made their transition?

Mr. RINALDI. Yes.

Mr. MITCHELL. Any of your cohorts around the world say, "Oh, my God, we have gone to a third party or a privatized system and the world is now threatened?"

Mr. RINALDI. Completely opposite. Most of them would never go back to Government structure.

Mr. MITCHELL. See, I have flown Canada's system. I have flown Europe's system, and I have, for better or worse, flown the system here. I have got some interesting routing we could talk about, Mr. Brown. Flying back to Detroit through Fort Wayne was an interesting route. That was quite helpful.

The point is that we had a lot of discussion about bifurcating the FAA. Just because it was together when they created this thing, somehow there has been discussion that it is a terrible thing to talk about making it more efficient and separating it, like somehow it is a holy ground.

It is not working well. It is costing us a ton of money. If the argument is we just throw more money at it we hope it will get better, we say in my company hope is not a plan. It is a last step before desperation. We are at desperation.

One more comment, which is about the discussion about being controlled by the outside stakeholders. Big parts of my district are powered by rural electric cooperatives, lots of stakeholders, lots of interests, and those people would not give that up for the world because do you know what? It actually worries first about the customers and service and not about the politics, about what you talked to here about sequestration and all the other mess. It worries first about are we delivering the service we promised to deliver.

That is my hope for ATC reform and a board that has a fiduciary interest to deliver the service at a cost we can actually manage.

Thank you, sir. My time is up. You have been patient, and you rapped your gavel. I am done.

Mr. SHUSTER. I thank the gentleman.

And next is Mr. Weber is recognized for 5 minutes.

Mr. WEBER. Thank you, Chairman.

Mr. Scovel, when you had your comments you said you had identified some longstanding management weaknesses. Can you elaborate on those?

Mr. SCOVEL. They were. Yes, thanks for the opportunity.

By management weaknesses I am referring to those in FAA's acquisition practices. We cited in our testimony overambitious planning. ADS–B and ERAM [En Route Automation Modernization] would be key examples of that. I cited in our testimony the need for stable requirements for acquisitions to be successfully executed.

ERAM and the SWIM [System Wide Information Management] programs would be examples of where FAA had shortcomings in that area.

Contract oversight, generally, across the board. As we have audited FAA's programs, we have found areas that needed significant improvement, all the way from incentive fees to the requirement, FAA's own requirement, for independent Government cost esti-

mates in sole source contracting. Some FAA acquisitions personnel were not even following their own requirements.

So as you can see, there have been some significant shortcomings along the line. They have affected not only the NextGen programs proper but others that are in support of other areas of air traffic control and NextGen.

Mr. WEBER. My first year on the committee I know you said that you had received the label of the committee's biggest skeptic.

Mr. SCOVEL. Hired skeptic.

Mr. WEBER. Hired skeptic.

Mr. SCOVEL. And if I may, I was not skeptical of the committee. I was skeptical——

Mr. WEBER. I am glad you clarified that.

Mr. SCOVEL [continuing]. Of information, of proposals, of information, with the idea of bringing data for the committee's consideration.

Mr. WEBER. OK. Great. How long have you been the hired skeptic?

Mr. SCOVEL. A little over 10 years now, sir.

Mr. WEBER. Ten years. OK. So you have been doing this and watching this FAA for 10 years. Is that fair?

Mr. SCOVEL. Yes, sir.

Mr. WEBER. You said there were some requirements for them to continue to evolve. So fix those problems you just laid out for us. What are those requirements?

If they were to stay in place, how does it evolve?

Mr. SCOVEL. If FAA were to retain responsibility for air traffic control, first, continue to consult extensively with stakeholders. Where FAA has gone off the rails, largely it is because they have not done that.

Mr. WEBER. And you would think that the new process that the chairman is submitting would continue to consult with stakeholders?

Mr. SCOVEL. Well, stakeholders would play a large role in decisionmaking under a proposal as I understand how it may ultimately be.

Mr. WEBER. Well, they will have a board that has been discussed back and forth, but in that scenario, they would be in constant communication with the stakeholders, their businesses, the different parts of the group.

Go ahead.

Mr. SCOVEL. I am sorry. I may have misunderstood your predicate. I thought you were asking if FAA were to keep responsibility for air traffic control.

Mr. WEBER. Well, it was, but you are saying if they continue to be, and I am saying contrast that with what the recommendation here is, and that is that they would definitely be doing that. Go to step 2.

Mr. SCOVEL. They do. Focus on the acquisition system because as I understand it, that's the essence of the aviation community or users' dissatisfaction right now with FAA.

It is not on the safety side. We have all recognized FAA right now is in what I called earlier the golden era of aviation safety

through its own efforts, industry's efforts, Congress' efforts, as well as the efforts of my office.

But where dissatisfaction is arising, it is in the air traffic control modernization area. So focus on FAA's acquisition practices, the acquisition management system, which is the regulation that governs FAA's practices and needs to be updated. It needs to be revised. The workforce needs to be properly certified and trained.

All of those things that I talked about earlier about planning and good requirements need managerial attention.

Mr. WEBER. Could be done in the new system that the chairman is proposing. Let me stop you if I may because I am running out of time.

Mr. Poole, stand-alone airports, we have got a couple small ones.

Well, let me do this first. Mr. Rinaldi, you said that you all represented 40 or something of those airports?

Mr. RINALDI. Ninety-four.

Mr. WEBER. Ninety-four. Thank you.

Mr. Poole, back to you, what happens to those airports now?

Mr. POOLE. Well, those airports are owned by municipalities usually. They get funding from the AIP Grant Program. None of that would change. AIP would continue to be an FAA function and do that.

The main criterion affecting those small airports is whether they have a tower or not, and if they have a tower and it is obsolete and needs to be replaced, how is it going to get paid for and can it be afforded?

That is where I think, first of all, the legislation can spell out that everybody is entitled to a tower that meets the benefit-cost ratio, and the financing capability and openness to better technology of the corporation would very likely adopt remote towers as a more cost-effective way to be able to expand the scope of tower services to small airports that may not qualify today, but probably could with a better benefit-cost ratio.

So I think there is a very bright future for small airports.

Mr. WEBER. OK. Thanks for elaborating.

Mr. Chairman, I yield back.

Mr. SHUSTER. I thank the gentleman.

Mr. LaMalfa is recognized for 5 minutes.

Mr. LAMALFA. Thank you, Mr. Chairman.

Much discussion on the reform of FAA and air traffic controllers, and no doubt the controllers are doing very well with what they have to work with, but when we see the potential here for improvement with reform, I think a previous GAO report showed that reforms like we are talking about would have really no negative impact on safety. In many cases, safety improved.

What we have not seen is that throwing more money at it, FAA had not really improved; if anything, even in some cases a negative effect.

The potential for savings, as we have seen with the oft spoken of Canada system, shows that we can have a very positive effect on safety as well as saving money.

So what I wanted to ask Mr. Poole and Ms. Robyn would be: Do we really expect that these savings that would be achieved can be

actually passed down to the consumers on what they would expect for their cost?

Mr. POOLE. Well, that is an obviously good question to ask, and that depends really on is there a competitive airline market. If there is a competitive airline market, then lower costs are more likely to be passed on in ticket prices, for example, than if there is not a competitive market.

I think there are some concerns being raised about how competitive our airline market has gotten to be in recent years. I mean, there are some things we do not have time to discuss here, things Congress could do to try to make the airline market somewhat more competitive than it has been.

Mr. LAMALFA. OK. Ms. Robyn, similar? Ditto?

Ms. ROBYN. Yes, and I think in addition to passing savings on, I think you are trying to expand the system to allow more throughput, and you need new technology to do that. We are not at the cutting edge of that.

You need new technology in order to allow for an expansion of the system.

Mr. LAMALFA. For both of you again, if we were to move in this direction of ATC privatization, smaller airports, rural airports, you know, the threat of towers closing, what might be the expectations we would see for rural airports.

Just in general, I know we have been touching on it here in general, but what is it going to mean for rural airports and their viability?

Mr. POOLE. Well, I will repeat what I said a few minutes ago. I really think that a better funded system able to do large scale capital financing, one of its priorities would be facility replacement and some degree of consolidation, but also expanding the scope.

Right now, as I said, we have a moratorium on contract towers. FAA has a moratorium that is denying a couple dozen airports that are on a waiting list. Some of them have already qualified in terms of benefit-cost ratio, but there is just no funding available for FAA to do that.

A well-funded system that is focused on serving its customers better and open to aggressively using new technology, like remote towers, I think, offers the best future I can imagine for small airports in this country.

Mr. LAMALFA. Thank you for that.

I am running out of time. I want to jump to Mr. Scovel for a second here talking about contract towers.

So they are pretty important at smaller service airports and general aviation, et cetera. Up to 50 percent of civilian airports that have military operations use contract tower airports.

Now, it is very important to have these operations, which is around 250 of them in the country. Would you comment please, Mr. Scovel, on the value of the contract towers to air traffic safety and efficiency in our Nation's system and the cost effectiveness of this to FAA and as well as taxpayers?

Mr. SCOVEL. Yes. At this committee's request, we reviewed the FAA's Federal contract tower program several times, and we have concluded that generally they are as safe; they are as well respected and appreciated by users as FAA operated towers; and on

average, they save or avoid for FAA $1.5 million per year in costs versus FAA operated towers.

Mr. LAMALFA. Per tower?

Mr. SCOVEL. Per tower, correct.

Mr. LAMALFA. Significant. OK.

Mr. SCOVEL. We would cite Federal contract towers as a missed opportunity for FAA. We understand that in recent years there have been funding difficulties perhaps, but well before that FAA had opportunities to pull more towers into the Federal contract tower and took a pass.

It has been a decade or longer since FAA has moved any towers into the Federal contract tower program.

Mr. LAMALFA. Perhaps we should move more of them.

Mr. SCOVEL. It depends on funding.

Mr. LAMALFA. Always that.

Mr. SCOVEL. Yes, sir.

Mr. LAMALFA. Thank you, Mr. Chairman.

Mr. SHUSTER. I thank the gentleman.

Mr. Perry is recognized for 5 minutes. Finally, Mr. Perry.

Mr. PERRY. Finally. Well, I have not been here half of the meeting.

Ladies and gentlemen, thank you for your time.

I had a lengthy question for Mr. Scovel about contract towers, but I think I missed half of them and Mr. LaMalfa just asking them.

Suffice it to say the only thing I want to add in case it has not been added it is important to note that 47 percent of all military operations at civilian airports are at contract tower airports.

I am a rotary wing guy. So you know, not too much on the low altitude and route chart. The sectional is probably more important, but that having been said, it seems to me based on at least the answer I got to hear regarding my colleague's question that you feel that they are efficient and cost effective to the FAA and to the taxpayer.

Is that a fair summation, Mr. Scovel?

Mr. SCOVEL. Yes, completely fair.

Mr. PERRY. OK. Thank you.

And I know that is not necessarily the context of this hearing, but I think the context is, well, I will just use this. Between 1996 and 2012, the FAA's budget increased by 95 percent. Meanwhile productivity decreased substantially, and I am talking about personnel procurement and organizational reforms.

Doing the same thing over and over again, while I appreciate Mr. Brown saying we can tweak this, my argument would be that we have tried and tried to it seems not great effect, and I think I am probably be kind, right? Not great effect.

Let me ask you this, probably Mr. Poole and Mr. Rinaldi. I am really interested in the UAS propagation in the United States and the UTM, and I am wondering in the context of what we are talking about, the proposal policy model that we are talking about, if either one of you could describe what you feel your organization, especially you, Mr. Rinaldi, would feel needs to be in place if that is currently missing for us to come to some kind of UTM.

Because we have put requirements on the FAA to come up with something here and there are deadlines, but I feel like we are just way behind, and I just want to make sure that there is not something we are missing from your viewpoint.

Mr. RINALDI. Thank you, sir.

Safely integrating UAVs into our airspace is a monumental task, and it has taken a lot of resources in the FAA and certainly distracting us from working on NextGen as we are working on bringing UAVs into and incorporating them into our system.

So one of the things I would like to see is some type of user fee base for these UAVs so they actually can pay into the Aviation Trust Fund right now and pay for the system like everyone else does pay for the system.

Mr. PERRY. Is there a model that you know of regarding some kind of a participation for maybe commercial users as opposed to incidental private?

I am just curious.

Mr. RINALDI. That is a great question.

Mr. PERRY. It is an important concept.

Mr. RINALDI. It is a great question, and I think everybody is kind of scratching their head right now because they are not using fuel, and we base mostly on fuel or ticket tax, and they would not have either of that. So we actually have to come up with a new concept.

Mr. PERRY. So it might be like miles flown or something like that?

Mr. RINALDI. Well, I am really not sure how it would work.

Mr. PERRY. It would be a user fee? Well, OK. That is an important part of the discussion. I'm glad you brought it up.

Mr. Poole, what is your input? Do you know what the airlines want to see in integrating?

Mr. POOLE. I have no idea what the airlines think about this.

Mr. PERRY. OK.

Mr. POOLE. I do think there is a possible bifurcation between the very low altitude, mostly hobbyist uses of UAS, where there is a lot of interest in some kind of non-FAA private solution to this that Silicon Valley folks are talking about in cooperation with NASA.

So I think we need to separate that in terms of being different from the controlled airspace in which our airliners and many private planes fly.

Mr. PERRY. But there are going to be incursions into controlled airspace whether it is an air drone or——

Mr. POOLE. Yes, that is a significant problem we need to deal with.

Mr. PERRY. There are incursions now in both controlled and uncontrolled airspace, which is part of the issue, and I feel like we need to get to it.

But does anybody else have something to add?

Mr. RINALDI. No, we do see a lot of incursions today and a lot of spottings that commercial airlines are seeing, and I think the sooner we can safely integrate them and come up with a process, the safer the system will be.

Mr. PERRY. So while I would agree with you it does divert some attention, resources, time, energy, what have you, you cannot just ignore the fact.

Mr. RINALDI. No, I would not ignore it.

Mr. PERRY. I think that is really, really foolish, right?

Mr. RINALDI. It is an emerging technology, an emerging user into the system, and it is a very important user into the system.

Mr. PERRY. And I think actually to a great extent it can be an enhancement. I mean, some of the technologies that are emerging, especially in the navigation arena itself, could be used commercially to greatly enhance.

I was talking to the gentleman next to me and now my time has expired, Mr. Chairman, but you know, as an aviator myself, the sky is unlimited. You know, I am limited on the ground when I pull out of the parking lot. I have got to stay on the road or I am going off-road, and yet we have the same system since I have been flying for 20 or 30 years now. I essentially have got to take off and then go get on the highway instead of just going literally from point to point.

I do not know what the savings is estimated at going literally from point to point, but it has got to be monumental over thousands and millions and billions of flights, commercially or otherwise.

Anyway, Mr. Chairman, I yield. Thank you.

Mr. SHUSTER. I thank the gentleman.

With that, Mr. Sanford is recognized for 5 minutes.

Mr. SANFORD. I thank the chairman.

I just want to bore down just for 1 second. I guess I will begin with you, Mr. Rinaldi. From an air traffic control standpoint, a blip is a blip, right?

Mr. RINALDI. Well, not necessarily. We work all airplanes safely and efficiently. There are some heavy aircraft that you need to weight turbulence separation. So each blip, you know, for lack of a better term, gets treated safely and efficiently, but there are different ways to work them.

Mr. SANFORD. Fair enough. But the wing tip vertices off of a Piper Cub is going to be very different than the wing tip vertices off a 747 in term of separation.

Mr. RINALDI. Absolutely.

Mr. SANFORD. That is what you are getting at, but from the standpoint of management, it is essentially the same, right?

Mr. RINALDI. Yes.

Mr. SANFORD. So I think that one of the things that I have heard particularly from the cargo carrier side is the fear that if you move, are they going to be disproportionately impacted in that they weigh more.

From a traffic control standpoint, they do not take more time. They do not really use more stuff, but are they going to be disproportionately impacted relative to other small aircraft?

And I just love it. I see you shaking your head up and down. I do not know if it means yes or no, but I would love to hear some of your all's thoughts on that because I think that is one of the things as we go through these deliberations we have really got to ferret out.

Yes, ma'am.

Ms. ROBYN. On the pricing side, most economists would say the current approach of funding the air traffic system through the tick-

et tax is very inefficient because it is not correlated with the cost that users impose on the system, and so you want to go to a cost-based system.

What the rest of the world uses is a weight and distance charge, and they use weight because they cannot fully cover their costs typically with just a distance charge. You want to charge marginal costs, but you want to cover your full cost, and weight is a way of doing that.

It is called Ramsey pricing in economic terms, and the cargo folks object to that. And I think there is some really important analysis to be done about just how big that weight component has to be.

I think there is reason to think that the FAA may overstate their fixed costs, which is what requires you to have a weight component to the charge. There is a tendency for regulated utilities to overstate their fixed costs versus their marginal costs.

So I think this is a really important issue, and I do not think we should just blindly adopt the standard weight and distance charge.

Mr. SANFORD. Yes, sir.

Mr. POOLE. I have looked into this. In a 2001 Reason Foundation study, we actually had a lot of dialogue with one of the major cargo carriers, and they persuaded us that a strict weight-distance formula would cause a significant increase in the cost share that they would pay.

And we came up with an idea that said, "All right. Look at"——

Mr. SANFORD. And let me interject. It is ultimately not they pay. It is we pay.

Mr. POOLE. Well, ultimately, yes.

So what we came up with was we looked at the flight patterns by time of day, and it turned out that most of the cargo flights do not take place at the busy times of day or at the busiest hubs at those times of day.

And so if you put into the pricing formula a congestion factor, that you could basically hold the cargo carriers' share to about what it is today without having to discard the global standard of an overall weight-distance formula.

ICAO does permit congestion related factors going into airport and air traffic pricing. Hardly anybody does it except the U.K. major airports, Heathrow and Gatwick, but that is consistent with ICAO charging principles.

And I think that is a way that should be definitely explored for the cargo airlines.

Mr. SANFORD. I think that is fascinating in that if you look at this notion of optimizing the use of our structure in this country, I think this notion of going to premium pricing based on congestion or load is going to become a bigger and bigger issue, whether it is on surface transportation, air transportation or other.

I see I have 25 seconds, but it looked like you had a thought down there at the end, but maybe you did not.

Mr. SCOVEL. I have many thoughts, sir, but not on this particular subject. Thank you.

[Laughter.]

Mr. SANFORD. Fair enough. With that I yield back, Mr. Chairman.

Mr. SHUSTER. I thank the gentleman.

Mr. Davis is recognized for 5 minutes.

Mr. DAVIS. I bet I can guess that thought: When is this going to be over?

And then you have got Members like me that keep coming in and out. I apologize that we are shuttling back and forth between two different committee hearings today, but this is a very important one, one that I believe from many of the responses that we have heard today and many of my colleagues that it centers on what is really this debate of what is the cost of doing nothing.

I mean, it has already cost the taxpayers billions of dollars to put towards NextGen, and we are not seeing the progress that we as America, with the air system that we have, be upgraded to even be able to compete on the same level with some of our allies.

I cannot help to compare it to work that has already been done, and we discussed this today. You have, what has been done in Canada, what has been done in the United Kingdom.

Canada has bought twice the technology at half the cost, and has done so in one-third of the time.

So let me start with you, Mr. Rinaldi. What do you think would be the cost of doing nothing?

Mr. RINALDI. Yes, status quo or doing nothing is unacceptable. September will be here before we know it. We will be looking at another possible Government shutdown, and as I said in my opening statement, as we lead up to a shutdown, the FAA turns their attention from NextGen or from UAV implementation to shutdown procedures.

For the last 10 years, this happens a couple of times a year, and we lose this time. It is 4 or 5 weeks leading up to it; 5 weeks on the back end of it, and they are not sure what sequester is going to bring us if we actually do get a budget and do get a bill passed or what type of cuts we are going to have into the aviation system.

A lot of discussion about rural America. I will tell you and you remember, sir, that when sequester hit in 2013, the FAA looked at closing over 238 air traffic control towers.

Mr. DAVIS. That was a very interesting list. It contained a lot of them in my district.

Mr. RINALDI. Most of them were in rural America, absolutely.

Mr. DAVIS. Well, thank you.

Mr. Poole, do you have any comments on this?

Mr. POOLE. I think almost everything has been said, but I think on technology, the comparison with NAV CANADA is brilliant because they have things that we are only planning now. They have fully rolled out nationwide controller pilot data link, while we are looking at maybe 6 or 8 years before we have that in en route airspace.

They have across the North Atlantic very soon satellite-based positioning thanks to their investment in Aireon, this satellite-based global coverage. All of the places that do not have radar, which is 70 percent of the earth's surface, will now have radar-like separation possible because NAV CANADA and several other ANSPs have invested in that and are now subscribing to it, and FAA was unable to invest and cannot figure out how to subscribe to it.

So the idea that we are the gold standard, the most modern in the world is no longer true, and the more the status quo continues, the less that is going to be true. We are going to be falling farther and farther behind the state of the art.

Mr. DAVIS. Well, as we wind this hearing down, I want to make sure that we reiterate a few points. This new ATC entity is not going to decide where airlines or anyone can and cannot fly, correct?

Mr. POOLE. That is correct. They will not decide anything about where airlines fly.

Mr. DAVIS. Thank you.

And, Ms. Robyn, I want to address some more information that I have seen about the motives of the board under the AIRR Act proposal. Despite the fact that the bill clearly states that two directors will be appointed by the Secretary of Transportation to act in the public interest, some have questioned the motives of the board.

Can you describe your understanding of the governance of the board and how it will actually operate?

Ms. ROBYN. Congressman Mitchell referred to the electric cooperative in his district, and it is analogous to the cooperatives we have in the utility industry, and the agriculture and insurance sectors.

Mr. DAVIS. And they work, right?

Ms. ROBYN. Yes, they work beautifully. Air traffic control provision is still a monopoly. I think technology will change that, but for the time being it is still a monopoly. So you need a design that protects against any kind of monopoly abuse.

And the Canadian model does that by having the stakeholders select the board members, and the board members are fiduciaries, as the chairman emphasized in his introduction. They have a fiduciary responsibility. That has been critical to NAV CANADA's success.

Mr. DAVIS. And quote of the day, entities like this that are already operational work beautifully. So I appreciate that.

And we as policymakers——

Mr. SHUSTER. Keep going.

Mr. DAVIS. Thank you.

We as policymakers do not have a lot of time here. You know, we can sit and debate what is working and what is not, and Mr. Rinaldi mentioned that the FAA has got to deal with not only NextGen but UAS technology, which I once questioned an official about what Canada is doing correctly.

We do not have a lot of time to fix this. Today is the time to act. Now is the time to act, which is why this is so important.

So thank you.

Mr. SHUSTER. I thank the gentleman.

We do not have much time, but we do have time for Mr. DeFazio to have 5 minutes and me to have 5 minutes because they have called a vote, and we have got 12 minutes and 28 seconds. So I will strictly enforce the 5-minute rule.

Mr. DEFAZIO. OK. Thank you, Mr. Chairman.

I just want to point out in the DoD memo there is a sentence, "And recognizes the potential risks regarding DoD's national security responsibilities."

I would like to put in the record an article from the National Observer in Canada. Headline, "Inspectors Say a Major Canadian Airline Disaster is 'Likely,'" and they talk about the major cutbacks in the safety which was retained by the Government.

And then I would move on. Ms. Robyn, do you remember Executive Order 13180 by President Clinton?

[The National Observer article entitled, "Inspectors Say a Major Canadian Airline Disaster is 'Likely,'" is on pages 147–150.]

Ms. ROBYN. Is that the one that created the ATO?

Mr. DEFAZIO. The one that says air traffic control is an inherently governmental function.

Ms. ROBYN. Yes, the date of that is December 7th, and they were——

Mr. DEFAZIO. Thank you. Thank you, Ms. Robyn. I do not have time. Ms. Robyn, I do not have time. Thank you.

So, Mr. Scovel, so we just kind of said, oh, our assets are old and someone down there said they are not worth anything.

How old is that? I think that is 13, right? That is Houston, valued at $62 million. Then, of course, we have property in Long Island, kind of valuable.

I mean, have you broken out the assets in terms of property values?

In Canada they valued the system, and they had to pay for it, correct?

Mr. SCOVEL. They did.

Mr. DEFAZIO. OK. And the inspector general in Canada, auditor general, and this is Canada, little, dinky Canada, they paid $1.5 billion, and we are proposing that nothing would be paid here and there is no value, and they said it was undervalued at $2.6 billion.

How old was their system? Because you are saying our system is old and decrepit and these guys say it is not worth anything. Was theirs brandnew, spiffy back then?

Mr. SCOVEL. No.

Mr. DEFAZIO. OK. So they paid for it, but here we have a much larger investment that we are going to transfer for free, and of course, we have the whole problematic thing about taking.

And you valued it at $13.7 billion. How much of that would you depreciate?

Mr. SCOVEL. How much of that would depreciate it?

Mr. DEFAZIO. No, I mean what is land value versus building? You do not know?

Mr. SCOVEL. That is the infrastructure alone. I do not believe it involved the property value.

Mr. DEFAZIO. OK. So it is quite valuable.

Now, let's go to small airports. Almost everybody on that side is sensitive to GA. They represent more rural districts, and we heard that they will not direct where people fly.

That is correct, but this board will decide where we invest. Here is the statement of the CEO of Jet Blue. "We also need to direct infrastructure improvements into the regions of the country that will produce the most benefits, like the Northeast Corridor."

The airlines get four seats on that board. That is the opinion of Jet Blue. We heard the same thing from the former CEO of United

and, oh, by the way, there is no airport representative on the board whatsoever, at least as the bill was written last year.

So we say we are going to protect rural interests. We are going to pretend it.

Now, Mr. Brown, you talked about WAAS. There are 4,421 WAAS. Did those come for free? And do they have to be maintained, updated?

Mr. BROWN. Well, the FAA like night owls produce them one airport at a time until they arrived on my doorstep, and I was amazed by them, but they got paid for by the user fees and fuel taxes that fueled the system.

Mr. DEFAZIO. Yes. We heard how much money has been wasted, except we have been investing in things like that which are not valuable to the commercial industry.

Except for maybe Jackson Hole and a couple other places, does the commercial industry use those?

Mr. BROWN. Anybody can use those if they have the right equipment. The problem is most of their airlines do not have the right equipment.

Mr. DEFAZIO. Well, that is interesting.

Does anybody know of another country in the world that is ready to turn on a ground-based ADS–B system in 2020 for all of their air traffic? Anybody who is so equipped, any other country in the world doing that, ground-based domestically, not over the ocean?

Mr. POOLE. Australia. It is already in operation.

Mr. DEFAZIO. OK. So we have got one, and we are going to be there, too.

So we hear a lot about this over the ocean stuff. I am not particularly concerned about the tiny fraction of over the ocean flights we control and whether or not they get free ADS–B because there are not that many planes to worry about the congestion and flying closer together, whereas domestically we may get some benefit from the system, but it still begs the question of how many planes can you land at the same time at many of our airports, which has to do with airport scheduling.

Revenues, apparently there is an assumption that Congress will repeal the ticket tax. I mean, right now our current taxes are yielding about $14 billion a year, and the ATO is $11.1 billion. So that assumes Congress is going to repeal substantial taxes, I assume.

That is correct, and then the new board will determine how to pay for the ATO.

OK. I see a nodding of the head, yes.

Thank you, Mr. Chairman.

Mr. SHUSTER. I thank the gentleman.

And let me start off first by saying that investment will not be directed by this new board. There will still be eight IP funds that will be going directly out to these small and medium-size airports around the country. So that is not actually accurate.

One of the things that Ms. Titus brought up, which I think is very, very important and she was directing it to Mr. Rinaldi was about the air traffic controllers, and let me tell you one of my biggest concerns in this proposal is that we make sure we move those highly trained, highly technical, highly skilled, efficient air traffic controllers to the new system. And if you do not do them the right

way, one-third of them—I think I am correct—one-third of the certified controllers can retire tomorrow if they are not happy.

So for me that is something very important, and I can tell you I have been criticized by conservative groups around this town because they just do not get it. You have to take the qualified workforce with you.

So, Mr. Rinaldi, I know we talked a little bit about the count going up at NAV CANADA. The controller count goes up. What are your thoughts on not only the controller count, but middle management?

Mr. RINALDI. Well, if you look at, and it was brought up earlier, NAV CANADA when they were in Government, they had roughly 6,700, 6,800 employees, of which 2,000 were air traffic controllers.

Now that it is a highly functioning, not-for-profit corporation, they have about 4,300 employees, of which 2,000 of them are roughly air traffic controllers.

So the controller workforce stayed the same or went up a little bit. It is the middle management that they attrited through retirements in a humane way, and they just did not backfill those positions.

I call a lot of that, you know, between the middle management within the agency and the multilayers of contractors they have within the agency also, it is one of the things that is already being privatized out there with all of these contractors within FAA headquarters.

I call that the "clay." It actually stops good things from happening at the very top, and things that are happening trying to change at the operational level.

Mr. SHUSTER. And so those of us that are not geologists, nothing permeates down and nothing permeates up, correct?

Mr. RINALDI. Yes.

Mr. SHUSTER. I understand what "clay" is then.

Mr. RINALDI. It is 15 levels of no to get to yes.

Mr. SHUSTER. Exactly. And then finally, I just wanted to make the point here that, first of all, something was said along here that the airspace would be restricted.

We made it clear in AIRR 1 but maybe not clear enough to make sure that this new entity will not be able to restrict airspace. The plan, plain and simple, we are going to strengthen that language to make sure the general aviation community knows they are not going to be restricted by this new entity.

That is the FAA having the regulatory oversight of this if that is the case to do something like that.

Second, when we talk about NAV CANADA, our system is 10 times larger. No doubt about it. I believe because we are so big and so complex, that is a reason to move to the system so that we can manage it much better.

You know, we are already scaled to a size to handle those greater operations, 3,000 facilities, 14,000 controllers, 6,000 technicians, 5,000 managers. We are scaled to handle this today.

And then I might add, again, and this is something that is very troubling to me and it should be troubling to anybody who is in the business world, we are 9 to 10 times larger, depending on how you

want to measure it, than Canada. We spend 25 times to 28 times more in CapX than they do.

And as was mentioned by Mr. Davis, the former CEO of NAV CANADA said, he gets twice as much technology at half the cost three times as fast.

So, again, as a business owner, a former business owner, if we are spending 25 to 28 times more in CapX and we are getting very little for it, that is a real problem. That is a real problem for the American taxpayer. That is a real problem for the system.

If we were doing it efficiently, my goodness, how we could drive the costs down, and as I spoke to the folks in NAV CANADA, and I think everybody understands, this is a volume business, and if we go to the system, our volume is so tremendous it will dramatically drive down the cost, and we will have more money out there to do things to help more communities, to do things to help the efficiency, the technology, the employees.

So, again, this is something we have got an opportunity, and I said to the airlines when I was here last time when they did something very wrong, we have an opportunity here to do something very right, and I hope we seize this opportunity because I am afraid it is not going to come along again.

Ms. Robyn, I think I am the first one who called you the right name today.

[Laughter.]

Mr. SHUSTER. I know you have been engaged in this for a number of years. You started in the Clinton administration, and I appreciate all of the value you bring here, as well as Mr. Poole and Mr. Brown. Thank you so much for being here today. Your perspective is very valuable to us.

Again, I want to reiterate. I am a GA guy. I am a rural guy. There is nothing I want to do to hurt those people who are my constituents, but I think what we have at hand here is something to help the United States of America to continue for us to be the leader in aviation around the world.

So again, thank you all for being here today. I appreciate your time.

And I would ask unanimous consent that the record of today's hearing remain open until such time as our witnesses have provided answers to any questions that may be submitted to them in writing.

And I ask unanimous consent that the record remain open for 15 days for any additional comments or information submitted by the Members and witnesses to be included in the record of today's hearing.

Without objection, so ordered.

I would like to thank the witnesses again, and there are no other Members, so we are adjourned.

[Whereupon, at 1:38 p.m., the committee was adjourned.]

Before the Committee on Transportation and Infrastructure
United States House of Representatives

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Observations on FAA's Efforts To Implement Reforms and Modernize the National Airspace System

Statement of
Calvin L. Scovel III
Inspector General
U.S. Department of Transportation

Chairman Shuster and Members of the Committee:

Thank you for inviting me to testify on the Federal Aviation Administration's (FAA) efforts to implement organizational reforms and modernize the National Airspace System (NAS). Since 1958, FAA has overseen the safe operation of the busiest and most complex air traffic system in the world. Over the past 2 decades, Congress has enacted legislation specifically aimed at making FAA more efficient and cost effective while expediting modernization projects. Congress has also provided the Agency with significant support to modernize the National Airspace System, most notably through its backing of the Next Generation Air Transportation System (NextGen)—a multibillion-dollar transportation infrastructure project intended to modernize our Nation's aging air traffic system.

Our past and ongoing work has examined FAA's implementation of its reform authorities as well as high-priority NextGen investments. My testimony today is based on this work and will focus on FAA's (1) efforts in implementing personnel, organizational, and acquisition reforms and (2) progress and challenges with FAA's NextGen efforts. Though my office does not make policy recommendations, I will also discuss how other countries have structured their aviation systems and highlight factors that this Committee may wish to take into account as it considers making changes to FAA's organizational and financing structures.

SUMMARY

Since 1995, FAA has implemented several reforms in response to congressional mandates to improve its operations, acquisition practices, technology delivery, and cost management. These include implementing a new employee compensation system, establishing an Acquisition Management System (AMS), and undertaking multiple reorganizations. However, these reforms have not achieved the expected cost and productivity outcomes. In addition, while FAA has reported that it improved its management of large-scale modernization projects and acquisitions, our work continues to find that several systemic issues impact FAA's ability to meet its overall cost, schedule, and implementation goals. FAA is making progress in implementing some high-priority capabilities for NextGen, such as working with industry to implement more fuel-efficient routes during takeoffs and landings. However, several risks remain to be addressed in delivering these priorities and achieving expected benefits, such as resolving complex technology integration issues. As Congress and the Administration consider changes to FAA's structure, other nations that have commercialized their air traffic navigation systems—such as Canada, the United Kingdom, France, and Germany—may serve as a helpful frame of reference. At the same time, policy makers will need to take into account other important factors, such as the unique scale and complexity of the United States NAS.

FAA REFORMS HAVE NOT ACHIEVED EXPECTED OUTCOMES

Over the past 2 decades, Congress has granted FAA authority to reform the Agency's operations, acquisition practices, technology delivery, and cost management. FAA has taken several steps in response, including major internal reorganizations to improve efficiency. Despite these reforms, however, FAA's total budget, operations budget, and compensation costs have nearly doubled, while the Agency has not realized corresponding cost and operational efficiencies. In addition, longstanding management problems have led to further delays with FAA's efforts to deliver new technologies and major acquisitions.

FAA Has Implemented Congressionally Mandated and Other Reforms

Since 1995, FAA has implemented congressionally mandated personnel and organizational reforms and established measures to improve its internal operations and reduce costs (see table 1). These efforts include establishing the Air Traffic Organization (ATO), implementing new performance-based compensation systems, negotiating collective bargaining agreements with its bargaining units, and implementing a cost accounting system.

Table 1. Summary of FAA Reforms

Legislation	Key FAA Reform Efforts
Personnel Reforms	
In 1995, legislation was passed that exempted FAA from most Federal personnel rules, allowing it to implement a new personnel management system with more flexibility in hiring, training, compensating, and assigning personnel. In 1996, additional legislation required FAA to negotiate pay with its bargaining units.	• 1996: FAA implemented the Core Compensation System (performance-based pay system). • 1998: FAA negotiated the first collective bargaining agreement with the National Air Traffic Controllers Association. It has since negotiated four more agreements (2003, 2006, 2009, and 2016).
Acquisition Reforms	
In 1995, legislation granted FAA relief from Federal acquisition laws and regulations and directed FAA to develop an AMS to meet its unique needs. FAA's AMS was designed to be less prescriptive and more flexible than the FAR by allowing procurement officials to use discretion to employ any procedures that are not captured in AMS.	• 1996: FAA implemented AMS. • 2004: FAA began using phases and segments* to budget for major acquisition systems to meet Office of Management and Budget (OMB) guidance and initiatives to improve acquisition management. • 2012: FAA created single points of accountability for contracting officers and program managers and an FAA-wide program management office for acquisitions.
Organizational Reforms	
In 1996, legislation was passed requiring FAA to establish a cost accounting system. In 2000, legislation required FAA to appoint a Chief Operating Officer (COO) to oversee daily operation and modernization of the air traffic control system. Later that year, an Executive Order created the ATO.	• 2003: The first COO was appointed. • 2004: FAA established the ATO. • 2006: FAA implemented a cost accounting system. • 2011: FAA moved the NextGen program office out of ATO and placed it under an Assistant Administrator to increase visibility for the program.

* OMB guidance states that agencies should break large acquisitions into smaller, more manageable segments for more efficient project and acquisition management purposes.

In addition, FAA carried out multiple reorganizations to flatten its organizational structure and improve efficiency. For example, after establishing the ATO in 2004, FAA restructured the ATO's administrative and support functions in 2006 and consolidated nine regional service offices into three new service centers (Eastern, Central, and Western). In 2012, FAA created Deputy Chief Operating Officer and Chief of Staff positions and merged the terminal and en-route services units to form the Air Traffic Service Unit under a single vice president. FAA also eliminated four Senior Vice Presidents and combined the safety and technical training services units into one unit. These changes eliminated duplicate staff and reduced FAA's administrative overhead expenses by consolidating leases and implementing new processes for purchasing equipment and supplies.

FAA has also taken steps to reduce its costs. For example, in February 2005, FAA awarded a 10-year contract to Lockheed Martin to operate flight service stations in the continental United States, Puerto Rico, and Hawaii. Last November, we reported that FAA has achieved most of the anticipated cost savings from contracting out flight service operations—about $2.13 billion over a 13-year period.[1] FAA achieved these savings through reorganization of flight service operations, modernizing facilities and equipment, consolidating service stations, and reducing staff levels. Effective contractor oversight also contributed to savings, including 22 measures to evaluate contractor performance and input from pilots and other users. The Agency also implemented a broad-based set of initiatives intended to reduce costs such as communication and travel.

Reforms Have Not Achieved Expected Cost and Productivity Outcomes

FAA's reform efforts have not slowed the Agency's overall cost growth or improved operational productivity as intended. Instead, between fiscal years 1996 and 2015, FAA's total budget grew by 95 percent,[2] its operations account increased by 110 percent, and its total personnel compensation and benefits (PC&B) costs doubled (see figure 1).[3] Despite the rise in FAA's PC&B budget, FAA's workforce levels have dropped over the past 2 decades, and the number of air traffic facilities the Agency operates has essentially remained the same.

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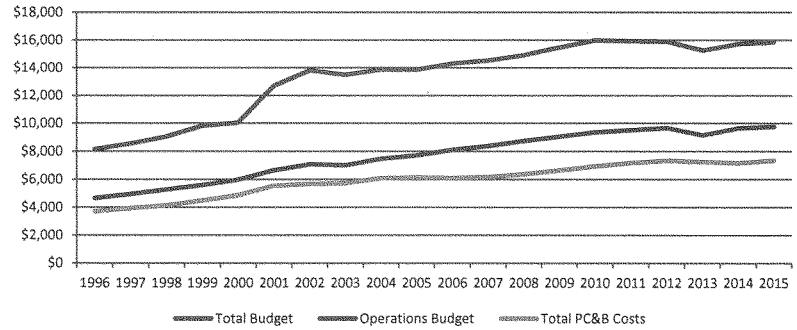
[1] *FAA Achieved Most of the Anticipated Cost Savings From Contracting Out Flight Service Stations, but Needs To Determine the Future Direction of the Program* (OIG Report No. AV2017015), November 16, 2016. OIG reports are available on our Web site at http://www.oig.dot.gov/.

[2] In 2000, Congress passed legislation that significantly increased funding for the Airport Improvement Program and Facilities and Equipment.

[3] Even when adjusted for inflation, the total budget increased 35 percent, the Operations account increased 45 percent, and PC&B cost increased 16 percent.

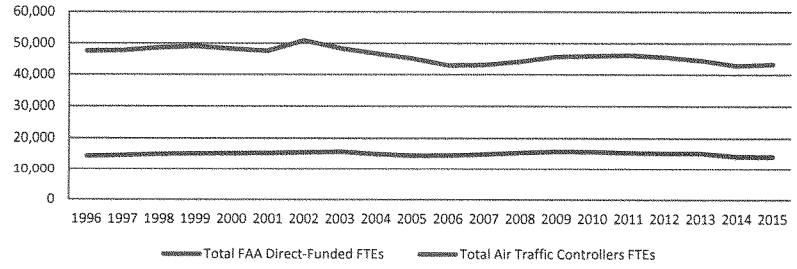
Figure 1. FAA's Total Budget, Operations Budget, and Total PC&B Costs, Fiscal Years 1996 Through 2015 (Dollars in Millions)



Note: Dollars shown are current dollars and have not been adjusted for inflation.
Source: OIG analysis of FAA data

Between fiscal years 1996 and 2015, the Agency's total number of full-time equivalents (FTE) decreased by nearly 9 percent, from 47,508 to 43,355. As of 2015, FAA's controller workforce stood at 14,143 FTEs. Over the last 20 years, its controller workforce has ranged up to 15,770 FTEs (see figure 2).

Figure 2. FAA's Total Number of Direct-Funded FTEs and Air Traffic Controllers FTEs, Fiscal Years 1996 Through 2015



Source: OIG analysis of FAA data

FAA has not met the goals of its reform efforts largely because it has not taken full advantage of its authorities when implementing new personnel systems or used sound business practices to improve its operational efficiency and cost effectiveness. Our work has noted various opportunities FAA has missed to achieve the outcomes it intended for its reforms. For example:

- **FAA has not effectively leveraged personnel reform flexibilities.** While FAA is exempt from most Federal personnel laws and regulations covered by Title 5,[4] many of its personnel policies, such as premium pay, leave, and grievances, continue to mirror Federal rules—due in part to FAA's unionized workforce, which negotiated benefits and other personnel matters that are in line with Federal regulations. However, FAA did use its personnel reform authorities to change and expand the number of pay systems for its workforce. In addition, last January the National Academy of Public Administration reported that it was not possible to determine whether exempting FAA from Title 5 addressed the human resource challenges the Agency faced in the 1990s, such as attracting and retaining qualified staff and reassigning employees in response to changing needs.[5] The report also questioned whether the Agency had maximized these flexibilities in other areas, such as hiring and recruiting.

- **FAA has not demonstrated improvements in controller productivity.** Controller work rules that FAA and the National Air Traffic Controllers Association negotiated have not increased productivity or reduced the Agency's operating costs as intended. In 2014, we reported that FAA implemented 51 initiatives intended to increase controller productivity, reduce operating costs, and improve training and hiring practices.[6] However, only two of the initiatives resulted in measurable cost savings. Six initiatives increased Agency costs, and 43 lacked quantifiable baseline productivity and cost goals, making it difficult to assess their effectiveness. Moreover, according to a 2015 study, FAA's unit cost of service has increased by 71 percent since 1997, due largely to a decline in operations with no offsetting decline in operating expenses.[7] We also reported that FAA does not systematically collect or analyze controller workforce data to reduce costs or improve productivity, and FAA officials could not agree on which metrics are appropriate to measure controller productivity.

- **FAA has not taken advantage of opportunities to reduce facility costs.** Notably, since 2000 the Agency has not converted any of its FAA-operated towers to the Federal Contract Tower Program—despite its recognition of potential cost savings. As we reported in 2012, a contract tower costs on average about $1.5 million less to operate than a comparable FAA tower, mainly due to lower staffing and salary levels.[8]

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[4] Title 5 is the section of the U.S. Code that covers Federal personnel statutes.

[5] *Federal Aviation Administration: Personnel Reform Effectiveness Assessment*, National Academy of Public Administration, January 2017.

[6] *FAA Lacks the Metrics and Data Needed To Accurately Measure the Outcomes of Its Controller Productivity Initiatives* (OIG Report No. AV2014062), July 9, 2014.

[7] *Options for FAA Air Traffic Control Reform*, testimony of Dorothy Robyn before the House Committee on Transportation and Infrastructure, Subcommittee on Aviation, March 24, 2015.

[8] *Contract Towers Continue To Provide Cost-Effective and Safe Air Traffic Services, but Improved Oversight of the Program Is Needed* (OIG Report No. AV2013009), November 5, 2012.

These and other issues have stemmed from FAA's lack of basic business practices to oversee its operations and make decisions. While FAA has implemented systems, such as a cost accounting system, to operate more like a business, it does not regularly analyze the operational and cost data generated by these systems to determine if it could reduce costs or improve productivity. Several FAA officials and users have noted that while FAA successfully maintains one of the safest, most complex systems in the world, the Agency places limited focus on factors such as cost efficiency or productivity enhancement. This mindset also encourages managers to go with the "status quo" when making cost and operational decisions regarding the NAS, such as ineffectively using overtime at air traffic facilities.

Management Problems Continue To Hinder FAA's Efforts To Deliver New Technologies and Major Acquisitions

FAA's reforms have also fallen short in improving its delivery of new technologies and capabilities. Major projects—including some critical to NextGen—have experienced cost increases and schedule slips. Our work continues to find that several systemic issues underlie FAA's problems in delivering new technologies on time and within budget. These include overambitious plans, unreliable cost and schedule estimates, unstable requirements, software development problems, poorly defined benefits, and ineffective contract and program management.

To help reduce cost and schedule risks, FAA now manages systems in phases, which the Agency says improves learning and management through the early identification of potential issues. While this approach can help move a program forward, it can also mask the overall cost, schedule, and capabilities of several large budget programs. For example, FAA has adopted a segmented approach to implementing its six "transformational" programs,[9] a multibillion-dollar set of initiatives required to implement NextGen and introduce new capabilities. As we reported in 2016, FAA has made some progress implementing these programs and has approved costs and schedules for their initial segments.[10] For example, FAA approved funding of $2 billion for the first segment of Data Communications (DataComm) and $2.7 billion for three segments of the Automatic Dependent Surveillance–Broadcast system (ADS-B), including the recently completed ground-based infrastructure and the ongoing rollout of ADS-B services and applications.[11] As of November 2016, cost estimates for the transformational programs (as currently envisioned) total over $5.7 billion (compared to $2.1 billion in 2012) and extend beyond 2020. However,

[9] The six transformational programs are Automatic Dependent Surveillance–Broadcast (ADS-B), System Wide Information Management (SWIM), Data Communications (DataComm), NAS Voice System (NVS), Common Support Services-Weather (CSS-Wx), and Collaborative Air Traffic Management–Technologies (CATM-T).

[10] *Total Costs, Schedules, and Benefits of FAA's NextGen Transformational Programs Remain Uncertain* (OIG Report No. AV2017009), November 10, 2016.

[11] DataComm will allow controllers to send digital messages to pilots. ADS-B technology uses satellite-based GPS and is intended to allow FAA to transition from ground-based radar to a satellite-based system for improving surveillance and management of air traffic.

FAA has not fully identified the *total* costs, the number of segments, their capabilities, or completion schedules for any of the six programs.

In addition, FAA has not determined when the transformational programs will start delivering benefits or how they will improve air traffic flow or controller productivity. For example, FAA's ADS-B program currently focuses on the ADS-B *Out* capability (the broadcast of information to ground systems), which is mandated for airspace users to equip by January 1, 2020. ADS-B *Out* will only provide few benefits to airspace users except in airspace where radar is limited or nonexistent. FAA expects users could gain more widespread benefits through ADS-B *In,* which will enable display of the information in the cockpit. However, ADS-B *In* requirements continue to evolve.

These weaknesses are not limited to FAA's transformational programs. As we reported in January 2016,[12] 8 of FAA's 15 major system acquisitions that were ongoing as of September 30, 2013,[13] had cost increases and 8 had schedule delays. Overall, ongoing major system acquisitions experienced a cumulative cost increase of $3.8 billion beyond FAA's original estimates[14] and delays ranging from 7 to 174 months, with an average delay of 51 months. In response to our recommendation, FAA now annually identifies the total ongoing costs—including both open and closed segments—for each acquisition that involves multiple segments. However, it remains difficult to determine whether desired capabilities have been delivered as planned, in part because FAA's reporting does not always identify changes to an acquisition's scope.

Furthermore, FAA has demonstrated ineffective contract management and lack of internal controls in several acquisitions and agreements we have reviewed. For example:

- FAA has not done enough to reduce its use of sole-source[15] contracts, as directed by OMB in 2009. As we reported in May 2016, between fiscal years 2008 and 2014, FAA awarded 624 sole-source contracts with a total value of about $2.2 billion.[16] Also, FAA had not adequately conducted many pre-contract award practices required by AMS—such as procurement planning or developing

[12] *FAA Reforms Have Not Achieved Expected Cost, Efficiency, and Modernization Outcomes* (OIG Report No. AV2016015), January 15, 2016.

[13] To evaluate the effectiveness of FAA's reforms on current acquisitions, we limited our review to all major acquisition systems that were active as of September 30, 2013—which was the latest fiscal year with available information at the time we started our audit.

[14] About $3.1 billion of the $3.8 billion cost increases for the eight systems were associated with the Standard Terminal Automation Replacement System (STARS) and the Wide Area Augmentation System—FAA's oldest active major acquisitions at the time. About $1.46 billion of the STARS and WAAS increase is associated with overruns to initial baselines, and $1.67 billion was due to technology refreshment and enhancements. Six other programs experienced combined cost increases of $692 million—of which $539 million was associated with cost overruns to initial baselines, and $153 million was due to technology refreshment.

[15] Sole-source contracts are negotiated without the benefit of competition and carry the risk of overspending.

[16] *FAA Lacks Adequate Controls To Accurately Track and Award Its Sole-Source Contracts* (OIG Report No. ZA2016065), May 9, 2016.

independent cost estimates to ensure reasonable prices. We projected that the total estimated value of sole-source contracts that did not fully comply with key AMS requirements is $962 million, or 51 percent of the total estimated value of contracts in our universe.

- FAA does not always ensure adequate oversight on its multiple award contracts. Our 2012 audit[17] of FAA's Systems Engineering 2020 (SE-2020) contracts, originally valued in 2010 at $7.3 billion,[18] found that unreliable cost baselines and overstated contract values may have affected the FAA's ability to manage total contract costs. Due to these concerns and the significant funding involved, we are conducting a follow-up audit of FAA's award and oversight of SE-2020 task orders to assess whether FAA's actions for awarding task orders and overseeing the SE-2020 acquisition program are sufficient to meet its program mission.

- FAA also did not effectively oversee procurements awarded with its Electronic FAA Accelerated and Simplified Tasks (eFAST)[19] program. We recently reported[20] that some of the contracting officer representatives responsible for overseeing eFAST procurements lacked required certifications and specific procurement expertise. We also found a lack of documented oversight plans.

- FAA is not adequately managing its use of other transaction agreements—which are not required to follow many laws, regulations, and policies that apply to more traditional acquisition and financial assistance instruments such as contracts and grants. Our ongoing review has identified concerns with incomplete file documentation, inadequate oversight, and funding and program vulnerabilities. We expect to report on FAA's oversight of other transaction agreements later this year.

Management weaknesses with major programs are also exacerbated by gaps in FAA's AMS guidance for acquisitions. When FAA implemented AMS in 1996, it believed that it would have increased flexibility to rapidly field systems at less cost. FAA's Administrator at the time stated that FAA's goal for AMS was to cut acquisition costs by 20 percent and acquisition schedules by 50 percent within 3 years, compared to earlier acquisitions implemented under the Federal Acquisition Regulation (FAR).[21]

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[17] *FAA's Contracting Practices Are Insufficient To Effectively Manage Its Systems Engineering 2020 Contracts* (OIG Report No. ZA2012082), March 28, 2012.

[18] FAA revised its estimate for the SE-2020 contracts to $1.1 billion, effective November 1, 2015.

[19] eFAST is the Agency's preferred vehicle for small business procurements, offering a broad range of professional and support services including research and development and engineering services.

[20] *Opportunities Exist for FAA To Strengthen Its Award and Oversight of eFAST Procurements* (OIG Report No. ZA2017046), May 8, 2017.

[21] The Federal Acquisition Regulations System is established for the codification and publication of uniform policies and procedures for acquisition by all executive agencies. The Federal Acquisition Regulations System consists of the Federal Acquisition Regulation (FAR), which is the primary document, and agency acquisition regulations that implement or supplement the FAR.

However, the gaps we have found in AMS policies and guidance are hindering effective implementation of major acquisition programs. For example:

- FAA has not implemented a recommendation from our January 2016 report to incorporate modular contracting requirements into AMS guidance. Recommended by the Federal Chief Information Officer, modular contracting emphasizes acquiring information technology investments in contractual increments, each of which produces a measurable result towards delivering the functionality for the investment, which can help reduce cost and schedule risks in large-scale programs.

- AMS also does not provide specific guidance to assist program managers in accepting large software intensive programs—such as the En Route Automation Modernization (ERAM) program that automated how controllers manage high-altitude traffic—which contributed to the acceptance of immature software and millions in increased development costs.[22]

In light of the organizational and program management changes FAA has made over the years, it is difficult to precisely determine how FAA's switch from the FAR to AMS has affected how it delivers acquisitions. However, FAA is currently reviewing industry best practices to determine how AMS can be improved.

FAA IS MAKING PROGRESS WITH HIGH-PRIORITY NEXTGEN INVESTMENTS, BUT CHALLENGES REMAIN IN MANAGING RISKS AND DELIVERING BENEFITS

Given the large scope of FAA's NextGen effort, establishing investment priorities is key to maximizing near-term benefits and securing stakeholder involvement. FAA has made progress working with industry in identifying and advancing investment priorities, such as new routes based on performance-based navigation (PBN). However, several risks remain to be addressed in delivering these identified priorities and achieving expected benefits.

FAA Has Made Progress in Implementing High-Priority Investments

FAA has successfully worked with industry to identify and launch key NextGen priorities. In 2013, FAA tasked the NextGen Advisory Committee (NAC) with reviewing FAA's NextGen plans and recommending priorities for investment. That same year,[23] the NAC identified four top priorities critical to delivering near-term benefits and advance NextGen: (1) advancing PBN, (2) improving access to closely spaced parallel runways (known as Multiple Runway Operations, or MRO), (3) enhancing airport surface operations, and (4) developing data communications for

[22] *Weaknesses in Program and Contract Management Contribute to ERAM Delays and Put Other NextGen Initiatives at Risk* (OIG Report No. AV2012179), September 13, 2012.
[23] The NAC added the Data Communications program as its fourth priority in February 2014.

controllers and pilots. FAA and the NAC are in discussions to add a fifth priority—to focus on reducing congestion in the Northeast corridor.

In response to the NAC's report, FAA collaborated with industry representatives to develop an implementation plan for capabilities in the four original priority areas. FAA has since made progress and reported that it completed about 93 percent of its milestones between October 1, 2014, and March 31, 2017.

The following are some notable examples of FAA's progress:

- **MRO:** FAA implemented Wake Recategorization (RECAT), a capability that safely reduces separation between aircraft on arrivals and departures, at 11 airports nationwide, including Hartsfield-Jackson Atlanta International Airport, George Bush Houston Intercontinental Airport, and John F. Kennedy International Airport.

- **PBN:** FAA fully deployed PBN procedures at the Northern California Metroplex during the second calendar quarter of 2015, about 3 months ahead of schedule. FAA conducted a phased implementation of 44 routes covering the greater San Francisco Bay Area and Sacramento.

- **Airport Surface Operations:** FAA reported early implementation of the System Wide Information Management Surface Visualization Tool at five Terminal Radar Approach Control facilities. This system allows controllers to better monitor congestion and plan for changes on airport runways and taxiways, especially during inclement weather.

- **DataComm:** FAA reported making strides with DataComm, implementing the capability for departure clearance at 3 key airport towers in 2015 and at a total of 55 towers by December 2016. At the request of the NAC, FAA agreed to accelerate DataComm deployment ahead of the original schedule. To its credit, the Agency is implementing DataComm at specified towers across the Nation about 30 months ahead of schedule.

Yet, full implementation of all capabilities—and the realization of benefits—remains years away. Of the 156 milestones FAA reported as completed through March 2017, most were attributed to the implementation of Wake RECAT and DataComm at airport towers. Significant work remains to deploy new PBN procedures to capture airspace efficiencies and boost arrival rates, develop surface technologies to enhance capacity on crowded runways and taxiways, and install DataComm in the high-altitude environment to allow pilots and controllers to, among other things, reroute air traffic around bad weather.

Significant Risks Remain That Could Impact Implementation and Slow Delivery of Benefits

To continue progress toward major program milestones, FAA will need to resolve key risk areas that will materially affect the delivery, capabilities, and benefits of its NextGen priorities (see table 2).

Table 2. Key Risks to NextGen Priorities Implementation and Benefits Delivery

Priority	Key Risk Areas
MRO	• Timely completion of safety analysis • Aircraft fleet mix at specific airports
PBN	• Community outreach to reduce concerns about aircraft noise • Mixed equipage • Implementation of new automated controller tools to help controllers manage traffic in the vicinity of airport and limit the impacts of mixed equipage, beginning in 2019 • Effective controller training and use of time based approaches at all air traffic facilities
Surface Operations	• Execution of the Terminal Flight Data Manager program for electronic flight strips and other surface management technologies • Complex systems integration issues across all phases of flight
DataComm	• Industry cooperation with purchasing and installing new avionics aircraft equipage • Resolving avionics issues with over 700 Boeing 757 and 767 aircraft • Displaying information on controller displays at facilities that manage high altitude traffic beginning in 2019
All Priorities	• Training for controllers and flight crews • Measurement and realization of benefits • Interdependencies between capabilities

Source: OIG analysis of FAA reports and studies

Examples of key risk areas impacting potential schedules and benefits include the following:

- **Addressing community concerns and implementing controller tools for PBN.** PBN has been delayed due to community concerns over aircraft noise. While regulations did not require FAA to fully assess the impact of aircraft noise, it could have anticipated this issue due to high public interest at other airports implementing similar procedures. This issue, along with others identified in FAA and industry reports—such as controllers' need for automated support tools to better manage aircraft in the vicinity of airports—poses a risk to PBN's long-term success. FAA does not plan to begin implementing new tools for controllers that manage traffic in the vicinity of airports until the 2019 timeframe.

- **Modifying controller equipment and resolving avionics issues with DataComm.** FAA is working to modify controller displays and computers so that controllers managing high-altitude traffic can begin to exchange datalink messages with pilots beginning in 2019. FAA and the airlines cannot reap the expected benefits of rerouting aircraft in bad weather until modifications to controller

displays and related equipment are made and fully tested. Also, FAA and industry are working to resolve technical problems with over 700 Boeing 757 and 767 aircraft avionics that cannot broadcast some datalink messages while airborne. FAA reports that over 2,800 aircraft out of about 7,000 U.S. commercial transport aircraft are now equipped to exchange DataComm messages.

- **Introducing and integrating electronic flight strips for controllers at airport towers.**[24] Surface operations are critical to a more efficient NAS, because inefficiencies on the ground can negate efficiencies gained in the air from new PBN routes and improved multiple runway operations. The centerpiece of FAA's surface efforts is the integration of Terminal Flight Data Manager, a new $795 million surface management system designed to introduce electronic flight strips into FAA towers and integrate other surface surveillance technologies into one efficient system. FAA plans call for the electronic flight strips to be installed at 89 airport towers between 2020 and 2028. According to FAA officials, risks to the program include evolving requirements, an aggressive schedule, and complex integration issues with diverse air traffic control systems used through all phases of flight.[25] Our work shows that the lessons learned from previous prototype efforts with electronic flight strips (and the resolution of technical issues, such as frozen screens) will be valuable in mitigating risks and speeding implementation of the new technology.

Recognizing these risks with its priority areas, FAA recently adjusted its plans and established a 3-year rolling implementation plan that will be updated at the beginning of each fiscal year to focus on high-benefit, high-readiness capabilities. FAA and industry have also agreed on ways to increase communication on these issues. We are currently assessing FAA's process for managing the implementation risks for the four prioritized capabilities and plan to issue a report later this year.

OTHER COUNTRIES' AVIATION SYSTEMS PROVIDE ALTERNATIVE STRUCTURES

As Congress considers possible changes to FAA's structure, examining other nations' air traffic systems could provide a valuable frame of reference. This Committee asked our office to review how other countries operate, modernize, and finance their air navigation services and infrastructure and to compare these structures to FAA's. In 2015 we reported on our review of four nations—Canada, the United Kingdom, Germany, and France—and found that they had some common operational and

[24] Electronic flight strips replace today's paper flight progress strips with modern, real-time data-sharing displays for tower controllers. With today's paper strips, tower controllers must physically hand off a flight progress strip from controller to controller, whereas an electronic version is distributed automatically, reducing controller workload and operational complexity.

[25] The Terminal Flight Data Manager program will need to be fully integrated with a wide range of systems that controllers use to manage traffic, such as STARS for traffic in the vicinity of the airport and ERAM for high-altitude traffic.

financing characteristics and also conducted smaller-scale modernization efforts.[26] Ultimately, any change to FAA's structure will need to take into account several key factors, including the unique characteristics of the United States NAS and safety concerns.

Other Nations' Systems Have Common Operational and Financing Characteristics

The four countries we reviewed have separated their air traffic control functions from the safety oversight and regulatory functions. While safety and regulatory functions remain government-controlled, each nation has commercialized[27] its air traffic control function into an air navigation service provider (ANSP) using various organizational structures. These structures include a private, not-for-profit, non-share corporation in Canada; a for-profit, public-private partnership in the United Kingdom; a government-owned limited liability company in Germany; and a government agency in France.

According to officials overseeing these systems, these countries commercialized their air traffic control functions to address issues such as rising national deficits, operational and cost inefficiencies, the government's inability to modernize its air transportation systems, and stagnant wage growth for government employees. While operations have been commercialized, the safety oversight and regulatory functions remain under the control of the respective governments and are separate from the ANSPs.[28] The foreign ANSPs are also financially self-supporting and finance their operations primarily through user fees. Users are charged fees for services such as navigation and surveillance activities in high-altitude and terminal environments, communications, and aeronautical and meteorological information. The ANSPs in Canada, Germany, and the United Kingdom also earned a small portion of their revenue from developing and selling aviation technology developed in-house, such as air traffic management systems. In addition, the ANSPs have the ability to finance their infrastructure and modernization efforts by issuing long-term bonds and other debt instruments, which are backed by the revenues earned by the ANSPs.

Modernization Efforts in Other Countries Are Smaller in Size and Use Different Methods To Develop and Implement New Technologies

Other key differences between FAA and foreign nations' air navigation structures pertain to how they undertake modernization efforts. Unlike FAA, the ANSPs do not

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[26] *There Are Significant Differences Between FAA and Foreign Countries' Processes for Operating Air Navigation Systems* (OIG Report No. AV2015084), September 2, 2015.

[27] According to the International Civil Aviation Organization, "commercialization" is the ability of an organization to operate like a commercial business. In discussions about air navigation services, the term is often used interchangeably with other terms, including restructuring, privatization, outsourcing, and corporatization.

[28] Under guidelines from the International Civil Aviation Organization, it is the responsibility of individual countries to ensure the safety of their aviation systems. In Europe, the European Aviation Safety Administration (EASA) regulates and oversees all aspects of aviation safety, and European governments must ensure that operators in their respective countries comply with EASA regulations.

embark on large modernization efforts or conduct extensive aviation research and development. Rather, they implement new technologies incrementally, using a variety of methods. For example, Nav Canada used a phased-in approach to develop and introduce a new system known as Controller/Pilot Data Link Communications (CPDLC).[29]

In lieu of developing modernization systems and software, three of the four ANSPs modify commercial-off-the-shelf products to meet their operational needs. For example, Nav Canada uses in-house staff to develop automation and other software-intensive systems mostly by tailoring commercial products to fit their operation. In addition, all four ANSPs form joint ventures and other partnerships with private companies, such as Nav Canada's joint venture with a company to develop an ADS-B surveillance system, initially for use in the oceanic airspace.

In addition, the United Kingdom, Germany, and France have joined other European countries in a large-scale effort to modernize and improve Europe's air navigation system to increase airspace capacity and overall efficiency. The associated modernization program—Single European Sky ATM Research, or SESAR—is similar to NextGen and is a public-private partnership intended to define and develop common aviation technologies for use across Europe.

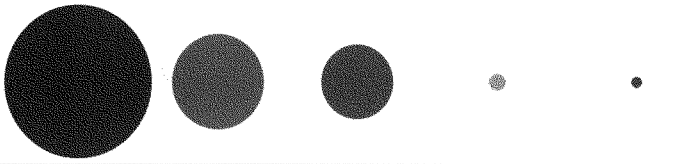
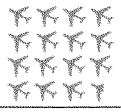
Additional Factors To Consider When Examining Possible Changes to FAA's Organizational Structure

As Congress and other policy makers examine possible changes to FAA's organizational and financing structures, they may wish to consider several differences between the U.S. aviation system and other countries. These include the following:

- **System Size and Complexity:** The United States has the largest and most complex air transportation system in the world. ATO controls more than 2.5 times the airspace of the United Kingdom—the largest airspace of the four ANSPs we examined. The United States also has more operations than the total of all the foreign ANSPs we examined and has a larger general aviation community. To manage the U.S. airspace, FAA operates more air traffic facilities and employs more controllers than the foreign ANSPs combined (see table 3).

[29] CPDLC is used to supplement voice communication between pilots and controllers and provides benefits such as automating routine tasks and improving safety by reducing workload and communication errors.

Table 3. Comparison of Air Navigation Service Providers

	ATO (United States)	NATS (United Kingdom)	NAV CANADA (Canada)	DSNA (France)	DFS (Germany)
Total Airspace	75,110,000 km²	29,180,000 km²	18,000,000 km²	1,000,000 km²	394,000 km²
					
Annual IFR[b] Movements (2011)	15,539,009	2,106,689[a]	3,855,947	3,009,230	3,061,000
= 1,000,000 IFR Movements					
Number of General Aviation Aircraft (2015)	210,030	19,924	36,440	34, 506	21,213
Number of Operational Air Traffic Controllers (2012)	18,001	1,480	1,689	3,964	1,716
Number of Air Traffic Facilities	317	18	49	91	20

[a] Data from 2010; [b] Instrument Flight Rules
Source: OIG analysis of Civil Aviation Air Navigation Services Organization and General Aviation Manufacturers Association Data

- **Capital Budgets:** Given the differences in size and complexity, the capital budgets for ANSPs are significantly smaller than FAA's capital budget. For example, FAA's Facilities and Equipment annual budget is $2.6 billion, with several projects expected to cost billions of dollars to complete. Nav Canada's capital budget is approximately $120 million annually, and it considers a large acquisition to be $10 million.

- **Airport Funding:** U.S. airports are funded through Federal programs, such as the Airport Improvement Program, and Passenger Facility Charges. However, as with the foreign ANSPs, airports in each of the four countries we examined are generally self-supporting, autonomous entities. In addition, the foreign ANSPs do not include airport development and maintenance costs in their user fee calculations.

- **Aviation Research and Development:** FAA conducts a wide range of aviation research in areas such as evaluating and testing NextGen concepts; conducting runway, fuel, and other safety analyses; and studying human factors in the air traffic control environment. However, none of the ANSPs we examined conduct the level of aviation research that FAA conducts or operates a technical development complex like FAA's Technical Center in Atlantic City, NJ.

Regardless of these differences, other nations' experiences in separating their aviation function—as well as studies we reviewed—have led to several lessons learned. These include the following:

- **Safety:** Studies we reviewed, including a 2014 report commissioned by FAA,[30] indicate that separating air navigation and safety/regulatory functions has not impacted safety. However, the report noted that if a government is planning to separate its safety oversight organization from an ANSP, it needs to establish a clear division of roles between the safety organization and the ANSP, ensure that a sufficient safety and regulatory workforce is in place, and verify that mechanisms are in place to properly fund the safety organization.

- **Transition Issues:** Officials in the countries we visited noted that they had to resolve several transition issues to commercialize their air navigation functions, including determining which functions to transfer, the timing of the transition, and how the government would conduct safety oversight and work with the newly created entity. There were also transition issues for employees moving to the commercialized entity. For example, Nav Canada and its union officials noted that there were contentious labor-management relations for the first several years after the transition.

- **Financial Considerations:** Separating the air traffic function from FAA would require resolving several financial issues, including determining which assets would be transferred to the new air traffic entity, such as air traffic facilities and equipment, as well as the value of those assets and the air traffic system. Properly assessing the value of the air traffic control system and the associated assets will be important. According to the Auditor General of Canada, Transport Canada did not properly estimate the value of its air navigation system before transferring over to Nav Canada. This resulted in the government receiving significantly less for the system than what it was worth.[31]

CONCLUSION

Our work continues to demonstrate that while FAA has taken some action to implement the reform authorities Congress granted almost 2 decades ago, it has not

[30] *CAA International Structures*, MITRE Corporation, October 2014.
[31] *Transport Canada – The Commercialization of the Air Navigation System*, Office of the Auditor General of Canada, October 1, 1997.

achieved the large-scale efficiencies, productivity enhancements, and cost savings intended for these reforms. Should Congress, the Administration, and aviation stakeholders decide to pursue different approaches to organizing and financing our Nation's air traffic control system, there are several significant policy questions that would influence decisions, given the unique characteristics of the U.S. system. At the same time, many of the key risk areas and management challenges we have identified will persist, regardless of potential changes to FAA's structure. Ultimately, safety will continue to be the United States' and the Department's top priority in overseeing our National Airspace System, and strong controls and oversight on the part of FAA will continue to be crucial to providing the public with a safe, efficient, and innovative transportation system.

This concludes my prepared statement. I will be happy to answer any questions you or the other Members of the Committee may have.

Questions for the Record issued to
Calvin L. Scovel III, Inspector General, U.S. Department of Transportation
"The Need to Reform FAA and Air Traffic Control to Build a
21st-Century Aviation System for America"
Committee on Transportation and Infrastructure
May 17, 2017

Questions issued by Hon. Bill Shuster and Hon. Frank A. LoBiondo

QUESTION re: NextGen business case benefits:
There is a lot of confusion about what NextGen will deliver in terms of enhancing capacity and when this will be delivered. At the request of this Committee, the DOT OIG is currently reviewing FAA's most recent NextGen Business Case. What is the status of your review and do you have any preliminary observations on the benefits reported in the business case you can share with the Committee?

ANSWER:
Our review is ongoing, and we plan to report back to the Committee later this summer. FAA's July 2016 NextGen business case, which projects $161 billion in benefits by 2030, is driven by several assumptions related to the growth of air traffic, NextGen programs, and how quickly airspace users purchase and install new avionics. All of these assumptions add a high degree of uncertainty to the benefits estimate. However, the business case does not present this uncertainty or consider alternate outcomes, such as if the traffic growth does not materialize as anticipated or NextGen projects are delayed or do not perform as expected. We have several preliminary observations about FAA's benefits estimate:

- First, it is overly optimistic due to the use of aggressive assumptions and out-of-date schedules for key NextGen projects. For example, the business case assumes an air traffic controller automation tool (Terminal Sequencing and Spacing) will be fully deployed at 31 airports by 2019 to maximize the use of performance-based navigation procedures. However, FAA is currently planning to deploy the new technology to only nine sites beginning in 2019 and extending through 2022.

- Second, Time Based Flow Management (TBFM) makes up roughly $1 billion of the $2.7 billion estimate for already delivered benefits. However, our office and an FAA study found that TBFM was not used consistently by controllers, limiting its benefits. TBFM has been challenging to implement because it represents an entirely new way to control traffic (from miles-in-trail to time-based, a key tenet of NextGen).

- Third, over half of the future benefits ($82 billion) are projected from anticipated improvements expected between 2020 and 2025, such as Automatic Dependent Surveillance-Broadcast *In*, which provides pilots the location of other aircraft. However, these improvements are still in the early stages of development without approved cost and schedule baselines or firm requirements, making their benefits much more uncertain.

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- Finally, two-thirds of the $2.7 billion in accrued benefits and over half of the $161 billion in estimated total benefits are driven by passenger value of time, an economic measure of a passenger's value of efficient use of their time. While passenger value of time is a commonly used measure for estimating benefits, some large airspace users have expressed concerns that FAA's reporting of combined benefits (e.g., passenger time plus fuel savings, etc.) in one amount masks the actual benefit amounts for airlines, making it seem like the airlines are receiving a more substantial return on their investment.

QUESTION re: NAC priority benefits:
FAA has reported progress in delivering capabilities to the NAS with the completion of 156 milestones under NAC NextGen Priorities initiative through March 31, 2017. FAA selected these capabilities and locations based on high readiness and benefit. Does completing milestones translate to benefits?

ANSWER:
Not necessarily. We acknowledge FAA's progress with completing milestones and taking steps toward measuring benefits. However, our recent work on FAA's progress in implementing the NAC NextGen priorities demonstrates that completing milestones does not necessarily translate into benefits. While FAA has received some benefits, not all projects have resulted in benefits as expected. For example, FAA reports completing the milestone for publishing new performance-based navigation procedures for the Northern California Metroplex (serving airports in San Francisco, Oakland, San Jose, and Sacramento), yet air traffic controllers did not consistently use the procedures as expected. Therefore, airspace users did not realize the expected benefits. To get a better handle on benefits, FAA and industry have formed the Joint Analysis Team (JAT) to specifically evaluate the benefits of NextGen capabilities, including PBN procedures. The JAT reported that Wake RECAT—which allows the safe decrease in separation standards between certain aircraft on final approach—has resulted in more efficient arrivals at four locations; however, the program actually yielded negative benefits at Chicago Midway International Airport.

We are currently assessing FAA's process for managing the implementation risks for the four prioritized capabilities and plan to issue a report in the coming months.

Testimony of Joseph W. Brown

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Committee on Transportation and Infrastructure Committee

The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America

2167 Rayburn House Office Building

May 17, 2017

Introduction

Chairman Shuster, Ranking Member DeFazio, distinguished members of the Committee: my name is Joe Brown, and today I appear before the committee representing three perspectives: businessman, private pilot and citizen.

As a business person, I am deeply invested in the performance and future of the U.S aviation market and system.

I serve as President of Hartzell Propeller, a 100-year-old Ohio-based company with a proud heritage. The company's origins link directly to the Wright brothers and their pioneering work in Dayton, Ohio. Robert Hartzell, following the advice of his friend and neighbor, Orville Wright, founded Hartzell Propeller in 1917 to manufacture walnut propellers for the Army Air Service—what we now call the United States Air Force.

Hartzell Propeller continues to design, certify and manufacture in rural Ohio. Situated in the small town of Piqua, our team of 300 multi-generational employees has earned a leading position in the global market. My brother and I own the company and have been partners for 25 years.

We also own Hartzell Engine Technologies, an aviation products company based in Montgomery, Alabama, that designs and manufactures starters, alternators, turbochargers, fuel pumps and cabin heaters for piston engine aircraft. The company employees 125 machinists, assemblers, engineers and technicians and is also the market leader in its product categories.

I also serve as Chief Operating Officer of Tailwind Technologies, a holding company that my brother and I formed in 2004 to expand our aviation business into the Commercial, Rotorcraft and Defense markets. Tailwind Technologies buys and grows companies; so far we've completed nine acquisitions around the U.S., including companies based in Texas, Florida, Alabama, California, Michigan and Ohio. Accordingly, we have built a significant presence in

the larger aerospace market, beyond general aviation. We have recently sold two aerospace companies to separate, strategic buyers who wanted to integrate our technology into their product portfolios.

Aviation is more than a business interest. I am a pilot and fly 400 plus hours a year in the U.S. airspace system. I am in an airplane almost every week, typically multiple times per week, utilizing the full range of the ATC system. I am also a lifetime member of the Experimental Aircraft Association and Aircraft Owners and Pilots Association, a member of the Seaplane Pilots Association and of The Recreational Aviation Foundation. I also serve on the board of Experimental Aircraft Association and am a past chairman and current board member of the General Aviation Manufacturers Association.

Based out of the municipal airport in Piqua, Ohio, our company operates a three-aircraft flight department that flies about 1,200 hours annually in support of Hartzell and Tailwind Technologies. Additionally, our company flying club operates three aircraft and has enabled dozens of employees to get their pilot's license and fly in the system. We also manage our local airport and provide hangar, fuel and maintenance services.

I appreciate the opportunity to testify today about what I consider to be a crucial engine of the economy and one of the greatest products of representative democracy: the open and efficient United States airspace system.

The Vast and High Functioning U.S. Airspace System is the Lifeblood of Our Nation's Aviation System

Working with the FAA and industry, Congress, through a combination of thoughtful FAA authorization legislation and appropriations bills, and persistent protection of the freedom to fly in our national airspace, has facilitated the growth of an aviation market second to none. By that I mean the size, variety, demand and impacts of the U.S. aviation market is in a category alone—nothing else in the world even comes close.

The United States, compared to the world at-large, is aviation-centric in its transportation infrastructure and is the most robust market for aviation manufacturers and service providers. For example, there are 10 times more pilots in the United States than Canada.

With approximately 5,000 public use airports, the U.S. Air Traffic Organization is responsible for about one-third of all the world's public airports. Though our country comprises about four percent of the world's population, we have also built, under our expansive sovereign skies, another 14,000 private use airports. In this country, you can fly when you want, where you want, utilizing a vast array of scheduled service, on demand and private aviation solutions.

Accordingly, U.S. aircraft producers and their supply chain have attained a scale and scope that leads the world markets. Our businesses and our customers exist because the people of the

United States, the Congress and the FAA have made it possible for citizens to use the skies freely as commerce corridors and we do so in volumes that no other country can match.

The jobs and continuing investment in the whole of the U.S. aviation system depend on a robust, stable and predictable climate for ALL U.S. airspace users. Users make the market and any change that impinges on users impinges on jobs.

For 580,000 Pilots Like Me, Our Air Traffic Control System Works

The potent combination of good federal governance, an effective civil aviation authority and strong ATC systems not only show in the strength of the U.S. market, but they are fundamental factors in my typical flying day. I travel for work and fly myself to my destinations since our businesses are near airports and most of our customers are based at airports.

I file a flight plan from an app on my smart phone and receive a text back of my expected route. This takes seconds and I can file in as little as five minutes before I depart, or as early as days before. The ATO has authorized secure access points and communications with a variety of private flight planning apps and any pilot with a phone or tablet can seamlessly engage with the ATC routing system.

In today's general aviation cockpit, that proposed route can be loaded to a tablet's moving map and the aircraft GPS navigator via Bluetooth with the push of a button. The seconds to file a plan leverage into effortless flight planning in the cockpit.

Once airborne, air traffic control knows who I am, where I am and where I am going before I even call them through a potent combination of ADS-B, radar and talented controllers.

Thanks to GPS, my aircraft appears as a geo-referenced icon on my enroute charts and terminal procedure displayed on my moving map and I get NEXRAD weather depictions and other pilot advisories in the air. During the flight, I see traffic on my ADS-B enabled TCAS system, and as more aircraft continue to meet the ADS-B equipment mandate, pilots and controllers will all see each other with tremendous precision. This incredible safety feature of the air traffic system is paced only by the rate of adoption by operators.

On arrival, I can follow GPS guidance on Standard Arrival Procedures and request a GPS-based Wide Area Augmentation System or WAAS approach, with glideslope guidance, into most of the airports I choose, a safety enhancement that cannot be overstated. What this means to me is that I can fly to nearly 2,000 WAAS enabled airports spread across this country to get to my customers, in foul weather, and by simply following GPS guidance, land exactly on the runway numbers with extraordinary precision. From my home base of Piqua, Ohio, (population 20,000) to, say, Olney, Texas, (population 3,000) to, perhaps, Albany, Georgia, (population 75,000) or to Teterboro, New Jersey, (14 miles from 5th Avenue and with 20 million metroplex residents), the

NextGen features I use deliver me and the 50,000 other flights air traffic controllers manage each day to our destinations.

Others Agree that Nextgen is Working and Delivering Real Benefits

How good are the many deployed features of NextGen within our vast airspace? The Chief Pilot of Boeing, an aviation mentor and one of the finest aviators I have ever had the opportunity to see fly, made a personal observation to me that he prefers the 3,000 available WAAS approaches to an ILS option in every case. He considers them safer and more precise. He isn't alone in his praise for NextGen features.

Steve Dickson, Senior Vice President for Flight Operations at Delta Airlines, credits NextGen Performance Based Navigation features with improving efficiency, saying, "The benefit is at our major hub airports we are seeing some significant reductions in taxi times for the last few years; that time is very valuable for our customers. For us as a business, it allows us better utilization out of our fixed infrastructure – runways, taxiways, gates, aircraft – and we can put that time back into the schedule and use it to provide a better flight schedule for our customers. . . . To scale that capability across the whole system over the next several years will provide a huge benefit to our operation and to our customers."

Brian Quigley, Managing Director of Flight Operations at United Airlines says of DataComm, "We've done some tests in Newark, Houston, and Dulles, and we like what we see. We've seen a reduction in the time it takes to communicate pretty critical information from the [air traffic controller] folks to our pilots."

Jeff Martin, Executive Vice President of Operations at JetBlue says of ADS-B, "We are excited to say that the FAA is moving and our industry is moving and the benefits are starting to come our way."

Air Line Pilots Association President Tim Canoll extolls the safety benefits of NextGen, remarking, "Pilots embrace all the NextGen additives. All three of the areas that we see benefits in – shared information, situational awareness, and access to decision-making tools – are primarily safety enhancements. Now those safety enhancements go a long way to increasing our efficiency. But from a pilot's perspective, and really from the operators and air traffic control, the primary benefit is enhanced safety."

The aviation community gets it -- from pro pilots, to air carriers, to private users, to the controllers that lead this symphony in the sky -- NextGen works and it is getting more powerful all the time. Importantly, the FAA uses the NextGen Advisory Committee (NAC) to guide priorities and execution of air transportation modernization. This committee, chaired by chief executives of airlines since its formation in 2010, involves all stakeholders and has been a key part, along with effective congressional oversight, in driving success.

Some argue that an organizational model like NAV CANADA would improve ATC modernization outcomes. In a 2015 report, the Department of Transportation Inspector General said that in contrast to the United States, air navigation service providers the IG examined like Germany, France, Canada, and the United Kingdom, "do not embark on large modernization efforts or conduct extensive aviation research and development. Rather, they implement new technologies incrementally, using a variety of methods, such as purchasing commercial-off-the-shelf technologies." The IG also found that "NAV CANADA's capital budget is approximately $120 million annually, and considers a large acquisition to be $10 million."

In most cases, NAV CANADA has taken technology (GPS and RNP to name a few) invented by the FAA and deployed it. The challenge of modernizing the comprehensive U.S. ATC system doesn't gain very much by using NAV CANADA as a benchmark. The system needs and scope are totally different in each case, with NAV CANADA managing far less complexity. Different challenges require different solutions and ours are working well for our needs, thanks to FAA and its tremendous controller workforce, its research and development efforts, strong involvement from the industry and strong oversight by Congress.

On Principle, The Proposal to Privatize ATC is Deeply Troubling

The sovereign skies of the United States belong to the people and ought to be managed by our duly elected representatives who balance our collective interests and adjudicate access. For decades, Congress has devised equitable solutions to challenges like rural access, commercial and general aviation user access, environmental impacts of noise and traffic, infrastructure build out and funding mechanisms. New challenges continue to arise as we work to integrate unmanned aerial systems and commercial space transportation into the National Airspace System with more new entrants coming. The FAA, working with Congress, has managed the safe integration of these new technologies into the NAS because they are chartered to serve a broader public purpose, even if that work is difficult and has to account for disruptive technology. FAA and Congress, working together, have been important contributors to the competitive advantages we enjoy in our aviation market place because they understand the benefits to the nation. It is hard to see an entity outside of government having these broader national purposes in mind.

My concerns are heightened because some have referred to the proposed entity as a co-op of users. A co-op, by definition, is an autonomous association of entities united to meet their common economic interests. Are the public interests better served if Congress gives our wealth and skies to a small group of special interests, operating outside of democratic oversight, so that they can serve their own ends?

Being a user of technology is not at all the same as being a developer and implementer of technology. The proposed ANSP co-op is akin to asserting that a brand new smart phone company, launched to compete with Apple, should be governed by a group of phone users who consume the most minutes.

Fundamentally, can this co-operative of special interests guarantee that it is capable of running the safest, busiest, and most complex airspace in the world, while simultaneously and radically increasing the pace and impact of modernization, while also assuring the American people that it will, first and foremost, serve the public good?

The answer is, it can't. In my opinion, these challenges are in too much tension for a private solution to work and the pain of transition outweighs the imagined benefits.

The ATC Privatization Proposal Has Risk and Uncertain Rewards

There seems to be little doubt among government authorities that transitioning the U.S. ATO and our sovereign skies from the domain of the people to special interests will take many years. The GAO agrees with that assessment, citing a MITRE study of foreign ANSP transitions. Notwithstanding that these other transitions were related to air traffic organizations a fraction of the size and complexity of the U.S., MITRE found that it took five-to-seven years to complete a transition.

Researchers also found that in such a transition, there were financial risks to the user community and the taxpayer, even when the ANSP scale and scope was small. Since private ANSPs are largely fixed cost/variable revenue models, they are financially fragile. This has led to higher fees, reallocation of fees among users and in one case, a government bailout. Given the higher criticality of the air traffic control system to our nation's economy and transportation network, I worry that a newly privatized ANSP will be too big to fail on day one, keeping the taxpayer on the hook for any financial problems it may experience.

Proponents of transitioning the U.S. ATO to a co-op system also argue that the entity will facilitate the pace of modernization because it can borrow on its assets turned over by taxpayers in order to invest in new or emerging technology. It is hard to imagine something more economically hazardous to the American people than an ANSP acting as a venture capitalist, potentially competing with private companies and exposing its healthy balance sheet of (our) $20B in assets to high risk tech investments.

And even without this risk, one should think long and hard about the costs and benefits of this kind of change. NextGen is working; we have the safest, most diverse and complex air system in the world and it creates tremendous economic opportunity for the citizens of this nation. We do need to modernize the system and we are. As I business man, I consider risk/reward relationships in every deal that we do. I believe it is imprudent to take five-to-seven years to, at best, get the same car with a new paint job while also delaying progress on modernization and other pressing priorities we face right now.

A Sensible Alternative

As a businessman and aviation user, I disagree with conclusion that the FAA air traffic organization would benefit from a lengthy and radical change. The FAA air traffic organization has considerable strengths but there are weaknesses that need to be addressed.

I think this is why I find worthy of consideration the recommendations of the FAA's Management Advisory Council (MAC). The MAC, which Mr. Rinaldi sits on, has offered a series of very good suggestions that could be implemented by building on the existing FAA structure. The FAA should not be subject to sequestration or a government shutdown, for example, and there should be other ways to facilitate better financing and management of capital projects. As we have in the NAC, I believe Congress and industry can work together to find some common ground and move forward.

Conclusion

Chairman Shuster and Ranking Member DeFazio: thank you for the opportunity to talk about my experience with the U.S. airspace system and the economy that it drives. I close with this:

The United States does indeed possess the safest, most cost effective, most technically advanced air traffic control system in the world, bar none. That is why my company and our employees thrive with our pilot community making a market for us. That is why so many people travel in commercial and on demand service every day, some 50,000 flights per day. That is why, as citizens, we have the most comprehensive and open aviation infrastructure on the planet. I commend all of the ATO stake holders for capitalizing on this national treasure and doing their jobs with such incredible expertise, and I thank in particular the controllers for moving us safely through the skies. Models like the NAC are working and we should look for opportunities to build on these examples and tackle the kind of challenges FAA's MAC has outlined. This year, as Hartzell Propeller celebrates its 100th anniversary, I look forward to working with all of you to maintain this leadership.

I would be glad to answer any questions that you may have.

Governance of a U.S. ATC Corporation

House Transportation & Infrastructure Committee

May 17, 2017

Testimony of Robert W. Poole Jr.
Director of Transportation Policy
and Searle Freedom Trust Transportation Fellow

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Chairman Shuster, Ranking Member DeFazio, and Members:
I'm Robert Poole, Director of Transportation Policy and Searle Freedom Trust Transportation Fellow at Reason Foundation, a nonprofit think tank with offices in Los Angeles and Washington, DC. I received two engineering degrees from MIT and began my career at a large aerospace firm. I have been in the public policy business since 1978.

Subject Matter Expertise
I have studied the performance of the U.S. air traffic control system since before the 1981 controllers' strike, which led to an invitation from the Reagan White House to brief the DOT Secretary and FAA Administrator on the idea of a nonprofit corporation as a way to rebuild the ATC system in the wake of the firing of PATCO controllers. My first policy paper that fleshed out the concept was commissioned by the Heritage Foundation in 1982[1] and led to a peer-reviewed paper for the Transportation Research Board's journal in 1983.[2] I advised the Air Transport Association on its ATC corporation proposal in 1985, and have written a number of Reason Foundation policy studies on ATC reform in the intervening years.

During the Clinton Administration, I advised both Vice President Gore's National Performance Review and DOT Secretary Pena's Executive Oversight Committee which developed the proposal for a U.S. Air Traffic Services (USATS) corporation.[3] I also advised the subsequent Mineta Commission in 1997, which proposed what we might call almost-corporatization.[4] In 2001, I coauthored a detailed Reason Foundation proposal for a nonprofit ATC corporation governed by a board representing aviation stakeholders.[5] That plan won the support of 12 retired FAA officials, including three former Administrators.[6]

During the current decade, I have been a member of two working groups to develop consensus recommendations on ATC reform. The first was convened by the Business Roundtable, 2011, because its CEO, Gov. John Engler, had concluded that our low-tech ATC system was an impediment to economic growth. It included former FAA and DOT officials, as well as aviation researchers and consultants. The other working group was organized by the Eno Center for Transportation in 2013, and was co-chaired by former Sen. Byron Dorgan and former DOT Secretary Jim Burnley. Both of these groups ended up recommending that ATC be shifted from the FAA to an ATC corporation. I also serve on the National Aviation Studies Advisory Panel of the Government Accountability Office and am a long-time member of the Air Traffic Control Association (ATCA).

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[1] Robert W. Poole, Jr., "Air Traffic Control: the Private Sector Option," Heritage Foundation, October 1982
[2] Robert W. Poole, Jr., "Privatizing Air Traffic Control, *Transportation Research Record*, 1983
[3] Executive Oversight Committee, *Air Traffic Control Corporation Study*, Office of the Secretary, U.S. Department of Transportation, May 1994
[4] Norman Y. Mineta, et al., *Avoiding Aviation Gridlock & Reducing the Accident Rate*, National Civil Aviation Review Commission, December 1997
[5] Robert W. Poole, Jr. and Viggo Butler, "How to Corporatize Air Traffic Control, Reason Foundation, February 2001
[6] 12 former FAA officials, "A Statement Concerning the Future of the U.S. Air Traffic Control System," Reason Foundation, May 1, 2001 (http://reason.org/news/show/1002978.html)

Over the years, I have met with senior officials of a number of the leading ATC corporations around the world, mostly at conferences of ATCA or of the Civil Air Navigation Services Organization (CANSO). I have also made site visits to the headquarters of Nav Canada and of Airways New Zealand, two of the most innovative and successful ATC corporations.

The ATC Problems That Need to Be Solved

As a participant in both the Business Roundtable and the Eno Center working groups, I agree with their assessment of the problems and with their conclusions that ATC is a high-tech 24/7 service business that is a poor fit for a tax-funded bureaucracy housed within a safety regulatory agency. This assessment was also made unanimously by the FAA Management Advisory Council in its January 2014 final report calling for the Air Traffic Organization to be separated from the FAA and the federal budget, made self-supporting from ATC fees and charges (as used by every developed country except the United States), and be regulated at arm's length by the FAA safety regulator, per ICAO policy.

The three major categories of problem that corporatization would address are:

- Funding: uncertain, unstable, and poorly suited to paying for large-scale capital modernization of not just technology but also of antiquated facilities.
- Governance: a system in which far too many legislative and executive branch agencies oversee the ATO, which leads it to focus more on its overseers than on its aviation customers.
- Culture: an organizational culture that is risk-averse and status-quo-focused and therefore lags considerably behind its counterparts that have been corporatized over the past three decades.

My focus today is limited to the second of these: *governance*. Although technology may someday allow for competition, air traffic control is basically a utility monopoly. We know of only three ways to deal with the monopoly problem of such entities.

- If the utility is a *for-profit, investor-owned company*, the usual solution is economic regulation by an external public utility regulatory body. That is the situation of NATS in the United Kingdom, one of the few for-profit ATC corporations (though partially government-owned).
- A second approach is a *government corporation*, such as the Tennessee Valley Authority, one of the nation's largest electric utilities. Because such utilities are owned by the government, they are presumed to be operating in the public interest and are not externally regulated (though that presumption is not always correct). Most of the world's 60 ATC corporations are government corporations, often with only one or two government ministers as the sole shareholders.
- The third alternative is a *non-profit corporation* in which the customers are the owners. We have thousands of rural electricity and telecommunications user co-ops in this country. They operate as businesses, but any profits they make are used either to reduce the extent of bond issuance or to make it possible to reduce customer charges. This is essentially the Nav Canada model.

Misunderstanding Stakeholder Governance

The most misunderstood aspect of the ATC corporatization proposal adopted by this committee last February is the stakeholder board concept. It was intended to be a U.S. adaptation of the concept that has served so well at Nav Canada for the past 20 years: board members elected by the principal aviation stakeholders such that all are represented fairly in a body that manages the corporation in the best interests of a viable and cost-effective ATC system for all of its customers and other stakeholders. But over the past year, this proposed stakeholder board has been described as "giving effective control of our public airspace to the major airlines." Others have described it as a board "*dominated* by the major airlines."

Needless to say, this characterization has led to serious concerns and opposition to ATC reform by many private pilots, small-city officials and their airport managers, and rural-state legislators and their Members of Congress. I can understand their fears that a for-profit ATC entity controlled by major airlines might see small-airport towers as less than essential. And if that is what was actually being proposed, I would be among the opponents.

But the proposal under discussion is a *non-profit*, federally chartered corporation to which the federal government delegates the provision of ATC services. This is consistent with international aviation law, ICAO principles, and global practice. In a nonprofit, stakeholder co-op structure, there are no shareholders, and every stakeholder board member has a vote of equal value to that of every other member.

Where the Corporation Proposal Came From

Contrary to what some opponents imply, this proposal did not originate with the major airlines. The Business Roundtable (BRT) working group, which began in mid-2011, had reached consensus on corporatization by April 2012. At that point, Gov. Engler and several working group members (including me) gave a briefing to senior officials of Airlines for America (A4A) at their offices. The reception we got was cool, at best. I got the sense that no one there wanted to re-start the battles that had raged several times in the previous two decades over earlier proposals for either corporatization (1990s) or a shift to ATC user fees and revenue bonding (2000s).

The BRT group went back to work, but held off on other stakeholder briefings in 2012, due to this non-enthusiastic reaction from one of the most important groups. But everything changed in spring 2013. The key event was the budget sequester, which imposed furloughs on controllers, closed the FAA Academy, and threatened the closure of 189 contract towers. In response, A4A, NATCA, and AOPA all requested new discussions with the BRT working group, and at a meeting in the BRT conference room in May 2013, leaders of all three groups told us that a nonprofit, stakeholder-governed corporation similar to Nav Canada was their preferred option. It was only after some further work by the BRT working group over the summer of 2013 that Gov. Engler and

several working group members briefed Chairman Shuster on its recommendations, and received an enthusiastic response.

The Eno Center working group was launched that summer, initially without knowledge of what the BRT group had been doing. Eno brought together about 16 stakeholder organizations for monthly meetings from mid-2013 to mid-2015. This broader group of stakeholders agreed on corporatization, but could not reach consensus between a government corporation model (as in Germany and New Zealand) and a private, nonprofit model as in Canada, so it concluded that both were workable options.

I've summarized this history to demonstrate that the current push for ATC corporatization did *not* originate with the airlines; it originated with the working group created by Gov. Engler at Business Roundtable. That group included a former FAA Administrator, a former Chief Operating Officer of the FAA Air Traffic Organization, two former U.S. DOT senior officials, and several consultants.

Nav Canada's Board as a Starting Point

The stakeholder board concept has been used in partial form for ATC corporations in Switzerland and Thailand. But its largest and most successful application has been at Nav Canada, the world second-largest ATC provider. Nav Canada's model is tailored to the specifics of Canadian aviation, so I do not suggest that it be blindly copied. Still, if we want to use it as an inspiration, it's important to understand what it is and how it works.

First, Canada's enabling legislation defines four key "members" of the aviation community, which are the ones that elect directors. Those four are commercial airlines, general and business aviation, unions, and the government. After those stakeholders select 10 members, the board as a group elects four additional directors (to represent the flying public), with the CEO serving as the 15th member. The board appoints its chair from among the directors by a vote of at least two-thirds.

The composition of Nav Canada's board, as of 2014, was as follows:[7]
3 elected by Government of Canada
- Former MP, British Columbia
- Financial & management consultant
- Former Sr. VP, Bell Canada

4 elected by commercial airlines
- Former Exec. VP Planning, Air Canada
- Former CEO, Bradley Air Services
- Former President, Transat Tours
- Former COO, Air Canada

2 elected by unions
- Exec. Director, BC Nurses' Union
- Partner, Denton's Canada

[7] "A Unique Structure, Built to Last," *Nav Canada News*, Issue No. 5, Summer 2014, pp. 7-10

1 elected by general aviation
- Former consultant, CBAA

4 elected by stakeholder board
- CEO, Barrett Diversified
- Former Group VP, Enbridge Inc.
- Former President, TSX Venture Exchange
- Chairman of the Board, Canada Post

CEO of Nav Canada

None of these board members holds any paid position in any aviation company or organization; that is a requirement of the enabling legislation. Note also the wide range of business experience represented. Even among the four seats elected by commercial airlines, only two are retired from major carriers, one is retired from an air tours company, and the fourth is retired from a regional airline serving the far north. In addition to not being currently involved financially with aviation, the law requires that all Nav Canada board members have a legally enforceable fiduciary duty to the best interests of the company and its mission.

A U.S. Adaptation of the Stakeholder Board

The United States differs from Canada not only in being larger, but also in having a very large and diverse general and business aviation sector. This suggests that general and business aviation should elect more than one stakeholder seat on the ATC corporation's board. Likewise, given how important small-city and rural airports are in providing access to the National Airspace System, airports are a key stakeholder group that should also elect a board member. Taking these considerations into account, the 2001 Reason Foundation ATC corporatization study proposed the following adaptation of the Nav Canada governance model for the United States:

Commercial Air Carriers (4)
2 seats elected by major airlines (A4A)
1 seat elected by regional airlines (RAA)
1 seat elected by cargo airlines (CAA)
General and Business Aviation (3)
1 seat elected by personal/recreational aviation (AOPA)
1 seat elected by business aviation (NBAA)
1 seat elected by commercial GA (NATA)
Unions (1)
1 seat elected by the corporation's largest union (NATCA)
Airports (1)
1 seat elected by the two airport associations (AAAE, ACI-NA)
Federal Government (2)
2 seats in view of governmental use of the NAS
Those 11 members would select the CEO and three members to represent the flying public. The total board would then consist of 15 members.

One caveat about this 2001 proposal is that it assumed that all *aviation users* of ATC that elected members of the board would pay some kind of ATC fees, giving them a direct stake—*as paying customers*--in the cost-effectiveness and productivity of the corporation. For small private planes, these could be simple annual registration fees like those Nav Canada charges piston-engine planes. Turbine-powered business aircraft would pay ICAO-type weight-distance charges, as they do everywhere else in the world except here. And commercial GA—air taxis, fractionals, and any others that provide air travel to paying customers—would of course pay the same weight-distance fees as other commercial carriers.

This is not the only possible board structure, but in view of concerns of small-city and rural officials and their elected representatives, including *airports* and *regional airlines* as stakeholders that elect board members should make it clear that those portions of the National Airspace System will be fully represented.

Some observers have criticized the stakeholder board concept as likely to be unworkable, considering all the battles fought out in Congress over the years by various aviation interest groups. In response, I offer two pieces of evidence to the contrary. First, in its 20 years of existence, Nav Canada's governance model has worked very well, with the company achieving increased productivity and delivering better ATC services at lower cost in terms of the ATC fees paid by its customers. Second, in this country we have the ongoing example of the NextGen Advisory Committee NAC). Like a stakeholder board, it represents all the diverse aviation stakeholders in an effort to develop consensus recommendations on how the ATO can best spend the limited and uncertain funds it has for NextGen. Despite their different interests and concerns, the NAC has been able to work out consensus approaches to its tasks, and has earned widespread respect in doing so.

Closing Thoughts on Access to the NAS

Some of those expressing concern about possible loss of control towers at small-city and rural airports assume that the ATC corporation would be making unilateral decisions about where ATC services will be provided. Those concerns are misplaced. First, Congress could specify in the enabling legislation that those airports meeting a reasonable benefit/cost test would be assured of getting tower services.

Second, it is important to remember that the FAA would still be in charge of all aspects of aviation safety. The ATC corporation would *propose* new technologies and new procedures, but the FAA—operating then at arm's-length as the safety regulator—would have the obligation to approve or disapprove. In no way would the ATC corporation be establishing the rules of the air.

Third, when considering the status quo of the ATO's current inadequate and unpredictable funding, we should understand that *small airports are getting the short end of the stick*. For example, despite a long waiting list of airports that have applied for a contract tower, FAA funding limitations have led to a *moratorium on new contract*

towers since fiscal year 2014. The moratorium was imposed following the 2013 sequester. In addition, FAA continues to study possible revisions to its benefit/cost methodology for contract towers. Even if the moratorium were to be lifted next year or the year after, the FAA's ongoing triage—making painful decisions about what to invest in, based on recommendations from the NextGen Advisory Committee—means that low-activity control towers will likely remain a low priority.

A self-funded ATC corporation would be an *improvement* for small airports in at least two ways. First, thanks to its predictable user-fee revenue stream, the corporation would be able to issue long-term revenue bonds to finance major facility renewal, including an overdue expansion of contract towers where justified. Second, the ATC corporation would likely move forward, as its self-funded counterparts in Europe are doing, with implementing remote-tower technology at airports of all sizes (rather than building ever-taller and more-costly traditional towers). For low-activity airports, remote towers have the potential to reduce the *cost* of tower capability while maintaining or increasing the *benefits*. Thus, more airports will qualify by meeting the benefit/cost threshold.

Chairman Shuster and Ranking Member DeFazio, this concludes my testimony. I am happy to answer questions here today, or by email in follow-ups to this hearing.

Written Testimony of
Paul M. Rinaldi
President
National Air Traffic Controllers Association, AFL-CIO (NATCA)

May 17, 2017

Before
The United States House of Representatives
The Committee on Transportation and Infrastructure

"The Need to Reform FAA and Air Traffic Control to Build a
21st Century Aviation System for America"

Thank you for the opportunity to testify on behalf of the National Air Traffic Controllers Association, AFL-CIO (NATCA) about "the Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America." NATCA is the exclusive representative for nearly 20,000 employees, including the Federal Aviation Administration's (FAA) air traffic controllers, traffic management coordinators and specialists, flight service station air traffic controllers, staff support specialists, engineers and architects, and other aviation safety professionals, as well as Department of Defense (DOD) and Federal Contract Tower (FCT) air traffic controllers.

The U.S. National Airspace System (NAS) is the safest, most efficient, most complex, and most diverse system in the world. It is an economic engine that sustains over 12 million aviation-related jobs and contributes approximately $1.5 trillion annually to the U.S. economy, or more than 5 percent of America's gross domestic product. The NAS requires a well-trained, highly qualified workforce of air traffic controllers to guide approximately 70,000 flights per day in the U.S. and ensure that over 900 million passengers a year arrive safely at their destinations. To operate effectively, these controllers must work rapidly and efficiently under tremendous stress while maintaining complete concentration.

NATCA has been steadfast in its message: Change is necessary if the United States is going to remain the gold-standard for aviation. The status quo has not provided a stable, predictable funding stream to operate, modernize, and upgrade the NAS.

I. ESTABLISHING A STABLE, PREDICTABLE FUNDING STREAM

Although NATCA believes that change is necessary to ensure a stable, predictable funding stream for the NAS, we do not believe that there is only one viable solution. During the past 2 years, there have been a number of air traffic control (ATC) reform proposals that have been offered as potential solutions to this problem. Although NATCA cannot support a reform model without considering all of its details, we definitively can say that the status quo is unacceptable. We also oppose any model that would derive profit from operating the air traffic control system.

Without change, our nation risks falling behind the rest of the world and losing its status as the global leader in aviation. Globalization and innovation are driving dramatic changes in the aviation industry and, sadly, America's current structure is not keeping up. We must remain vigilant. We cannot ignore the many near-term issues facing the FAA that must be addressed while we develop a long-term, comprehensive plan.

A. NATCA's Four Core Principles For Reform:

To receive NATCA's consideration for support, any proposal must improve upon the status quo, without adopting a for-profit model, and—at minimum—meet NATCA's Four Core Principles for Reform:

1. Any reform model must ensure that our members are fully protected in their employment relationship. It is crucial to maintain our members' pay and benefits, including retirement

and health care, along with our negotiated agreements for their work rules, and indemnification for our members for acts within the scope of their employment.

2. Safety and efficiency must remain the top priorities within the system. We cannot allow maintenance to lag or reduce staffing to save money. The NAS must be fully staffed to ensure both safety and efficiency.

3. A stable, predictable funding stream must adequately support air traffic control services, staffing, hiring and training, long-term modernization projects, preventative maintenance, and ongoing modernization to the physical infrastructure. Stop-and-go funding crises slow the hiring and training process, which create staffing shortages. The lack of a stable funding stream also prevents timely implementation of NextGen modernization projects.

4. Any reform model must also maintain a dynamic aviation system that continues to provide services to all segments of the aviation community, from commercial passenger carriers and cargo haulers to business jets and to general aviation, from the major airports to those in small communities and rural America. We cannot emphasize enough how important it is that a new system continues to provide services to the diverse users of the NAS. The United States has a vibrant general aviation community that relies on us. At the same time, rural America's economic success is connected to the access we create with our comprehensive NAS that serves even the most remote areas.

While the U.S. works on a long-term solution, we need to be mindful of the effects that another round of sequestration cuts would have on the NAS. We all remember the disruptions that the system experienced in 2013 related to sequestration. The FAA scaled down all modernization projects. The Agency looked at closing 238 air traffic control towers and tried to close 149 of them for purely financial reasons, without regard to operational considerations or what was best for the NAS. FAA leadership considered reducing services at many airports across the country. The FAA halted air traffic controller hiring for the full year, a decision that still contributes to the ongoing controller staffing crisis. The FAA was forced to furlough air traffic controllers, causing rippling delays through our system. Further, the Agency went to a fix-on-fail maintenance philosophy and stopped stockpiling critical parts for essential operational equipment. These decisions were made in order to meet the budget restrictions of sequestration, not for operational reasons or to ensure safety.

Our 24/7 aviation system also has been challenged by 23 authorization extensions including a partial shutdown prior to the passage of the FAA Mondernization and Reform Act of 2012 (P.L. 112-95). Since that bill's expiration, the NAS has also experienced three more extensions. In addition to the risked shutdowns as each extension expired, in the past five years FAA has experienced a partial shutdown, a complete government shutdown, as well as numerous threatened shutdowns due to lapses or near-lapses in appropriations.

The stop-and-go funding stream has caused damage to the system, some of which is difficult to reverse. For example, stop-and-go funding makes planning for long-term improvement and modernization projects difficult. Stopping and restarting makes modernization projects more expensive. Some projects may need to start over from ground zero. For instance,

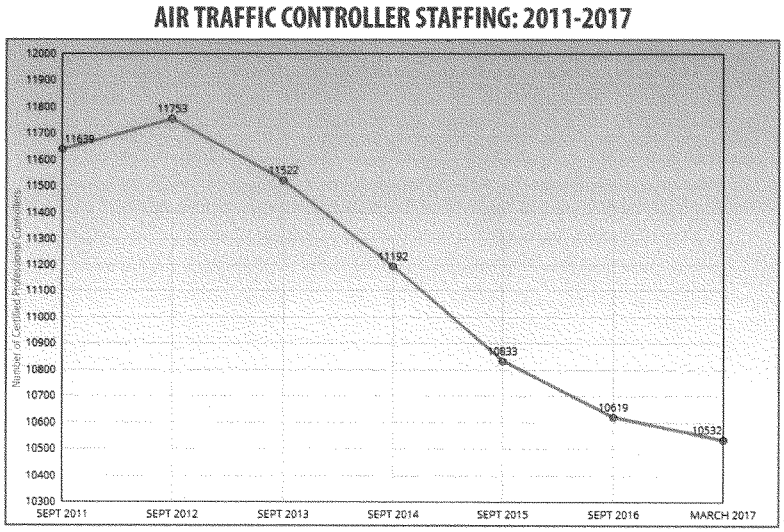
the April 2013 furloughs caused delays to modernization projects like En Route Automation Modernization (ERAM) that cost $6 million per month of delay.

Without a stable, predictable funding stream, the NAS is in jeopardy of falling behind on efficiency, capacity, and most importantly, safety. As Congress and the White House work together to reauthorize the FAA, it is imperative that all stakeholders within the NAS work together to ensure that the United States remains the world leader in aviation.

B. The FAA's Air Traffic Controller Staffing Crisis Has Been Exacerbated by an Unstable, Unpredictable Funding Stream:

Air traffic controller staffing has been a concern for many years, but it reached a crisis level in 2015. Today, the FAA struggles to adequately staff many of its large, high-volume facilities, which service the busiest and most complex airspace.

Stop-and-go funding for the FAA has made this problem worse, with sequestration forcing the FAA to suspend hiring and shutter its training Academy for most of 2013. Despite some incremental progress since the controller staffing roundtable in December 2015, and the hearing on the same subject in June 2016, Certified Professional Controller (CPC) staffing at the FAA continues to decline and has now reached a 28-year low. As of March 18, 2017, the FAA only had 10,532 CPCs on board. That number is more than 2,300 CPCs short of the FAA's overall operational target of 12,896 CPCs.



In addition, more than one quarter of CPCs (approximately 3,000) are eligible to retire. There are more retirement eligible controllers than the FAA has people in the pipeline to replace them. The FAA hit its hiring goal last year for the first time in 8 years by lowering its target by nearly 400 controllers below maximum hiring capacity, but the FAA's hiring goal for this fiscal year still does not maximize the FAA Academy's maximum throughput.

However, despite this 28-year low, the FAA has not hired all of the qualified experienced controller candidates who were intended to receive "preferential consideration" under the hiring provision included in the "FAA Extension, Safety, and Security Act of 2016" (Pub. L. No. 114-190). We thank Congress for passing this legislation that removed some of the bureaucratic red-tape involved in the FAA's hiring process. It provided an expedited hiring process for experienced controllers, and a more streamlined process for hiring veterans and graduates of the FAA's Collegiate Training Institute (CTI) colleges and universities.

NATCA believes the FAA must continue to take a holistic, collaborative approach to resolving the staffing crisis, as it has done in the last year. We are committed to working with all stakeholders to develop a permanent, sustainable solution. In the interim, NATCA would be deeply concerned with any action that could impede properly staffing the NAS with CPCs, including potential future furloughs or another closure of the FAA Academy.

As a result, we believe that Congress should exempt the FAA from indiscriminate sequestration cuts. Any hiring freeze or furloughs that include air traffic controllers could cripple the FAA and the NAS and have an immediate detrimental effect on capacity, meaning fewer planes in the sky and likely delays for your constituents who rely on air travel. Fewer flights would result in reduced revenues into the Airport and Airway Trust Fund. For the FAA, sequestration would cost the government more, rather than save money.

In the past, NATCA has also recommended the following solutions that would help alleviate the staffing shortage:

1. The FAA should routinely post a vacancy announcement for experienced air traffic controllers and should continue to hire as many experienced controllers as are qualified.

2. The FAA should post, at least annually, an all sources open announcement for non-experienced candidates, many of whom will be military veterans, graduates from CTI schools, and other aviation-related professionals.

3. The FAA should further streamline its hiring process, specifically easing the bottlenecks and bureaucratic delays in HR, security, and medical reviews.

4. The FAA should discontinue its use of finance-driven staffing numbers and replace them with the operationally derived CPC staffing targets, as reflected in its Priority Placement Tool, for all future Air Traffic Controller Workforce Plans.

With regard to the last recommendation, the FAA's 2016 Air Traffic Controller Workforce Plan[1] (CWP) illustrates how the FAA continues to ignore the harsh reality of its staffing crisis. NATCA opposes the CWP's headcount numbers and staffing ranges because they ignore the CPC staffing shortage. If endorsed through congressional action or adopted by the new administration, the CWP would allow the FAA to lower staffing at many of its critical, high-volume facilities that are already short-staffed. The CWP also ignores the CPC targets that were collaboratively developed by the FAA and NATCA to meet the Agency's operational workload needs in each facility and to distribute controller staffing appropriately based on traffic volume and complexity throughout the NAS.

The CWP, which is developed on a yearly basis by FAA Financial Services, uses numbers that are inaccurate and misleading because they are based on actual on-board numbers ("headcount"), rather than using the operational staffing targets developed by the FAA's Air Traffic Organization (ATO). Alongside CPCs, these headcount/actual-on-board numbers deceptively include developmental stage trainees (who have never been certified at any FAA air traffic control facility), as well as CPC-ITs (CPCs who reenter training at a new facility due to a transfer, but who are not yet certified at that facility). This methodology does not account for the functional day-to-day operational needs of each facility when it comes to staffing all positions, as well as carrying out other functions that only CPCs can perform, such as training developmental controllers and serving as the controller-in-charge (CIC).

Finally, the CWP's numbers are even more dubious because of the FAA's consistent practice of adjusting its definition of "controllers" within different reports in order to manipulate current and projected staffing levels. Sometimes it includes CPCs and CPC-ITs; other times it also includes developmental stage controllers. Such a practice is detrimental to the staffing process as it creates a moving target for all parties who are working toward a resolution.

Recently, NATCA and the FAA have started to cut through some of the bureaucratic red-tape by collaboratively implementing a better transfer process for CPCs and a more efficient placement process for new hires. These new processes make it easier for CPCs to transfer from well-staffed or lower activity facilities that are better equipped to accept and train new academy graduates, to higher volume, more complex facilities that have the most dire staffing shortages.

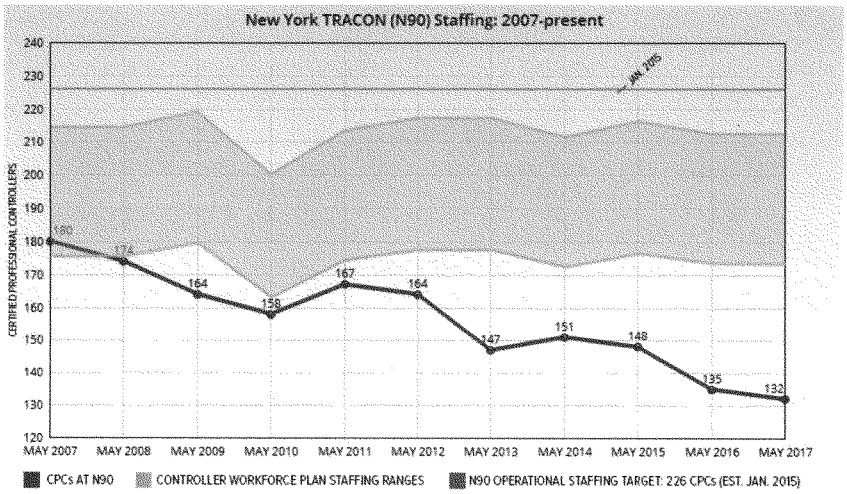
For years, the FAA had been placing many academy graduates/new hires into the most complex, highest volume Terminal Radar Approach Control facilities (TRACONs). This practice led to higher training failure rates and is not an optimal career-growth pipeline for controllers. NATCA consistently has maintained that employees assigned to the terminal option should begin their career at low volume terminal facilities. If they desire, they can then transfer to more complex facilities, culminating in their progression to the most complex, highest volume facilities, once they have more experience. Now that NATCA and the FAA have collaboratively established CPC targets and processes, we have been able to more successfully implement a transfer policy that encourages career progression. This new, jointly developed transfer process

[1] The 2016 Air Traffic Controller Workforce Plan (CWP) is the most recent version available to the public. The 2017 CWP was due to Congress on March 31, 2017.

allows employees to transfer much more efficiently. It also ensures that new hires can be placed at lower level facilities where they have a much higher rate of certifying.

However, there are still shortages that simply cannot be remedied by making it easier for people to transfer more expeditiously. NATCA and the FAA agree that the significant staffing needs at New York TRACON (N90) and Chicago TRACON (C90) require employees who meet the minimum qualifications for those facilities and who express a desire to transfer to those facilities be released within the shortest amount of time allowed under the transfer process (three months). Nevertheless, N90 and C90 are still in the most dire of the staffing situations.

As of May 2, 2017, N90 had a mere 132 CPCs, which is 94 CPCs short of the collaboratively-developed operational staffing target of 226 CPCs, or 58.4% of the target. N90 is also slated to lose another 13 CPCs on or before Sept. 30, 2017. The FAA only has four partially-qualified developmental controllers (not yet fully qualified CPCs) at N90 who may reach full certification within that same time period. Of the approximately 24 developmentals assigned to N90, including those who are partially qualified, the earliest any of them could reach full CPC level is—at best—15 to 18 months away. And historically, only about six to eight of those 20 will actually reach CPC status. So, at New York TRACON, the problem will get worse before it gets better.



This staffing crisis at N90 also demonstrates why the FAA's continued use of actual on-board "headcount" numbers within its yearly CWP is flawed. None of the 24 developmental controllers at N90 are guaranteed to ever reach full CPC status, and yet, the 132 CPCs on hand must dedicate a significant amount of time off-position training them. Although FAA's CWP actual-on-board headcount remains below its staffing range, it does make the facility appear to

be better staffed than if the FAA used the ATO's operational staffing target it uses for employee transfers.

The picture is not much brighter for other large terminal facilities around the country. Atlanta TRACON (A80) has 63 CPCs, while the operational staffing target is 102 CPCs (61.8%). Chicago TRACON (C90) has 62 CPCs, while the operational staffing target is 100 CPCs (62.0%). Dallas TRACON (D10) has 59 CPCs, while the operational staffing target is 93 CPCs (63.4%). And, finally, Los Angeles Tower (LAX) has 38 CPCs, while the operational staffing target is 49 CPCs (70.3%).

C. A Stable, Predictable Funding Stream is Also Necessary for Modernization:

The Next Generation Transportation System (NextGen) describes the primary, comprehensive modernization project that is shifting the FAA from its current ground-based radar system to smarter, satellite-based aircraft tracking system and digital technologies, along with new procedures that will enable the FAA to guide and track aircraft more precisely on more direct routes. NextGen is vital to preserving the United States' position as the world's leader in aviation.

The FAA has frequently been criticized for its management of NextGen. Although it is true that the Agency is lagging behind in its effort to modernize the NAS, many of the FAA's detractors have not seen the full picture. NATCA takes great pride in our role as a partner in developing and implementing important modernization projects in recent years. The FAA, NATCA, and other aviation stakeholders have enjoyed a positive, productive, and collaborative relationship for nearly a decade.

As a result of this collaboration, NextGen is already producing efficiencies that enhance safety, reduce delays, save fuel, and reduce aircraft exhaust emissions. To date, NextGen has delivered $2.7 billion in benefits, and the FAA has completed 103 commitments of the NextGen and NextGen Advisory Committee's (NAC) Prioritization Plan. Recently, we have achieved several successes on NextGen projects including ERAM, DataComm, and Metroplex. But in order for all remaining NextGen projects to be successfully completed in a timely fashion and at the lowest possible cost to taxpayers, the FAA needs a stable, predictable funding stream.

Without a stable and predictable funding stream, NextGen modernization programs will continue to be threatened by delays that will jeopardize their success. Congressional attacks on official time would also severely cripple the FAA's ability to deliver NextGen technologies on time and under budget, as would any further staffing reduction such as a hiring freeze or furloughs.

In 2013, sequestration and the resulting April 2013 furloughs, as well as the October 2013 government shutdown, created needless delays in the development, design, and implementation of NextGen, and increased costs in these key modernization programs. The shuttering and reactivation of NextGen programs not only delayed their progress, but also increased costs to American taxpayers. We cannot allow this stop-and-go funding uncertainty to undermine NextGen.

For example, both ERAM and Metroplex experienced significant delays in 2013, as work was stopped on these key NextGen programs for several months. Originally, the waterfall schedules for ERAM and Metroplex were designed to complement each other, so that installation for one did not conflict with or negatively affect installation for the other. However, because of this multi-month delay, the ERAM team was forced to shuffle its waterfall schedule, creating numerous, unnecessary conflicts with Metroplex schedules, which in turn further delayed both programs.

Moreover, many of the controllers who were working as subject matter experts (SME) on the programs were forced to go back to their facilities while they were waiting for the FAA to restart the programs. However, when the FAA restarted the programs, some of the SMEs were unable to be re-released to resume their work due to poor staffing levels at their facilities. This resulted in a significant loss of institutional knowledge, expertise, and experience on these NextGen teams.

D. The FAA's Rapidly Aging Infrastructure Cannot Be Maintained Without a Stable, Predictable Funding Stream:

The FAA operates more than 300 air traffic control facilities of varying ages and conditions. The FAA's 20 Air Route Traffic Control Centers (ARTCCs) located in the continental United States were built in the 1960s and are more than 50 years old. The FAA's large, stand-alone TRACONs are, on average, 25 years old. In addition, the FAA has 132 combined TRACON/Towers, which average nearly 35 years old. Finally, the FAA has another 131 stand-alone towers which average almost 30 years old, the oldest being 75 years old.

The FAA has begun the process of addressing its aging infrastructure through a combination of realignments, sustaining and maintaining some facilities, and replacing a handful of others. However, that process is hampered by the lack of a predictable funding stream that provides certainty.

For example, the FAA is replacing Charlotte TRACON/Tower (CLT), which was approximately 35 years old. The replacement cost is more than $113 million. Similarly, San Francisco Tower (SFO) was approximately 28 years old when it was replaced, with the total cost of that project running greater than $82 million. To replace Las Vegas Tower and Las Vegas TRACON, which were about 31 and 29 years old respectively, the FAA built one facility to replace two buildings. That project cost more than $110 million. Even for smaller facilities such as Wilkes-Barre, Pa., TRACON/Tower (AVP) and Abilene, Texas TRACON/Tower (ABI), the replacement costs were approximately $23 million and $21 million respectively.

These facility replacement costs are expected to continue to rise with inflation as the FAA's facility infrastructure ages and it struggles to keep up with NextGen technological advancements and operational demands. The FAA needs a stable, predictable funding stream in order to adequately maintain and replace its aging infrastructure in the coming years.

II. NATCA SUPPORTED THE 2016 AIRR ACT BECAUSE IT WOULD HAVE PROVIDED A STABLE, PREDICTABLE FUNDING STREAM AND IT SATISFIED NATCA'S FOUR CORE PRINCIPLES FOR REFORM

NATCA supported the House Transportation and Infrastructure Committee Chairman Bill Shuster's proposal, H.R. 4441, the "Aviation Innovation, Reform & Reauthorization Act of 2016" (AIRR Act), which was introduced during the 114th Congress. The AIRR Act was intended to reform the FAA by separating the air traffic control system operations from the FAA's regulatory and oversight activities.

The AIRR Act would have created a not-for-profit, independent organization run by a board of stakeholders. In theory, this model could deliver results similar to those we have seen in Canada, where NAV CANADA has proved itself to be a safe and innovative Air Navigation Service Provider over the past two decades. We supported the AIRR Act because it dealt with the unstable, unpredictable status quo funding stream, did not establish a for-profit entity to provide air traffic control services, and addressed NATCA's Four Core Principles. Specifically, the 2016 AIRR Act would have:

- Protected NATCA's members in their employment relationship, including their rights and benefits, work rules, and negotiated agreements;
- Ensured that safety and efficiency remain the top priorities;
- Provided a stable, predictable funding stream to adequately support air traffic control services, staffing, hiring and training, long-term modernization projects, preventative maintenance, and ongoing modernization to the physical infrastructure; and
- Maintained a dynamic aviation system that would continue to provide services to all segments of the aviation community, from commercial passenger carriers and cargo haulers to business jets and to general aviation, from the major airports to those in small communities and rural America.

NATCA will carefully review and consider any future proposal that improves upon the unstable, unpredictable status quo and does not include a for-profit model. It is imperative that the FAA must be properly funded with a stable, predictable funding stream.

III. A ROBUST, WELL-THOUGHT OUT TRANSITION PROCESS MUST ENSURE THAT THE WORKFORCE IS PROTECTED AND ATC SERVICES ARE MAINTAINED WITHOUT DEGRADATION

NATCA believes that any proposal must include a robust, detailed, and well-thought out transition process. This transition is necessary, not just for the workforce, but also for all aviation stakeholders. Without a robust transition process, America runs the risk of entering into a lame-duck period in which the FAA scales back on resources before the transition is complete. The FAA must have a stable, predictable funding stream and clear policy priorities to continue performing its current mission, as well as during the transition to a new model. Failing to properly address these issues during transition could have a detrimental effect on the users of the system and the workforce that will be expected to maintain the integrity of the largest and most

complex airspace system in the world. There is a significant concern that a haphazard transition process could lead to an inadequate hiring pipeline, personnel training constraints, and technological and infrastructure modernization delays. Additionally, retirement-eligible controllers (over 3,000 of the current 10,532 CPCs) might end their FAA service ahead of schedule if they fear the ramifications of an inadequate transition, or if the FAA's funding stream is not properly addressed during the period leading to and during the transition.

IV. RECOMMENDATIONS & CONCLUSION

All aviation stakeholders must remain vigilant. While the U.S. National Airspace System remains the safest, most efficient, most complex, most diverse in the world, we cannot afford to become complacent. We must always strive to improve not only the system, but the support mechanisms for the system. Below are NATCA's recommendations for FAA Reauthorization:

1. NATCA is hyper-focused on the need for a stable, predictable funding stream for the operation, maintenance, and improvement of the NAS. And, while we do not believe there is a single solution to the problem, NATCA will consider supporting proposals that improve upon the unacceptable status quo and do not establish a for-profit model for operating the ATC system as long as they meet our four core principles.

2. Congress should exempt the FAA from indiscriminate sequestration cuts. Any hiring freeze or furloughs that include air traffic controllers could cripple the FAA and the NAS and have an immediate detrimental effect on capacity, meaning fewer planes in the sky and likely delays for your constituents who rely on air travel.

3. The FAA must continue to take a holistic, collaborative approach to resolving the staffing crisis:

    a. The FAA should routinely post a vacancy announcement for experienced air traffic controllers and should continue to hire as many experienced controllers as are qualified.
    b. The FAA should post, at least annually, an all sources open announcement for non-experienced candidates, many of whom will be military veterans, graduates from CTI schools, and other aviation-related professionals.
    c. The FAA should further streamline its hiring process, specifically easing the bottlenecks and bureaucratic delays in HR, security, and medical reviews.
    d. The FAA should discontinue its use of finance-driven staffing numbers and replace them with the operationally derived CPC staffing targets, as reflected in its Priority Placement Tool, for all future Air Traffic Controller Workforce Plans.

We appreciate the opportunity to offer testimony on this important issue and look forward to working with the Committee and all aviation stakeholders to improve the system for the flying public.

The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America

Testimony of Dorothy Robyn

House Committee on Transportation & Infrastructure

May 17, 2017

Chairman Shuster, Ranking Member DeFazio and distinguished members of the Committee. I appreciate the opportunity to testify this morning on reform of the U.S. air traffic control system.

I have an MPP and Ph.D. in public policy from the University of California, Berkeley, and have spent more than three decades—in academia, government and consulting—working on economic and regulatory policy, much of that work focused on aviation, transportation and infrastructure. For the full eight years of the Clinton Administration, I served as a Special Assistant to the President for Economic Policy, on the staff of the White House National Economic Council. During President Clinton's second term, and after the Administration's proposal to corporatize air traffic control had failed to garner congressional support, I worked extensively on alternative options, culminating in the President's issuance in December 2000 of an executive order directing the FAA to establish the Air Traffic Organization as a performance-based entity separated internally from the FAA's regulatory function. After leaving the White House, I continued to work on aviation policy, first as a Guest Scholar at the Brookings Institution and then as an economic consultant with the Brattle Group. I informally advised CSX CEO (and later Secretary of the Treasury) John Snow, the chair of the Air Traffic Services Subcommittee, which was created to serve as a board of directors for the ATO. I analyzed air traffic control financing and governance issues for the Department of Transportation's Office of Inspector General,[1] the White House Council of Economic Advisers,[2] and Brookings' Hamilton Project.[3] I also worked on the first phase of an FAA-supported study of the total cost of flight delays before leaving the Brattle Group to join the Obama Administration.

After five years as an Obama Administration official at the Department of Defense and the General Services Administration,[4] in 2014, I reengaged in aviation policy as an independent analyst and a member of the Eno Center for Transportation's NextGen Working Group. I have written several opinion pieces on air traffic control reform,[5] and I coordinated with former

[1] Dorothy Robyn, "Give Price a Chance: Financing the Air Traffic Control System to Promote Efficiency," April 2005 (unpublished); and "Proposal to Spin Off the FAA's Facilities and Equipment Activities: A Preliminary Analysis of Unintended Consequences," October 2006 (unpublished).

[2] Dorothy Robyn in association with GRA, Inc., "Reforming the Air Traffic Control System to Promote Efficiency and Reduce Delays," Prepared for the Council of Economic Advisers, Brattle Group, October 2007.

[3] Dorothy Robyn with support from Kevin Neels, "Air Support: Creating a Safer and More Reliable Air Traffic Control System," Hamilton Project, Brookings Institution (July 2008); available at: http://www.brookings.edu/research/papers/2008/07/air-traffic-robyn.

[4] I served as the Deputy Under Secretary of Defense for Installations & Environment (2009-2012) and (following the scandal at GSA) the Commissioner of GSA's Public Buildings Service (2012-2014).

[5] See: "Alternative Governance Models for Air Traffic Control System: a User Cooperative Versus a Government Corporation," April 6, 2015; available at: https://www.brookings.edu/blog/fixgov/2015/04/06/alternative-

colleagues in the Clinton Administration on a letter in support of corporatization of air traffic control (see Appendix). Most recently, a former Brattle Group colleague and I conducted an extensive analysis of satellite-based aircraft surveillance ("space-based ADS-B"). Our report, released in January, identifies the potential economic benefits of this new capability and makes recommendations on how the FAA should think about its costs and benefits.[6]

Background

The United States has the busiest and safest airspace of any country. The ATO, made up of 14,000 controllers and 20,000 engineers and other staff, orchestrates the safe transit of more than 30,000 commercial flights a day—an extraordinary feat. I have worked with many FAA analysts, engineers and managers over the years, and (like the federal employees I worked with at DoD and GSA) they are extremely talented and mission-driven. Although I have never worked alongside air traffic controllers, last year, I attended NATCA's annual safety conference, the culmination of which was the presentation of the Archie awards to controllers who had performed extraordinary life-saving feats the prior year. Listening to the audio recordings of rock-steady controllers, as they calmed and guided general aviation pilots who had lost their way or were coping with a mechanical catastrophe, was an experience I will not soon forget.

Despite this talent pool, and the skill with which it manages the day-to-day operation of the air traffic control system, the ATO faces longstanding structural problems. In response to these problems, in 1995, the Clinton Administration proposed to transfer the air traffic control system to a wholly owned government corporation, the U.S. Air Traffic Services Corporation (USATS), which would be managed by a board of directors and a CEO, financed by user charges that could be leveraged to borrow from the Treasury or (potentially) private capital markets, and overseen by an independent safety regulator (the residual FAA). USATS was dead on arrival in Congress, however, with some Members saying it went too far and others saying it did not go far enough.

At the time, only four countries—the UK, Germany, Australia and New Zealand—had moved their air traffic control system outside of the traditional government bureaucracy; now, some 60 countries have done so. The United States is one of the few industrial nations that still provides air traffic control services out of a traditional government agency.

The Problem: Air Traffic Control is a Business Trapped in a Regulatory Agency

I describe the problems facing the ATO in detail in the Brookings Hamilton Project paper as well as my 2015 testimony before the House Aviation Subcommittee which drew heavily on that report.[7] Let me distill my analysis down to three key points.

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governance-models-for-the-air-traffic-control-system-a-user-cooperative-versus-a-government-corporation/; "It's Time to Corporatize Air Traffic Control (the Right Way)," September 28, 2015: available at: https://www.brookings.edu/blog/fixgov/2015/09/28/its-time-to-corporatize-air-traffic-control-the-right-way/; and "Corporatize Air Traffic Control: a Democrat's Case"; available at: http://www.realclearpolicy.com/blog/2016/02/09/corporatize_air_traffic_control_a_democrats_case_1549.html.

[6] Dorothy Robyn and Kevin Neels, "Warranted Surveillance? Evaluating the Economic Case for Space-Based ADS-B," January 2017; available at: http://ow.ly/eCEE308xMRT. See also Robyn and Neels, "Warranted Surveillance?," *Air Traffic Management*, Issue 1 2017; available at: http://www.airtrafficmanagement.net/2017/05/warranted-surveillance/.

[7] Available at: https://transportation.house.gov/uploadedfiles/2015-03-24-robyn.pdf.

First, air traffic control is not an inherently governmental function. Although keeping planes safely separated is a complex and critical task, it is a purely operational process that follows well-established rules. Like running an airline or manufacturing a Boeing 787, air traffic control can be performed effectively by a non-governmental entity as long as it is subject to oversight by FAA safety regulators, whose job of setting and enforcing the rules *is* inherently governmental.

Historically, the air traffic control operator and the safety regulator were seen as so closely linked that the former was assumed to be inherently governmental. We now know that is not the case, as evidenced by the dozens of countries that have opted to provide air traffic control services through a self-supporting, autonomous agency outside of the traditional government bureaucracy. In fact, as discussed below, experts now call for the separation of the regulator from the operator in order to *ensure* system safety.

Second, precisely because air traffic control system is commercial in nature, the federal government is poorly suited to running it. Blue-ribbon commissions have studied the FAA in depth for decades, and there is a broad consensus on the problem. *Air traffic management is a 24/7, technology-intensive service "business" trapped in a regulatory agency that is constrained by federal budget rules, burdened by a flawed funding mechanism, and micromanaged by Congress and the Office of Management and Budget.*

To paraphrase James Carville, "It's the incentives, stupid." Because it relies on appropriated funds, the FAA views Congress rather than aircraft operators — and the traveling public — as its customer, and Congress intervenes in decisions large and small. For example, Members concerned about the loss of jobs in their district have long blocked FAA plans to consolidate aging and inefficient facilities that would save hundreds of millions of dollars a year.

The FAA's funding mechanism compounds the governance problem. Air traffic control is paid for largely through an ad valorem ticket tax on passengers rather than a cost-based charge on aircraft operators, whose scheduling decisions and operational practices determine the workload on the system. This indirect funding mechanism distorts aircraft operators' decisions and lessens the FAA's incentive to respond to the needs of its real customers.

The budget process is another millstone around the ATO's neck. Because the federal government lacks a capital budget, the FAA cannot borrow against annual receipts to fund long-term investments in new technology and facilities.[8] Nor can it finance promising new capabilities that have the potential to transform the delivery of air traffic control services as I discuss below using the example of space-based ADS-B.

These problems are most evident in the FAA's long-running struggle to deploy new technology that would improve efficiency and make air travel safer. When it undertook to modernize the air traffic control system in 1981, the FAA estimated that the work would cost $12 billion and take a decade to complete. Thirty-six years and more than $56 billion later, many controllers still keep track of aircraft using paper strips. Outdated technology limits the capacity of the system,

[8] Having run GSA's Public Buildings Service and had DoD-wide management oversight of U.S. military bases, I have experienced firsthand the challenges of acquiring and maintaining large capital assets under the constraint of the federal government's requirement for up-front funding of capital investments. See Dorothy Robyn, "Reforming Federal Property Procurement: The Case for Sensible Scoring," Brookings Institution, April 29, 2014; available at: http://www.brookings.edu/blogs/fixgov/posts/2014/04/24-federal-property-procurement-sensible-scoring-robyn.

contributing to flight delays and increased flight times. It also helps to explain why the FAA's cost per unit of service has gone up by more than 66 percent since 1997.

Third, the current arrangement is flawed on safety grounds. Historically, civil aviation authorities in most countries both operated and regulated air traffic control, leading to potential conflicts of interest. Safety experts worldwide, including the International Civil Aviation Organization, are unanimous in saying that the air traffic control regulator should be independent of the operation it regulates to avoid such conflicts. In fact, many of the countries that have spun off air traffic control have done so largely for safety reasons. The United States is one of the only industrial countries in which air traffic control is still both operated and regulated by the same agency.

Although safety experts have long recommended it, independent regulatory oversight of the air traffic control operator is becoming even more important as we transition to the next generation of air traffic control technology. According to a 2007 joint statement by the late Alfred Kahn, former FAA Administrator Langhorne Bond, and seven other aviation experts, "as the ATO moves forward to implement the dramatic changes in technology and procedures inherent in the NextGen concept...[m]any decisions about increasing capacity by reducing aircraft spacing (thanks to new technologies and procedures) have important safety implications, and should be arrived at in a transparent manner. Arm's length separation cannot be accomplished as long as ATO operations and aviation safety regulation reside in the same governmental unit."[9]

Far-Reaching Benefits of Corporatization and Cost-Based Pricing

Although the creation of the ATO was a step in the right direction, it did not go far enough. To correct the ATO's problems, Congress needs to move the ATO out of the federal government and make it a stand-alone entity run by a CEO and a board of directors, with the FAA providing independent safety oversight. In addition, Congress should replace tax funding of the air traffic control system with cost-based prices on commercial and business aircraft. To minimize transactions costs and reflect their lower demand on the system, piston-engined aircraft, many of which operate out of separate and uncongested facilities, should pay a flat annual charge linked to aircraft size.

These two changes would have far-reaching beneficial effects on the air traffic control system over time. First, the spin-off of the ATO would eliminate the potential conflict of interest by replacing the current arrangement, in which the FAA both operates and regulates the air traffic control system, with one in which the FAA provides independent, arm's length regulation of the system operator. As noted above, this long-needed change is becoming even more critical as the system shifts to satellite-based technology, which allows for closer spacing of aircraft.

Second, the separation of the ATO from the FAA would clarify the missions of the two entities. The ATO is a large organization with a distinct, operational function. Making the ATO a stand-alone operational entity would help employees to see their job as that of a (safety-obsessed) service provider—a challenge currently.

Allowing the FAA to focus exclusively on safety regulation should improve its performance as well. Realistically, the FAA will need to beef up its oversight of the air traffic control system once it can no longer rely on the ATO's (much larger) internal safety office, and transparency

[9] "The Need for Fundamental Reform of Air Traffic Control," September 19, 2007. See: http://reason.org/files/air_traffic_control_experts_statement_2007.pdf

may require more, not less, interaction between the FAA and the ATO on NextGen. Such scenarios should not be cast in a negative light, however: the goal is to ensure the optimal tradeoff of safety and system capacity, not to constrain NextGen planners' in-box.

Third, the ability to borrow money will allow the ATO to undertake capital investments sooner and assign some of the costs to future users, consistent with economic efficiency. At the same time, it will force the ATO to convince investors that its capital spending plan is sound. In this way, the capital markets will impose a healthy discipline that OMB and Congress cannot match.

Fourth, adoption of a well-designed system of pricing (i.e., user fees) will provide valuable market signals, incentivizing aircraft operators to use air traffic control capacity more efficiently, encouraging the ATO to offer services that best meet users' needs, and promoting innovation and long-term investment. Pricing will also facilitate customer involvement, by giving users an incentive to monitor ATO spending and the ATO an incentive to consult more closely with users.

A "User Cooperative" versus a Government Corporation

Although most countries have transferred responsibility for air traffic control to a government corporation, the Canadians created a different model: NAV CANADA is a private, non-profit corporation governed by a stakeholder-selected board; it is similar to the user-owned cooperatives seen in many sectors (e.g., insurance, agriculture and utilities). Since both approaches provide for independent safety regulation, the decision should come down to economic performance. In my view, it is not a close call: the NAV-CANADA model is superior to the government-corporation model in both theory and practice.

In theory, NAV CANADA achieves an elegant alignment of incentives: because the board represents stakeholders, it governs the air traffic control system so as to keep costs low and invest in capital at the optimal level. This simple design solution creates an incentive for efficient performance in the absence of competition, and it eliminates the incentive for monopoly abuse. Although the government participates as a member of the board (and serves as an independent safety regulator), its involvement in the private system can otherwise be minimal.

Beyond representing stakeholders, the board has a fiduciary responsibility to NAV CANADA. Toward that end, while some board members have aviation expertise, others are selected for their knowledge of finance, human resources, law and other areas relevant to running a business. Having board members who are fiduciaries has been essential to NAV CANADA's success.

NAV CANADA's 20-year track record is practical proof that its approach works. User charges are a third less in real terms than the ticket tax they replaced. The system is handling 50 percent more traffic with 30 percent fewer people. And it has fully modernized its equipment with half the prior level of capital expenditure and in fact now sells its hardware and software to other providers. Canadian air traffic controllers support NAV CANADA because it rewards productivity and involves controllers intimately in the technology modernization process.

In contrast to NAV CANADA, a government-corporation approach to air traffic control requires ongoing government involvement to achieve the same economic goals. Although this approach has worked well in many countries, the structure alone is no guarantee that a government corporation will not seek to abuse its monopoly power. The European Commission has imposed its own regulatory scheme to promote efficiency and discourage monopoly pricing on the part of Europe's national air traffic control providers, many of which are government corporations.

An even bigger concern in this country may be the potential for *unwarranted* government involvement. Government corporations in the United States do not have the same degree of political insulation as those in other countries. If a corporatized air traffic control system is to succeed, it must be shielded from unwarranted external intervention, and it seems doubtful that a government corporation could provide that bulwark.

Had NAV CANADA existed in 1995, I suspect that it, rather than New Zealand's government corporation—the best model at the time—would have been the prototype for the Clinton Administration's USATS proposal. And in 2000, when the Clinton Administration designated five outstanding business and management leaders, several of whom had no aviation expertise, for appointment to the Air Traffic Services Subcommittee, it did so with an eye to Canada's nascent approach. I personally recruited John Snow because he was a corporate executive, trained as an economist, who understood network industries.

An FAA Corporation: Fatally Flawed Twice Over

Some people have called for transferring the FAA in its entirety to a government corporation (one variation of this proposal would transfer only those regulatory functions related to air traffic control). While the goal of giving both sides of the FAA greater flexibility is laudable, this approach is flawed in fundamental ways. First, by keeping the air traffic control operator and the regulator in the same organization, it fails to address the conflict-of-interest issue. Even more problematic, an FAA Corporation would corporatize the FAA's regulatory functions, which *are* inherently governmental. Air traffic control users, through their membership on the board of the corporation, would have some authority to oversee safety regulation—a clear conflict of interest. Moreover, the CEO and the board would be directly accountable to the Executive Branch and Congress for that portion of the corporation's funding devoted to regulatory oversight, which would significantly diminish the corporation's independence and flexibility.[10]

Objections to "Privatization"

Those who oppose the adoption of a NAV-CANADA model in the United States cite several reasons that the air traffic control operator should remain in the federal government (in either a government corporation or a traditional government agency). One reason is national security. A major concern is that the military conducts operations whose whereabouts cannot be broadcast without risk of compromising the government's objectives. But private contractors are *already* responsible for carrying out essential air traffic control functions, such as automatic dependent surveillance-broadcast (ADS-B), the successor to radar surveillance. The procedures now in place to ensure that such operations are kept secret can easily move with the ATO when it transitions to a corporate structure, as long as the federal government retains an "appellate" function.[11] Moreover, in the event of war, under this committee's proposed legislation, DoD would take over the operation of the national airspace system (NAS), just as it would under current law.

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[10] The FAA Corporation was one of the options examined as part of the Clinton Administration's six-month, DOT-led interagency analysis of the air traffic control system. "Air Traffic Control Corporation Study," Report of the Executive Oversight Committee to the Secretary of Transportation, May 1994, pp. 55-56.

[11] Currently, if, say, DoD has a disagreement with the private ADS-B provider, it can elevate the issue to ATO management. That "appellate" function needs to remain in the government—presumably in the residual FAA.

To be sure, DoD has major equities in the NAS, and it will need assurances that the new structure will preserve current DoD-ATO arrangements and address potential risks and contingencies. However, a NAV-CANADA type of corporatization of the ATO could bring significant benefits to DoD, such as facilitating investment in military-run air traffic facilities and equipment that DoD lacks the capital budget to upgrade. In short, national security does not appear to be a reason to oppose "privatization."

A second objection to "privatization" has to do with the environment. The major concern seems to be that communities will have less ability to affect decisions about where planes fly and the resulting noise impact. While aircraft noise is a genuine issue, particularly with the advent of performance-based navigation, the spinoff of the ATO would not change the underlying environmental law or policy. The National Environmental Policy Act would still apply, and the FAA would retain the (inherently governmental) responsibility for approving new flight paths, revised air traffic control procedures and other changes with potential environmental impacts.

Finally, some stakeholders have questioned whether the NAV-CANADA model is scalable to an aviation system as large and diverse as the one in this country. However, the U.S. air traffic control system is already large, and there is nothing about the Canadian approach that limits its scale. To the contrary, the larger and more complex the system, the more important it is to have a commercially driven operator, particularly one with built-in incentives for efficiency. As for "diversity," meaning the ability of small airports and the general aviation users who rely on them to access the air traffic network, as a non-profit corporation in which stakeholders are the "owners," the ATO would treat access as a bottom-line goal (along with efficiency and safety).

Satellite Surveillance

Finally, let me briefly discuss a new air traffic control capability, space-based ADS-B, whose brief history illustrates the constraints that the ATO faces as a government agency. By way of background, although radar and (ground-based) ADS-B track aircraft in real time, allowing planes to be separated by only 3-5 nautical miles, their coverage is limited to the airspace over land. In the airspace above oceans and remote land areas, which cover 70 percent of the earth, controllers must rely instead on infrequent position reports from the aircraft, which requires that planes be separated by 30-120 nautical miles. With space-based ADS-B, next-generation Iridium satellites equipped with ADS-B receivers will take the place of ground-based infrastructure, making it possible to track airplanes with radar-like precision anywhere above the earth's surface.[12]

Space-based ADS-B is a potentially transformative technology that will allow for safer and more efficient use of the 70 percent of global airspace that lacks radar-type surveillance. In addition to allowing for closer spacing of aircraft in high-traffic areas like the North Atlantic, space-based ADS-B will be a valuable security asset, enabling DoD and U.S. intelligence agencies to monitor global traffic flows in real time and more easily land military aircraft in war zones and disaster areas that lack air traffic infrastructure. It will make lengthy search and rescue operations, such

[12] In January, SpaceX launched a rocket carrying the first ten Iridium NEXT satellites, and the others are due to be deployed over the next 18 months. In addition to Iridium, Globalstar plans to offer space-based ADS-B service. Globalstar's system (unlike Iridium's) will require aircraft to install additional equipment and will lack complete global coverage.

as the one for Malaysian Airlines Flight 370, a thing of the past.[13] Over the longer term, space-based ADS-B could even alter the current approach to air traffic control, allowing monopoly national providers, armed with a common, global air picture, to compete as well as collaborate.

In 2010, in an effort to raise the capital to add ADS-B receivers to its next generation of satellites, Iridium asked the ATO to be the initial investor in a joint venture to provide space-based ADS-B as a service to individual air traffic control providers. As a traditional government agency, the ATO could not seriously entertain such a proposal. Lacking such a constraint, NAV CANADA pledged $150 million to become a 51 percent owner of the joint venture, Aireon, and the air traffic control providers in Ireland, Denmark and Italy committed to an additional $120 million in equity, making Aireon 75.5 percent owned by foreign air traffic control providers.

Iridium is an American success story. In 2000, the company survived a bankruptcy that almost led to the destruction of its 66-satellite network—an engineering marvel that uses Star Wars technology to link any two points on the planet. Since 2001, Iridium satellite phones have saved tens of thousands of lives and proved indispensable in war zones, disaster areas, and for hundreds of commercial and scientific uses in parts of the globe that are otherwise inaccessible. As Aireon writes a new chapter in the Iridium story, one wishes it were bolstering our country's once-unquestioned technological leadership in aviation and air traffic control; instead the Aireon board meets in Ottawa.

Nor is it certain that the ATO will decide even to subscribe to space-based ADS-B as a customer, in part because of constraints it operates under. Although the charge for Aireon's service would be relatively modest, the ATO cannot pass the cost on to aircraft operators, as other air traffic control providers plan to do. And since the FAA's appropriations have been flat for five years—a trend that is likely to continue—to take on a new commitment, the ATO must jettison an old one. Thus even if the ATO's benefit-cost analysis of space-based ADS-B is positive (an ongoing analysis whose result I do not presume to know), the budget and other constraints may limit the ATO's ability to take advantage of this potentially transformative new capability.[14]

That concludes my statement. Thank you again for the opportunity to testify on this important issue. I look forward to answering any questions you have.

[13] If a commercial aircraft flying in oceanic airspace is reporting its position every 15 minutes (the current norm), the search area if the plane disappears is about 55,000 square kilometers. By contrast, with the 8-second update rate that space-based ADS-B will provide, that search area is only 4 square kilometers.

[14] See Dorothy Robyn and Kevin Neels, "Warranted Surveillance: SpaceX Satellite Launch Holds Promise for Air Traffic Control," January 17, 2017; available at: https://www.brookings.edu/blog/fixgov/2017/01/17/warranted-surveillance-spacex-satellite-launch-holds-promise-for-air-traffic-control/.

Appendix

April 7, 2016

Members of the U.S. Senate

Re: Support for Air Traffic Control Reform from Former Clinton Administration Officials

Dear Members of the U.S. Senate:

In recent weeks, Congress has begun consideration of legislation to reform the structure and financing of the Federal Aviation Administration's Air Traffic Organization. One leading proposal would move the ATO to a non-profit corporation that would be financed by users and regulated for safety at arm's length by the FAA. We believe this type of reform is needed. Numerous expert panels and studies have recommended "corporatization" of air traffic control, and both Democratic and Republican Administrations have proposed it in the past.

We participated in the effort by President Clinton and Vice President Gore to move air traffic control to a government corporation, so that it could operate more like a business and borrow on the capital markets to finance long-term capital investments. A key goal was to accelerate the FAA's effort to modernize its system by (among other things) shifting from 1950s-era ground-based radar to satellite-based navigation—an effort that was plagued by delays and cost overruns.

Two decades later, delays and cost overruns continue to plague the FAA's effort to adopt next-generation satellite-based technology (NEXTGEN), and air traffic controllers still keep track of aircraft using paper strips. In recent years, uncertainty as to the magnitude and timing of federal funding for NEXTGEN—a problem that is likely to get even worse—has added to the FAA's challenges.

Additional evidence that the Clinton Administration was right to pursue air traffic control reform comes from the actions of other countries. Two decades ago, only four countries had corporatized their air traffic control systems. Today, more than 60 other countries have done so. A dozen independent studies by the Government Accountability Office and others show that, after the change, air traffic control safety in these countries improved or remained the same and efficiency increased.

This letter is not meant as a plea to support a particular piece of legislation. Rather, our intent is to communicate the importance of structural reform of air traffic control, generally, and to make it clear that Democrats and Republicans alike have long advocated such reform.

We are heartened by the support for reform shown by the National Air Traffic Controllers Association, which represents 17,000 FAA employees.

Air traffic control reform is long overdue in this country. We hope it will receive bipartisan support in Congress.

Sincerely,

Federico Pena
Secretary of Transportation, 1993-1997

Norman Mineta*
Secretary of Transportation, 2001-2006

Peter Orszag**
Director, Office of Management and Budget, 2009-2010

Joshua Gotbaum***
Senior Official in the Departments of Defense and Treasury and the Office of Management and Budget, 1993-2001

Elaine Kamarck
Director, National Performance Review, 1993-1997

Dorothy Robyn***
Special Assistant to the President for Economic Policy, 1993-2001

Gerald Baliles
Governor of Virginia (1986-1990) and Chairman of the 1993 National Commission to Ensure a Strong Competitive Airline Industry

*Mineta served as the Secretary of Commerce in the Clinton Administration
**Orszag served in several senior economic advisory positions in the Clinton Administration
***Gotbaum and Robyn also held senior political positions in the Obama Administration

NetJets Inc.
4111 Bridgeway Avenue
Columbus, OH 43219

NETJETS

February 10, 2016

The Honorable Bill Shuster Chairman
Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington DC 20515

Dear Chairman Shuster:

We are writing to express NetJets Inc.'s support for the "Aviation Innovation, Reform, and Reauthorization Act," H.R. 4441, that you introduced in Congress last week. As you may know, our NetJets family of companies manages over 600 business jet aircraft in the United States alone, through a mixture of fractionally owned and wholly owned private aviation programs. We and our customers have a compelling interest in this Reauthorization.

We believe that H.R. 4441 is a significant step in a new direction that will enable the aviation industry to embrace safety and efficiency.

We welcome the opportunity to work further with you, Rep. LoBiondo, Chairman of the Aviation Subcommittee, other members of Congress, the FAA, and other industry leaders as the details of the FAA Reauthorization bill are debated and drafted.

Thank you,

Ronald P. Brower
Corporate Secretary

Robert E. Tanner
Vice President, Corporate & Government Affairs

SWAPA Urges House Passage of AIRR Act

Pilots of Southwest Airlines support legislation to modernize FAA, improve aviation safety and efficiency

25 Feb, 2016, 12:45 ET from Southwest Airlines Pilots' Association

DALLAS, Feb. 25, 2016 /PRNewswire-USNewswire/ -- On behalf of the more than 8,000 pilots of Southwest Airlines, Captain Jon Weaks, President of the Southwest Airlines Pilots' Association (SWAPA), expressed his support today for H.R. 4441, the Aviation, Innovation, Reform and Reauthorization (AIRR) Act.

Statement to be attributed to SWAPA President, Captain Jon Weaks:

"For too long, the delays in upgrading our air traffic control technology have led to costly delays for passengers on the ground. As passed by the Committee, the AIRR Act will take bold and significant steps to separate the FAA's air traffic controllers from the federal bureaucracy that has deprived them of the tools necessary to best do their job. Freeing ATC from the FAA will allow the Agency to concentrate on its core mission of safety. At the same time, the new ATC board laid out by the legislation will include a balance of interests from every segment of aviation, including pilot labor, which will focus on modernization and efficiency of the system. Importantly, under the AIRR Act, our air traffic controllers will continue to be the best of the best, but will do so with access to equipment and working conditions that once again lead the world.

The AIRR Act guides us towards modernization while taking essential steps to increase safety. Importantly, the AIRR Act includes a provision important to the aircraft mechanics of Southwest Airlines to provide greater oversight and accountability of foreign repair station employees. Additionally, the AIRR Act will promote harmonization with the international community on the shipment and storage of lithium-ion batteries, require risk assessment to address cockpit safety, and will include new science-based rest and duty rules for flight attendants. Specifically, SWAPA appreciates the efforts of Representative Bob Gibbs to pass an amendment to ensure the ATC board created by the bill will include a balanced voice for pilot labor.

While we endorse this legislation, SWAPA would like to see additional improvements to the AIRR Act to

ensure that all pilots with access to the National Airspace System are healthy and fit for duty. In particular, SWAPA would encourage the adoption of an amendment offered and withdrawn during committee markup by Rep. Ryan Costello to create an Aviation Rulemaking Committee to address Part 135 pilot rest and duty rules. In addition, SWAPA supports inclusion of bipartisan legislation championed by Senators Jim Inhofe and Joe Manchin, and passed by the Senate Commerce Committee as a Manchin amendment in November, to reform third-class pilot medical certification.

The professional pilots of SWAPA are grateful for the efforts of the bipartisan House Transportation Committee leadership to improve this important legislation throughout Committee consideration. We look forward to working with Chairmen Shuster and LoBiondo as well as Ranking Members DeFazio and Larsen to further improve this legislation as it continues through the legislative process."

Located in Dallas, Texas, the Southwest Airlines Pilots' Association (SWAPA) is a non-profit employee organization representing the more than 8,000 pilots of Southwest Airlines. SWAPA works to provide a secure and rewarding career for Southwest pilots and their families through negotiating contracts, defending contractual rights and actively promoting professionalism and safety. For more information on the Southwest Airlines Pilots' Association, visit www.swapa.org.

SOURCE Southwest Airlines Pilots' Association

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http://www.swapa.org

Allied Pilots Association endorses AIRR Act > Allied Pilots Association

posted on March 03, 2016 14:54

FOR IMMEDIATE RELEASE

CONTACT:
Captain Dennis Tajer
847-902-8481
Gregg Overman
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ALLIED PILOTS ASSOCIATION ENDORSES AIRR ACT

FORT WORTH, Texas (March 3, 2016) — On behalf of the approximately 15,000 pilots of American Airlines, Captain Keith Wilson, President of the Allied Pilots Association (APA), joins the presidents of the National Air Traffic Controllers Association and the Southwest Airlines Pilots' Association in calling for passage of the Aviation, Innovation, Reform and Reauthorization (AIRR) Act.

According to Captain Wilson:

"For decades, we have watched valuable taxpayer-supported resources used in well-intended efforts to modernize the FAA and the Air Traffic Control system, only to have those efforts thwarted or become obsolete at implementation due to the vagaries and inefficiencies of the federal funding mechanism. Separating the regulated from the regulators, while simultaneously providing a predictable and reliable revenue stream, will allow the U.S. National Airspace System to retain its enviable safety and efficiency record, and equip and train its Air Traffic Controllers to handle the challenges of the coming century, retaining the United States' role in global aviation as the gold standard. Additionally, APA is pleased with the passage of Representative Bob Gibbs' amendment that assures a balanced pilot voice in future ATC governance.

"The AIRR Act also addresses a variety of important safety issues, such as accountability and oversight of foreign repair station employees, risk assessment requirements on cockpit safety regulations, harmonization with a global

standard of recent guidance to severely constrain the carriage of lithium-ion batteries on passenger aircraft and so on.

"APA, however, notes that there is still work to be done, and the bill is a ways from passage and may not be in its final form. APA would like to see one level of safety in the arena of fatigue, flight and duty time, to include cargo and Part 135 operations. APA has previously applauded the Senate legislation introduced by Senators Jim Inhofe and Joe Manchin ('the Manchin Amendment') reforming third-class medical certification.

"Finally, APA looks forward to continuing its work with House Transportation & Infrastructure Committee Chairman Bill Shuster, Ranking Member Peter DeFazio, Aviation Subcommittee Chairman Frank LoBiondo and Ranking Member Rick Larsen in their bipartisan efforts to reauthorize and modernize the FAA."

Founded in 1963, the Allied Pilots Association — the largest independent pilots union in the United States — is headquartered in Fort Worth, Texas. APA represents the 15,000 pilots of American Airlines, including several hundred pilots on full-time military leave of absence serving in the armed forces. The union's website is www.alliedpilots.org. American Airlines is the world's largest passenger airline.

Dear Brothers and Sisters,

At 11:30 a.m. EST today, House Transportation and Infrastructure Committee Chairman Bill Shuster (R-PA-9) will unveil an FAA reauthorization bill at a press conference on Capitol Hill. NATCA received a copy of the bill and has given its language a complete and very rigorous review. We have looked at every single word and pored over every detail and proposal. We have specifically focused on what protects our members' rights, pay, benefits, and retirement, and what ensures the safety of the National Airspace System (NAS) while also addressing the current problem of providing a stable and predictable funding stream to operate and improve a 24/7 safety function.

After extremely careful review, consideration, and deliberation, we have reached a decision: NATCA supports this bill.

We applaud the very hard work that the Committee has done to think outside the box and come up with a comprehensive bill that addresses the concerns we have shared with them. While the legislation currently addresses NATCA's primary issues of concern, we want to emphasize that today is only the beginning stage of the legislative process.

Part of that process will soon include a proposal by Committee Ranking Member Peter DeFazio (D-OR-4). The Ranking Member will propose an alternate model for ensuring a stable, predictable funding stream for the FAA, while at the same time protecting employees and ensuring the safety of the NAS. We appreciate the effort he and his staff have made and look forward to giving that proposal's language the same complete and rigorous review.

We want to assure you that we treat this decision with extraordinary care and precision. In reviewing this bill, we found that it is in alignment with all of our organization's policies, practices, and principles. We made sure that we could clearly see how this bill will protect the NAS and allow it to continue to grow.

Last year, we told you – and stated publicly – that any proposed restructuring of the FAA and its funding mechanism through FAA reauthorization legislation must achieve these four things:

1. Safety and efficiency must remain the top priorities;
2. Stable, predictable funding must adequately support air traffic control services, staffing, hiring and training, long-term modernization projects, preventative maintenance, and ongoing modernization to the physical infrastructure;
3. Robust and continued growth of the aviation system is ensured; and
4. A dynamic aviation system that continues to provide services to all segments of the aviation community, from commercial passenger carriers and cargo haulers, to business jets, to general aviation, from the major airports to those in rural America.

We can tell you that this bill achieves each of these four things.

This legislation proposes a federally-chartered, not-for-profit corporation to operate the NAS. We want to be very clear on this point: this is NOT a for-profit model. As we've

said throughout this process, that would be something we would oppose. Many voices in the public discussion of this issue, including the news media, will continue to use the word privatization to describe this bill. But to us, privatization has always meant a profit motive where safety is not the top priority. That definition does NOT fit this bill today. We support this bill because it does make safety the top priority.

It is equally important that any proposed change does not harm our members. After carefully looking at the language, this bill does protect our workforce - including your pay, benefits, retirement, and collective bargaining rights. If this bill, as written today, becomes law, employees will be kept whole.

Finally, we want to reiterate that this bill is just one step in the lawmaking process. As you all know, language in proposed legislation is often changed or amended at various points throughout the legislative process. We will continue to vigorously and carefully review this legislation at all times and push for its improvement. If at any time there are changes to this bill, we will immediately examine them to ensure the bill continues to align with our organization's policies, practices, and principles. We reserve the right to withhold our support if any changes cause the bill to violate our principles.

We will continue to keep you informed on all developments as this process unfolds.

In solidarity,

Paul Rinaldi
President

Trish Gilbert
Executive Vice President

PROFESSIONAL AVIATION SAFETY SPECIALISTS

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Founded 1977

Statement for the Record
"The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America"
House Transportation and Infrastructure Committee
Mike Perrone
National President
May 17, 2017

The Professional Aviation Safety Specialists, AFL-CIO (PASS) represents approximately 11,000 Federal Aviation Administration (FAA) employees in five separate bargaining units throughout the United States and overseas. The largest PASS bargaining unit is comprised of employees from the Air Traffic Organization (ATO). This bargaining unit includes systems specialists from Technical Operations who install, maintain, repair and certify the radar, navigation, communication and environmental systems making up the air traffic control system in our country; aeronautical information professionals in Mission Support Services (MSS) who develop, maintain and support instrument flight procedures and a variety of aviation products that enhance industry performance and efficiency in the airspace and on the ground; and Flight Inspection Services (FIS) pilots, mission specialists, operations staff and aircraft maintenance employees who are responsible for the airborne inspection of ground- and space-navigation systems to ensure the integrity and safety of the instrument procedures, airways and operational navigation systems that make up the National Airspace System (NAS).

PASS appreciates the opportunity to present our views regarding issues related to reform of the FAA. The United States has the safest and largest aviation system in the world, and the FAA employees represented by PASS ensure that it is operating safely and efficiently every day. PASS hopes to work together with members of Congress as they prepare to reauthorize the FAA, and to ensure that the U.S. air traffic control system remains an important and essential aspect of the federal government.

Economic Impacts

Commercial aviation is a cornerstone of the U.S. economy, accounting for more than 5 percent of the country's Gross Domestic Product. Aviation contributes $1.6 trillion in total economic activity and supports nearly 11 million jobs.[1] The NAS, which FAA employees design, install, certify, operate and maintain, safely flies over two million passengers to and from their destinations on approximately 23,000 commercial flights every day, which means 7,000

[1] Federal Aviation Administration, *The Economic Impact of Civil Aviation on the U.S. Economy*, p. 3, November 2016. Accessed via https://www.faa.gov/air_traffic/publications/media/2016-economic-impact-report_FINAL.pdf.

commercial aircraft are in the sky at any given time.[2] This country's aviation system is clearly valuable both in terms of economic impact and services provided. It is obvious that such an asset should be properly funded and overseen. Privatizing the air traffic control system would not do either.

Lapses in authorizations, government shutdowns and across-the-board sequestration cuts can cause major disruptions to FAA's air traffic and safety oversight operations. For example, in 2011, FAA employees were affected by furloughs resulting from a lapse in authority when the short-term extension of FAA's authorization expired. In 2013, the impacts were even more dramatic when automatic funding cuts were imposed through the sequestration process. Flights across the country were delayed due to reduced maintenance and loss of system redundancy. Additionally, the two-week government shutdown in October 2013 prevented aviation safety inspectors from overseeing commercial and general aviation industries; manufacturing inspectors were not reviewing aviation manufacturers, facilities, training programs and equipment; and registration certificates were not issued for U.S. civil aircraft and airmen. According to an estimate from Standard & Poor's, the government shutdown cost the economy $24 billion, including $3.1 billion in lost government services.

It is vitally important that Congress adopt a comprehensive, long-term budget agreement to ensure that all critical safety functions of the FAA can be adequately funded. The FAA's current funding structure utilizes the Airport and Airway Trust Fund (AATF) along with a general fund appropriation. The AATF is primarily funded through excise taxes paid by passengers and should therefore be subject to oversight from the public sector. The general fund serves as a critical safety net for the air traffic control system and the flying public in times of national emergency and economic downturns.

However, the committee's previous proposal to reform air traffic control created a system that would be entirely funded by user fees, which will be determined by a board of directors made up of select users of the system. Turning funding decisions over to a private corporation may subject the system to financial hardships. In the case of an economic downturn, it is unclear whether employees would lose their jobs or the aviation system would require a taxpayer bailout. For example, while proponents of privatization continue to cite Canada and the United Kingdom as air traffic control systems the United States should emulate, both systems faced serious financial issues in the period following the events of 9/11 when they experienced downturns in aviation traffic. In the case of the Canadian model, user fees were hiked in order to cut costs while the United Kingdom model took several steps, including obtaining additional funds from the government and implementing automatic price increases triggered by reductions in air traffic.[3] Stressing that such a corporation in this country could be considered "too big to fail," a 2016 Government Accountability Office (GAO) report questioned whether the private corporation would resort to such drastic measures and the impact it would have on this country and the American economy.

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[2] Federal Aviation Administration, "Air Traffic by the Numbers," updated October 28, 2016. Accessed via https://www.faa.gov/air_traffic/by_the_numbers/.

[3] Government Accountability Office, *Federal Aviation Administration: Preliminary Observations of Potential Air Traffic Control Restructuring Transition Issues*, GAO-16-386R (Washington, D.C.: February 10, 2016), p. 5.

In addition, the remaining safety functions of the FAA would still be subject to the appropriations process and vulnerable to the impacts of sequestration. As such, separating out the ATO does not fully address the FAA's funding problem. There are clearly other alternatives that allow the agency to remain a single unit. PASS will support measures to eliminate the draconian across-the-board cuts caused by sequestration but will not support any effort that will dismantle FAA's current structure through the creation of a private corporation.

With regard to the issue of funding stability, it is imperative that the Congress make every effort to enact annual appropriations bills prior to the beginning of the fiscal year. However, the lack of a timely budget process is no reason to abandon the important and rigorous oversight and protections that are provided to the FAA through the multi-year authorization and annual appropriations processes. PASS appreciates that the recently enacted FY 2017 appropriations bill included multi-year availability and an increase in transfer authority for the FAA's operations account. These additional tools will help the FAA better manage the transition between budget years and ensure that the agency can continue to hire critical safety staff throughout the year.

Additionally, there is little evidence that privatization of the air traffic control system is likely to make the system more efficient or less costly simply because it is transferred from a governmental entity to a private non-profit corporation. Instead, the only significant change is that oversight of the services will move ultimately from the American people, and their elected representatives, to a small board under the influence of for-profit airlines. In fact, the Congressional Budget Office estimates that enacting last year's proposal to spin off air traffic control functions from the FAA would increase net direct spending by $89 billion from 2017 to 2026 and increase net deficits stemming from revenues and direct spending by about $19.8 billion over the same period.[4]

Congressional Oversight

It is a fact that congressional oversight would be severely curtailed in a private air traffic control corporation. A corporate board of directors with built-in conflicts of interest and zero congressional oversight or accountability is not the entity that should be responsible for dictating everything from fees to staffing to modernization of the U.S. air traffic control system. The ability for stakeholders and members of Congress to work together on aviation-related issues has been pivotal to the success of our system. In a private corporation, lawmakers will lose the right to provide input on funding, staffing, safety, training and numerous other areas in which congressional oversight is present today.

Furthermore, congressional oversight helps ensure that the flying public has a voice when it comes to aviation-related issues. Today, constituents have the ability to contact their members of Congress when they have a concern related to the aviation system or air traffic. An important issue for many Americas relates to airplane noise and its impact on their daily lives. Under a privatized corporation, the flying public will lose an advocate when dealing with aviation-related issues pertaining not only to noise and other environmental issues but safety as well. For example, when taking into consideration the Canadian model, there have been petitions and

[4] Congressional Budget Office, *H.R.4441 Aviation Innovation, Reform, and Reauthorization Act of 2016 Cost Estimate* (Washington, D.C.: March 9, 2016).

reports of the private company, Nav Canada, not being appropriately responsive regarding noise complaints.[5]

In addition, many smaller airports across the country are dependent on congressional involvement and support in order to continue to operate. Under a private model, local cities and towns could be increasingly saddled with the costs of keeping their airports open and maintained properly. Americans in rural areas rely on their local, smaller airports for employment, commerce and transportation. Many of these smaller airports will not have a congressional advocate under a private model. It is feasible that a corporation would not focus on maintaining these facilities if they are not profitable, essentially shrinking this country's airspace

Modernization of the System

Proponents of air traffic control privatization often claim that a private corporation would allow the aviation system to modernize at a more efficient rate. However, this argument ignores the very real progress the FAA is making through the Next Generation Air Transportation System (NextGen). In fact, since 2007, NextGen has delivered approximately $2.7 billion in benefits to airlines and other users, and is estimated to deliver $161 billion in benefits by 2030.[6] In 2016 alone, modernization improvements have translated in $3.75 billion in savings in passenger time and occupant safety, as well as reduced fuel and aircraft operating costs.[7]

Modernization of the system is an essential function of the agency and progress includes installation of new systems and equipment, optimization of airspace and procedures, and continued upgrading and standardizing of automation and communication systems. The realization of NextGen hinges on both air and ground investments, and the FAA cannot be successful without stakeholder buy-in and partnership. An air traffic control system separated from the rest of the FAA, run by a private corporation with special interests, cannot guarantee that modernization work continues. These efforts may be all but lost, as no doubt modernization will be halted during the transition.

There is also considerable concern about what would happen during the transition period when the federal agency is transferred to a private corporation. The transition from public to private governance in other countries took as many as seven years to complete.[8] Issues faced during the transition period would undoubtedly affect modernization efforts, but the impacts would not stop there. The affect would be wide ranging during the transition, from funding and financing concerns to the separation of safety and regulatory functions to human capital issues. Quite simply, a prolonged transition period will detract from the mission of the agency, and what

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[5] See: NAV-CANADA-Noise over Toronto, 2012 petition started by T.A.N.G. (Toronto Aviation Noise Group) (see also http://torontoaviationnoise.ca/nav-canada-quick-facts/), accessed via https://www.change.org/p/nav-canada-noise-over-toronto. CBCNews, "Residents want answers at GTAA meeting on Pearson flight noise during runway revamp," April 19, 2017.

[6] Federal Aviation Administration, *Update to the Business Case for the Next Generation Air Transportation System*, p. 21, July 2016.

[7] Letter from Administrator Huerta to Senator Thune, December 15, 2016.

[8] Government Accountability Office, *Federal Aviation Administration: Preliminary Observations of Potential Air Traffic Control Restructuring Transition Issues*, GAO-16-386R (Washington, D.C.: February 10, 2016), p. 10.

should be the only focus, safety. The most important steps we can take are to continue with our modernization efforts, to grow our airspace and allow for the introduction of new technology, all while ensuring the interests and safety of the flying public.

Agency Collaboration

Privatization advocates call for the separation of the Air Traffic Organization (ATO) from the rest of the FAA. Essentially, this would require severing a major section of an organization, placing it in an entirely different structure, expecting it to still interact with the federal agency, but providing no plans or forethought on how this would be accomplished. Collaboration and interaction between every part of the FAA is essential to the success of our aviation system. Stripping the ATO from the federal government will only strain communication and collaborative efforts and bring with it serious consequences.

The ATO interacts daily with the entire agency, including the Office of Aviation Safety (AVS). The relationship between the ATO and AVS is a vital part of operating a safe and efficient aviation system. Consistent and seamless communication is key to the continued safe operation of the system. If there is a deviation or problem with the system, AVS inspectors are able to interact quickly and share information with technicians, controllers and other air traffic control employees. If there is an ongoing investigation, air traffic control plays an important role in providing information and access to data. If there is a system failure that requires an investigation or enforcement action, how would a private corporation investigate? In addition, AVS would be required to oversee the new private entity, which is concerning considering that there are already a limited number of inspectors. It is unclear how the remaining part of the FAA will be able to provide adequate oversight of the new corporation.

The FAA and other federal agencies also share resources, facilities and information. For instance, the FAA shares services and facilities, including radars, with the Department of Defense (DoD). This requires sharing of critical information relevant to national security. In the case of a national emergency or natural disaster, that sharing of resources and information would be critical. The FAA and DoD interact on a regular basis, including collaborating on NextGen initiatives, safety and rulemaking, and integration of unmanned aircraft systems (UAS). This level of collaboration would no doubt be altered under a private corporation. Even more concerning, with DoD contributing approximately 15 percent of NAS services, it is not clear whether established air defense procedures could be turned over to a non-governmental organization.[9]

Security also becomes a concern under a privatized model. According to the GAO, many of the FAA's security functions are integrated throughout the agency and coordinated with other government agencies. This sensitive information is related to terrorism concerns, cyber security threats as well threats to the aviation system as a whole. This security and the coordination involved is essential to safety of the aviation system, and it is concerning whether that level of interaction is even possible with a non-governmental organization. [10]

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[9] Government Accountability Office, *Air Traffic Control: Experts' and Stakeholders' Views on Key Issues to Consider in a Potential Restructuring*, GAO-17-131 (Washington, D.C.: October 2016), p. 18.
[10] Id.

FAA Employees Must Remain Federal Employees

Ensuring that the men and women who perform this vital work remain federal employees is of fundamental importance in maintaining a safe and efficient NAS. These employees include Technical Operations systems specialists who install, maintain, repair and certify the complex systems that make up the NAS. These federal employees are extensively and specifically trained on a variety of interconnected, specialized systems and equipment in order to fulfill the responsibility of protecting aviation safety. For example, system certification, the process in which a certificated FAA systems specialist checks and tests systems or equipment on a periodic basis in order to ensure that the systems or equipment can be safely returned to service and not negatively impact any aspect of the NAS, has been deemed inherently governmental by the FAA.[11] The FAA's certification process has been successful for decades and is a key element in maintaining the safest and most efficient air transportation system in the world. At more than 340 facilities nationwide with over 70,000 certifiable systems and equipment, FAA systems specialists are the only individuals with the clearance, authority, skill and expertise to perform this work to keep the system safe.

In addition, Flight Inspection Services (FIS) professionals and aeronautical professionals in Mission Support Services (MSS) support pilots, air traffic controllers and aviation planners through the development and maintenance of all public instrument flight procedures and airways. These responsibilities include developing, maintaining and assuring the integrity and safety of flight procedures to support NextGen advancement in the NAS. The development, implementation, flight inspection and maintenance of flight procedures requires the proper interpretation of a complex series of computations, measurements and modeling standards, strict compliance with diverse criteria, extensive coordination with multiple stakeholders, and the frequent adaptation of procedures in a constantly evolving aviation environment. FAA specialists oversee the NAS in order to make sure everything aligns safely and is working efficiently, which should clearly remain a function of the federal government. Thanks to these employees and other safety professionals at the FAA, the United States enjoys the safest air traffic control system in the world.

Without a doubt, current federal workers will face serious repercussions if stripped from the federal government. Privatization advocates claim that current FAA employees moved over to the private corporation would retain their same pay, health care and pension benefits but newly hired employees would be under different systems. This will no doubt create confusion and potentially result in serious workplace issues. Employees performing the same job, but with different pay and benefits, will surely lead to low morale and possibly to problems in retaining and attracting skilled and talented employees. The transfer of pay, health care and pension systems are all extremely complex issues that the AAIR Act failed to address, and ultimately raised more questions than answers. To make matters worse, the number of FAA employees eligible to retire continues to rise and, combined with the long training period for an employee to be able to fully perform functions, this brings forth additional concerns related to retention and recruitment efforts. And it certainly bears mentioning that many of the impacted employees are

[11] Manager, General Law Branch, AGC-110, memorandum to Manager, Maintenance Engineering Division, ASM-100, "Contractor Certification of Navigational Systems in National Airspace System (NAS)," June 18, 1991.

former military and committed to serving the public. If this country is going to continue as the aviation leader, it must have a strong ability to recruit and retain employees.

Conclusion

While proponents of privatization claim other countries have been successful, they fail to mention one very important fact: any country that has attempted privatization has been working with a far smaller system and airspace. Consider that the U.S. airspace is over 75 million kilometers compared to 18 million in Canada. Simply stated, there is no comparison between our airspace and that in foreign countries and the United States should not be used as a test case.

Overhauling the entire aviation system by removing air traffic control from federal oversight and funding will be a serious setback for its development and growth. Our air traffic control system is a national public asset and PASS strongly believes it should remain in the public trust. The FAA's handling of air traffic control receives approval ratings of well over 80 percent from the public.[12] That same survey indicated that the majority of Americans do not believe the system should be privatized.

Considering the economic contributions of the aviation system, and the thousands of American jobs it supports, this country cannot gamble with the future and safety of our air traffic control system. The federal employees at the FAA represented by PASS are committed to ensuring the safety and efficiency of this country's aviation system. PASS asks that members of Congress work together to reauthorize the FAA while ensuring it remains a cohesive unit of federal employees.

[12] Alliance for Aviation Across America, *Majority of Voters Oppose Privatizing the Air Traffic Control System,* (January 30 – February 5, 2017). Accessed via: https://www.aviationacrossamerica.org/issues/privatization-poll/.

NBAA

STATEMENT OF THE

NATIONAL BUSINESS AVIATION ASSOCIATION

ED BOLEN
PRESIDENT AND CEO

BEFORE

THE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

U.S. HOUSE OF REPRESENTATIVES

REGARDING

"THE NEED TO REFORM FAA AND AIR TRAFFIC CONTROL TO BUILD A 21ST CENTURY AVIATION SYSTEM FOR AMERICA"

MAY 17, 2017

Chairman Shuster, Ranking Member DeFazio, and members of the Committee, on behalf of the National Business Aviation Association (NBAA), we are submitting testimony on the concept of handing our nation's air traffic control (ATC) system over to a private entity.

Our aviation system is both dynamic and innovative, and is the largest, safest, most diverse and complex in the world. In the U.S., civil aviation supports 11.8 million jobs, $1.5 trillion in economic activity, and contributes 5.4% to gross domestic product.[1]

Our world leadership in general aviation is undisputed – the industry contributes $219 billion in annual economic impact and 1.1 million jobs.[2] Both commercial and general aviation are clearly key drivers of our economy, and provide high-paying jobs to millions of Americans.

Although America leads the world in aviation, we at NBAA understand that we cannot rest on our laurels. The work to continue toward the completion of a modernized, Next Generation, or "NextGen" aviation system has implications not just for the aviation community, but for all citizens.

NBAA and its members are committed to a strong, world-leading ATC system; we stand at the forefront of promoting forward-looking policies, and emerging technologies, to ensure that our aviation system serves not only the needs of today's stakeholders, but those of tomorrow as well.

Before directly addressing the topic of ATC privatization, I believe it would be useful to provide a reminder of what business aviation looks like, and how it serves America's citizens, companies and communities.

Business aviation fosters economic development in small towns and rural areas. It helps businesses of all sizes to be efficient, productive and competitive — no matter where they happen to be located. And, business aviation assists in our nation's humanitarian efforts. Every day, business aviation transports patients to treatment centers, reunites combat veterans with their families, and transports organs for transplants.

NBAA's 11,000 member companies are part of this essential industry. They rely on business aircraft to meet some portion of their transportation challenges. Among the many ways our members use general aviation is to reach multiple locations in a single day, move equipment that may be too big to fit in an overhead bin, or too sensitive to fit in a cargo hold. They also use general aviation to reach thousands of towns not served by scheduled airline service.

For example, one of NBAA's member companies, New Hampshire-based Antaya Science & Technology, is pioneering the development of a portable, proton-beam therapy device that can be transported to treat cancer patients located far from the large, specialist hospitals in America's major metropolitan areas.

The company's pilot-founder, Dr. Timothy Antaya, relies on a business airplane, because his life-saving device requires very precise calibration, making it impossible to carry on an

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[1] Federal Aviation Administration (2014). *The Economic Impact of Civil Aviation on the U.S. Economy:* https://www.faa.gov/air_traffic/publications/media/2014-economic-impact-report.pdf

[2] PricewaterhouseCoopers LLP (2015). *Contribution of General Aviation to the US Economy in 2013:* https://www.nbaa.org/business-aviation/2015-general-aviation-contribution-to-US-economy.pdf

airliner, or even over a bumpy road. He has said that, "Any mishandling, dropping or temperature extremes in transit would compromise the results" of the treatment his device provides.

A second example of a company that relies on business aviation can be seen in Oregon-based Wilson Construction. The company's pilot-CEO, Don Wilson, uses a mix of aircraft to deliver electrical specialists and other employees to build and service power-distribution and transmission lines for utilities across the United States. The company's lines are often located in remote areas that have no airline service, and the business aircraft ensure that Don's employees can respond to power disruptions in real time, so that those towns remain on the nation's electric grid.

A third demonstrative example of business aviation can be found in Schweitzer Engineering Laboratories, an employee-owned business located in Pullman, Washington. The company's founder, Dr. Ed Schweitzer, works with a team of engineers to develop computer systems, power-grid technologies and other leading-edge innovations. The company does business throughout the U.S., and in more than 100 countries around the world.

Schweitzer could not compete in a global marketplace without business aviation, because it is often the only way the company's personnel can meet the real-time demands of servicing power grids and other infrastructure.

As a fourth example of business aviation, consider the case of Dave MacNeil, who owns Illinois-based MacNeil Automotive, which produces custom-designed and precision-fit floor liners and other protective interior equipment for cars and trucks.

Dave uses sophisticated tools to capture data and reverse engineer complex vehicle geometry. His sensitive measuring equipment will not fit in the overhead bin of an airliner, and it might be damaged if checked as baggage on a commercial flight, or sent to a destination through an overnight shipper. According to Dave, moving the equipment is as sensitive as "handling a bag of potato chips," so he must carry the tools aboard his airplane.

These four companies, located in four distinctly different parts of the country, are among the many thousands of organizations that have business aviation at the heart of their operations. While they are very diverse companies, they all have a couple of things in common. They need airplanes, and access to the nation's aviation system, to conduct business.

While the airlines serve fewer than 500 American airports, business aviation can access about 5,000. Ensuring that business aviation has continued access to those airports, and to the nation's airspace, will ensure that our industry remains an essential part of the nation's economy and transportation system, as it always has been.

As we know, much of the debate over aviation system modernization is about increasing system efficiency, capacity and access which is a key focus for the companies like the ones I have mentioned here. This means that a critical part of retaining America's aviation-leadership position, now and in the future, will be to continually look for ways to optimize the access, capacity and efficiency of our system for all stakeholders. Unfortunately, too often, that debate is being set aside in favor of a distracting discussion over whether we should privatize ATC.

As congress debates the future of America's aviation system, the entrepreneurs and companies in NBAA's membership, have very real concerns over this concept.

The debate over ATC privatization is not new – the big commercial airlines have unsuccessfully sought to take control of the ATC system for nearly 30 years. In 1997, when new entrants began challenging legacy carriers, one of the new carriers sounded an alarm, saying, "The issue is not one of economic efficiency, but of economic power, economic domination, and economic control."[3] New carriers felt the "endgame" of big legacy airlines was the takeover and control of the ATC system for their exclusive benefit. More recently, the CEO of a major airline complained that airlines "are not in control" of the ATC system, and this control is key to their success.[4]

That CEO's comment speaks to a reality proponents of ATC privatization don't want to talk about, which is that America's ATC system is, and will remain, a monopoly. The question on the table is, who will effectively control this monopoly, and for whose benefit? Last year during this debate, a member of this committee said H.R. 4441, which contained ATC-privatization among its provisions, was like giving a highway over to the truckers for them to decide who can drive on it and how much it was going to cost.

It sounds absurd – however, that is what the airlines are seeking to do: wrest control of the nation's air traffic system away from the public's elected representatives and give it away, for free, to a private board.

What can we expect to happen under this scenario? First, giving the airlines effective control of the ATC system will not make our system better, but instead will take away from real modernization.

Consider, the example of ADS-B, a GPS-based surveillance technology that tracks aircraft using satellite-position data sent to ground stations. The U.S. has deployed the world's largest ADS-B network, and has already made use of the technology in areas such as the Gulf of Mexico.

However, as of 2015, only six percent of commercial airliners were equipped with ADS-B capable transponders, which are required to fully utilize the GPS-based ATC system.[5] The airlines also petitioned the FAA to delay equipping some aircraft with the required ADS-B transponders for five years, until 2025, and have resisted investments in NextGen technologies unless they are "capable of helping us grow."[6]

Another troubling aspect of a privatized ATC is the potential for significant access restrictions to airports and airspace. What makes the U.S. air transportation system so unique and special is that it serves all Americans, in communities large and small.

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[3] National Civil Aviation Review Commission (1997) (testimony of Herb Kelleher)

[4] Remarks by President Trump in Meeting with the Aviation Industry. Retrieved February 9, 2017, from https://www.whitehouse.gov/the-press-office/2017/02/09/remarks-president-trump-meeting-aviation-industry

[5] Esler, D. (2015, December 11). Global Advance Of ADS-B with ADS-B. *Business & Commercial Aviation*. Retrieved from http://aviationweek.com/connected-aerospace/global-advance-ads-b

[6] Karp, A. (2015, April 14). Airlines, FAA Discussing 'Grace Period' For ADS-B Out Rule. *Inside MRO.* Retrieved from http://www.mro-network.com/maintenance-repair-overhaul/airlines-faa-discussing-grace-period-ads-b-out-rule

That is very much at risk if we move to a private ATC system. One airline industry CEO recently said, "we also need to direct infrastructure improvements into the regions of the country where they'll produce the most benefits, like the Northeast Corridor."[7] Again, we have a comment from an airline executive, which demonstrates how the current focus of our ATC system on serving all Americans will change to a system focused on serving the airlines' interests in the big, hub cities, if they gain effective control.

The focus on commercial airline operations at large hub airports creates airport and airspace access restrictions for business aviation in countries with privatized ATC systems. In Australia, the private ATC operator explicitly prioritizes certain types of operations over others at major airports including Melbourne and Sydney. Canada severely restricted general aviation operations during recent runway construction at Toronto Pearson airport and is considering a future general aviation slot requirement.

Across Europe, many airports in key business centers such as Frankfurt, London, Geneva and Zurich have restrictive slot requirements that make it difficult for business aviation to access airports. These examples demonstrate how shifting from a "first-come, first-served" policy for airport and airspace access, as is currently the case in the U.S., to a system effectively controlled by the airlines, places business aviation at a significant disadvantage.

In addition to jeopardizing access for general aviation, proponents of privatization want to give power to a private board to determine who gets taxed, and in what amounts. John Marshall, the first Chief Justice of the Supreme Court, had it right when he famously wrote that the "power to tax is the power to destroy." Today, that authority resides with the American public's elected representatives. Congress should not abdicate, delegate or outsource its responsibility in the areas of aviation taxes and fees.

Allowing a private board to control the taxes and fees that fund our ATC system leaves the traveling public and business aviation open to uncontrolled fee increases. [8] In Canada, travelers were forced to absorb a nearly 15-percent increase in Nav Canada fees when the global economic downturn created financial challenges for the privatized ATC system.[9] There was a similar situation in the United Kingdom, where taxpayers were forced to bail out the private ATC operator, UK NATS, amid system failures and management challenges.[10]

The big commercial airlines have already shown their ability to charge ever-increasing fees to customers for checked bags, seat assignments, flight changes and even overhead bin space. In 2016, airlines collected $6.8 billion worth of "ancillary fees" for baggage, changes/cancellations and early boarding.[11]

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[7]Hayes, R. Robin Hayes Address To International Aviation Club. Speech, Washington, DC. Retrieved from https://iacwashington.wildapricot.org/resources/Documents/Robin%20Hayes%20address%20to%20International%20Aviation%20Club%20October%202015.pdf

[8] Galt, V. (2003, July 22). Nav Canada fee increase doesn't fly with industry. *The Globe and Mail.* Retrieved from http://www.theglobeandmail.com/report-on-business/nav-canada-fee-increase-doesnt-fly-with-industry/article1019269/

[9] Fiorino, F. (2004, July 26). NavCanada To Increase Service Charges. *Aviation Week & Space Technology*. Retrieved from http://aviationweek.com/awin/navcanada-increase-service-charges

[10] Treanor, J. (2002, February 19). Fury at Byers bail out for air traffic. *The Guardian.* Retrieved from https://www.theguardian.com/politics/2002/feb/20/thealrlineindustry.byers1

[11] Elliott, C. (2015, August 6). Senate report calls for crackdown on airlines' hidden fees. *Fortune*. Retrieved from http://fortune.com/2015/08/06/senate-stop-airlines-fees

Consumers in Canada have observed first-hand how shifting control of their ATC system to Nav Canada resulted in rapidly escalating airfares. The Canadian Airports Council found the base airfare at Canadian airports is 43-percent higher than at U.S. airports, and international flights from Canada are now the most expensive in the world.[12] The Senate of Canada investigated the situation and determined that Toronto Pearson is "the most expensive airport in the world at which to land a plane."[13]

There are also serious constitutional issues with giving away control of our nation's ATC system to a private entity beyond the reach of Congress, as illustrated by a recent report from the non-partisan Congressional Research Service, which found that allowing a non-profit, privatized entity the authority to set user fees and establish air traffic flow controls may well be unconstitutional.[14]

There is precedent for such a finding: more than 80 years ago, in *Carter v. Carter Coal Co.*, the Supreme Court held that delegating hour and wage standards to a private entity "is not even delegation to an official or an official body, presumptively disinterested, but to private persons whose interests may be and often are adverse to the interests of others in the same business."[15] The Founding Fathers were right to be concerned with exactly what the airlines are proposing – we cannot see how a private board will fairly govern our nation's ATC system.

NBAA has been steadfast in its support and advancement of NextGen technologies that allow equal and fair access to airports and airspace for all aviation stakeholders. We also believe a streamlined certification process that advances safety and promotes innovation will allow the general aviation industry to thrive. However, we are strongly opposed to allowing the big airlines to gain effective control of our nation's ATC system at the expense of general aviation, the traveling public, and communities across the United States.

When it comes to the notion of ATC privatization, there are many, troubling questions with no definitive answers. Companies and communities across the U.S., which rely on general aviation for business, civil services and a host of other needs, simply cannot risk turning over the system to a private board beyond the reach of Congress. With the challenges faced by other countries' privatized systems and unanswered constitutional questions, privatization is simply a distraction from the very real progress being made to modernize our nation's ATC system.

But perhaps the most important question is the one I mentioned earlier: Our nation's aviation system – the world's best – is a monopoly; if the system is privatized, who will effectively control this monopoly, and for whose benefit?

Concerns over the answer to that question have been raised by aviation groups, organizations on the political left and right, House members and Senators from both sides of the aisle, mayors from across the country, and a majority of American citizens.

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[12] CONNECTING CANADA: An Aviation Policy Agenda Global Competitiveness and Economic Prosperity (Rep.). (2015, January).

[13] The Future of Canadian Air Travel: Toll Booth or Spark Plug (Rep.). (2012, June).

[14] Pasztor, A. (2015, May 12). Study Raises Questions About Efforts to Privatize Air-Traffic Control. *Wall Street Journal*. Retrieved from https://www.wsj.com/articles/report-cites-hurdles-to-privatizing-air-traffic-control-1431432252

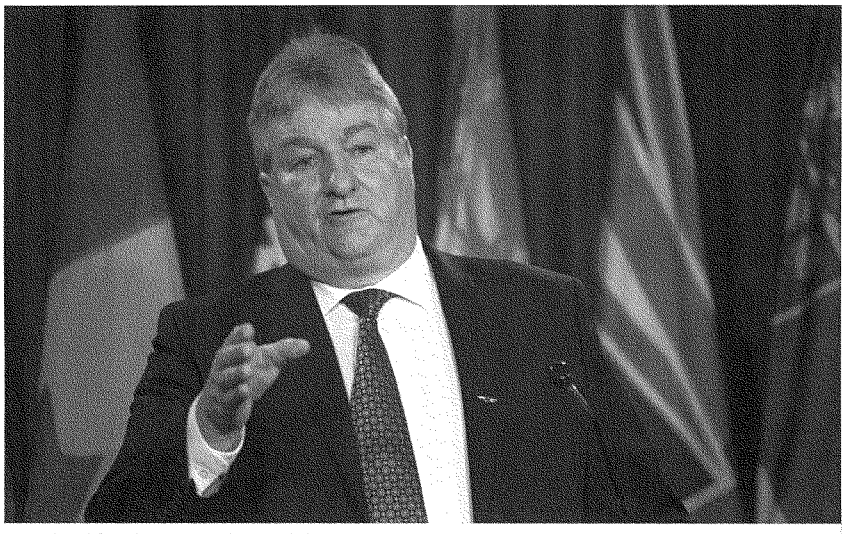
[15] Carter Coal, 298 U.S. at 311

Let's set aside the many concerns over ATC privatization by setting aside the concept altogether. Let's seek targeted solutions to the FAA's identified challenges, so that we continue to be the world leader in aviation five, 10, and 25 years from now.

Thank you.

Inspectors say a major Canadian airline disaster is 'likely'

By Carl Meyer in News, Politics | April 3rd 2017



Greg McConnell, national chair of the federal pilots association, said inspectors need to know how to fly the aircraft they're inspecting. Photo by Alex Tétreault

Canadian federal aviation inspectors say budget cuts have increased the risk of a major aviation accident in the near future to the point where it is now "likely" to happen, according to a disturbing survey released today.

Cuts to Transport Canada have been eating away at its civil aviation flying program, according to the Canadian Federal Pilots Association, leading 81 per cent of licensed pilots surveyed to conclude that a "major aviation accident in the near future is likely."

"Having aviation inspectors who do not know how to fly the aircraft that they're inspecting, is like having a traffic cop who doesn't know how to drive a car," said Greg McConnell, national chair of the CFPA, which commissioned the survey by Abacus Data.

The association also blamed a new federal system that it says has left inspectors spending most of their time in offices reviewing paperwork, rather than being out in the field doing active inspections, and warned airports won't be subject to full safety assessments.

The department said in an emailed response that "Canada has one of the safest aviation systems in the world" and that Transport Canada has a "robust, risk-based oversight program that allows the department to prioritize its resources strategically to areas that provide the greatest safety benefit."

Department has seen $4.5m in civil aviation program cuts since 2008, says association

Abacus surveyed 243 CFPA members March 14 to 22 who are aviation inspectors or investigators and licensed pilots with Transport Canada, the federal regulator which oversees the civil aviation program, and the Transportation Safety Board, the government agency that investigates accidents.

It has been at least a year since a large majority, or 67 per cent, of pilot inspectors and investigators surveyed have flown an actual aircraft, the survey found.

Further, one quarter reported that they have not flown an aircraft to keep their license current in the last four years, while seven in 10 reported that they sometimes or frequently were not trained for assigned tasks.

Only 55 per cent had completed all mandatory training, according to the survey results.

"Flying is a skill that atrophies," said McConnell.

"Today, the pace of technological change is as rapid in aviation as it is in any other walk of life. If our inspectors do not know how to fly the aircraft they're supposed to inspect, they simply will not know the aircraft are operating safely."

The association's data shows that the civil aviation flying program has been cut from almost $8 million in 2008-09 to a low of $3.5 million in 2016-17, while flying hours have dropped from over 10,000 to just under 4,000 in this time period.

The number of aircraft used in training has dropped as well, from 42 aircraft to 14 in this time period.

The department suffered several rounds of full-time equivalent job cuts during the Harper government, losing over 100 positions between 2009-10 and 2014-15.

Transport Canada spokeswoman Natasha Gauthier wrote in an email that the department "continues to conduct scheduled and unscheduled inspections and certification activities" as well as review procedures and records, and interview employees "to ensure the company is following all applicable regulations."

The department revised its flying program "to recognize the benefits of the latest simulator technology in training Canadian pilots," wrote Gauthier, allowing it to "focus more resources on direct inspection and oversight."

Business aircraft oversight pulled, says CFPA

Business aircraft have been removed from the department's oversight program as of August 2016, the association said, while urban heliports on top of buildings like hospitals won't have scheduled inspections.

As well, "all airports will no longer be subject to full safety assessments," the associated stated. "Instead, a Transport Canada inspection will now cover only one small part of an airport's safety plan."

The Federal Aviation Administration of the United States "requires full inspections of airports annually," the association added.

Transport Canada's Safety Management Systems, the association said, transfers responsibility for monitoring safety issues to the airlines, and burdens inspectors with paperwork, limiting their time inspecting aircraft.

The survey found that 81 per cent saw this program as a barrier to fixing safety problems before they become accidents.

The association said the department's reliance on the safety management systems is "at odds with international safety requirements" established by the United Nations International Civil Aviation Organization headquartered in Montreal.

"Transport Canada has allowed the skills and qualifications of its inspectorate to dwindle to dangerously low levels," the association stated.

Last October, the Transportation Safety Board warned that the federal department left over three dozen key safety recommendations outstanding for over two decades.

The department said it would continue to promote the voluntary adoption of SMS and will publish updated guidance material this year.

"SMS does not replace all the other safety regulations," wrote Gauthier. "Nor does it not replace regular inspection activities undertaken to ensure regulatory compliance. Operators must still comply with all regulations and standards, and SMS adds an extra layer of protection."

The department also pointed to other "training and licensing requirements" required of Canadian pilots.

"The exemption from in-aircraft training provides an alternative means of compliance in a way that maintains a high standard of aviation safety. This practice conforms to international requirements and those of our partners."

Canada appoints new permanent UN aviation rep

Late Monday morning, Canada announced that it had appointed a new permanent representative to the ICAO, Martial Pagé.

“Canada and the International Civil Aviation Organization support safe, secure, and sustainable civil aviation for people around the world,” said a statement published by Global Affairs Canada.

Editor's note: Updated at 18:11 Eastern Time with comment from Transport Canada.

House Committee on Transportation and Infrastructure
The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America
May 17, 2017

Statement of Helicopter Association International

Chairman Shuster, Ranking Member DeFazio, and Members of the Committee, Helicopter Association International (HAI) thanks the committee for holding a hearing on the important issue of the nation's air traffic control (ATC).

HAI supports ongoing efforts to modernize and increase efficiency at the FAA. Currently, the interests of all users of the National Airspace System have a voice through the regulatory process of the FAA as well as congressional oversight. Our current ATC system maintains the safety of the world's busiest airspace, while allowing for the advancement of important safety improvements and efficiencies benefiting all segments of the aviation community.

While HAI supports improvements to the FAA, we do not believe there is a need to fundamentally change the structure of air traffic control. HAI believes that the FAA should always strive toward improvement and seeking efficiencies. Yet we question why policymakers are looking at making such a wholesale change to a system that already works better and more safely than any other ATC program around the world. Put simply, the United States has the safest, most efficient system in the world; what are we trying to fix?

One of the main justifications noted by proponents of ATC privatization is the lack of development and implementation of Next Gen technology by the FAA. If this is true, then why not just privatize the Next Gen initiative and leave the world's best ATC system where it belongs, with the FAA.

We also believe that removing ATC from FAA control represents a serious risk to general aviation. Moving control of ATC to a privatized system that could be dominated by biased users could result in the steering of resources and investments toward airline-dominated airport hubs and initiatives at the expense of hundreds of other airports serving general aviation and rural America.

The helicopter industry takes comfort in the fact that our current ATC system is under the watchful eye of Congress and that globally recognized professionals conduct the FAA's daily ATC operations. The current system provides an appropriate level of focus on the unique needs of the helicopter industry, providing the necessary funding and support for our operational requirements. ATC privatization could see the removal of these protections and related support for our industry, as well as for the myriad elements of general aviation.

HAI and the helicopter industry are major benefactors and supporters of advancing NextGen initiatives and the routine work conducted to modernize and increase ATC efficiency. Currently, the interests of all users of the National Airspace System have a voice through the regulatory process of the FAA as well as congressional oversight. This allows for the advancement of important safety improvements and efficiencies benefiting all aviation segments. HAI is deeply concerned that we would lose that voice, should privatization occur.

In our current system, there are many examples of elements of aviation collaborating with the government to identify problems and provide solutions that adeptly meet the requirements of each concerned party. As just one example, in 2010, the helicopter industry operating in the Gulf of Mexico came together with Congress and the FAA to address a deficiency in safety and operational efficiency.

The FAA lacked radar coverage and low level communications over the Gulf, and helicopters flying to offshore petroleum rigs could not take advantage of the efficiencies and safety provided through ATC operations. On days when weather conditions dropped to instrument flight rules (IFR) conditions, over 90 percent of flights were cancelled due to the lack of ATC coverage, costing the petroleum industry significant dollars each day.

To address this issue, in coordination with elected officials and the FAA, the helicopter industry provided over $100 million in-kind services to install NextGen ADS-B technology on oil rigs in the Gulf. HAI was there in 2010 to "flip the switch" activating the system. We are happy to report that in 2010 there were no reportable accidents on record for offshore helicopter operations in the Gulf and IFR operations became a routine event.

HAI feels that this was accomplished through the industry's direct, unencumbered access to the FAA and congressional oversight. An ATC system controlled by a privatized board may not be as committed to providing such benefits to users operating outside the traditional, larger hub airports.

Another aviation sector that could suffer a lack of services under a privatized ATC corporation is unmanned aircraft systems (UAS, or drones). The UAS industry is an innovative technology that will place new demands on ATC as UAS become ubiquitous in the National Airspace System. Since the FAA's drone registration opened in December 2015, operators registered 800,000 drones, compared to a total of just over 300,000 traditional manned registered aircraft in the United States.

These UAS will require additional ATC services as companies look to provide package deliveries, personal transport, and other services yet to be developed that are not airport based. These business models are a fundamental paradigm shift from the conventional way airlines operate. HAI is concerned that a privatized ATC system dominated by users with a legacy business model may not dedicate the necessary resources to accommodate new and future users of the National Airspace System.

On one concept, both sides of this argument agree: proponents and opponents of the ATC privatization proposal acknowledge that this new board has the potential to establish a monopoly. Proponents of this system point to the success of private utility companies providing services as a monopoly.

However, private utilities are overseen by public utility commissions that approve their rate structures and serve as economic regulators that the public can petition if recourse is needed. The independent ATC corporation operating as a monopoly will need an economic regulator akin to a public utility commission. However, our current ATC system already operates with sufficient oversight provided by Congress. Adding additional layers of unnecessary bureaucracy is wasteful and counter to the idea of improving efficiencies.

Supporters of ATC privatization have stated the need to secure stable financing for ATC. More broadly, they argue that the government should not be operating what has become a 24/7 technology center. However, House and Senate appropriators have fulfilled FAA funding at over 99 percent over the past five years; the recent FY17 bill provided 103 percent of the budget request.

The argument that government is incapable of efficient technology operations is weak when you consider the Global Positioning System operated by the U.S. Air Force, the National Security Agency, the National Atmospheric and Oceanic Administration, and a host of other state-of-the-art technology efforts in which the United States leads the world. In addition, to discount the ability of the FAA to effectively manage technology simply because they are a government entity disregards the FAA's record of providing world-class service to all airspace users.

HAI applauds the dialogue and debate on this serious issue of privatization. We appreciate the leadership's willingness to listen to our perspective and consider our position. We stand ready to work with Congress and the administration to craft common-sense policies aimed at implementing NextGen technology in a safe, efficient, cost-effective manner.

Written Statement
Of

Jeff Martin
Executive Vice President Operations
JetBlue Airways

May 17, 2017

The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America

Before
Committee on Transportation & Infrastructure
United States House of Representatives

Chairman Shuster, Ranking Member DeFazio, on behalf of more than 20,000 crewmembers at JetBlue Airways, thank you for the opportunity to share JetBlue's perspective on modernization of our nation's Air Traffic Control (ATC) system and the need for ATC Reform. JetBlue strongly supports both objectives and appreciates the Committee's focus on the connection between them.

In February, JetBlue celebrated the 17th anniversary of our first low-fare flight— Flight 1 from New York's John F. Kennedy International Airport to Fort Lauderdale. Over the past 17 years, JetBlue has matured and made a place for itself in what we all agree is a fiercely competitive industry, against a backdrop of incredible consolidation and change both domestically and abroad. In just 15 years, we've gone from a start-up to a Fortune 500 company with a brand recognized globally and hundreds of customer service accolades.

The three big legacy airlines combine to control about 60% of the US market nationwide – which results in even higher concentration in some cities. Add in Southwest and that figure jumps to 80%. JetBlue, by contrast, is only a 5% carrier. Yet as a customer-service innovator and a market disruptor, JetBlue plays a critical role in ensuring the US airline industry remains competitive despite the consolidation of market share and market power in the hands of just four legacy airlines.

From that first flight in 2000, JetBlue has grown to serve 101 cities across the United States, Caribbean and Latin America with more than 20,000 crewmembers providing award winning service to our customers every day. This month, JetBlue once again earned a top spot among Forbes' "America's Best Employers of 2017," landing at No. 12 of 500 companies nationally and, for the third year, was named the best company to work for in the category of transportation and logistics.

JetBlue still operates Flight 1 from JFK to Fort Lauderdale, along with more than 1,000 other daily flights. We may have started as the airline customers enjoyed taking from the Northeast to Florida, but JetBlue has rapidly evolved over the past decade and we are today a leading international airline. Our model has always been about entering markets where the incumbents charge high fares, offer limited service, or often both, and then stimulating traffic with affordable prices and best-in-class service. We discovered that not only were many domestic markets ready for this winning formula, but so too were a lot of international markets. In fact, nearly one third of JetBlue's network now extends to Caribbean and Latin American destinations.

Unlike traditional hub-and-spoke airlines funneling passengers through hubs, nearly 90 percent of JetBlue customers fly nonstop from one JetBlue destination to another. JetBlue has six Focus Cities – New York, Boston, Ft. Lauderdale, Orlando, Los Angeles/Long Beach and San Juan – providing award-winning JetBlue experience to customers from Anchorage, Alaska to Lima, Peru.

JetBlue has been a strong supporter of the FAA's Next Generation Air Traffic Control (NextGen) program from the start. Our former CEO, Dave Barger, served as the first Chairman of the FAA's NextGen Advisory Committee (NAC), bringing stakeholders from across the aviation spectrum together to collaborate and develop consensus recommendations on how best to implement NextGen's biggest challenges. Today, I represent JetBlue as an active member of the NAC and along with other JetBlue leaders devote significant time and energy to NAC work on a local, national and global basis.

As the Members of this Committee are aware, NextGen has been a priority since it was included in the Vision 100 FAA Reauthorization Act enacted in December 2003. Professionals at FAA and throughout

the aviation industry have devoted countless hours to the cause, recognizing that NextGen can only be achieved by improvements to the variety of systems that are the backbone of today's complex air traffic control system. We appreciate the hard work of FAA employees, particularly the professional air traffic controllers, who we rely upon and partner with every day as they work toward our shared objective. Regrettably, their hard work has been stymied by the governance and funding structure of the FAA and as a result, operators in the system and the traveling public continue to suffer.

The United States has the best air traffic controllers and the safest skies in the world, but the equipment that supports ATC hasn't kept up with the fast pace of technology innovation. FAA's challenges with the timing, cost and implementation of NextGen programs has been well documented by the DOT Inspector General and other outside experts over the years. NextGen is not and has never been an all or nothing proposal – we don't have to choose between being for it or against it. It's entirely appropriate for industry to be critical of FAA as NextGen implementation has faltered, just as we acknowledge and celebrate specific points of progress with NextGen as they occur.

Implementation of Automatic Dependent Surveillance-Broadcast (ADS-B) presents one opportunity both to celebrate and express concern. JetBlue has long stood with other members of the airline industry in embracing ADS-B's potential for enhancing safety and increasing efficiency through reduced separation and increased traffic flow. In 2011, JetBlue and FAA signed a cost sharing agreement to equip 35 Airbus A320 aircraft with ADS-B in order to explore the benefit of more direct routing through the Gulf of Mexico. Traditional ATC radar is limited in offshore areas so air traffic controllers cannot normally track aircraft continuously with the necessary precision to route them across the Gulf. Using ground-based ADS-B receivers installed on offshore oil rigs, JetBlue has been able to fly between Fort Lauderdale to the West Coast – southern California and San Francisco – while avoiding thunderstorms and reducing emissions as a result of more direct routings.

FAA has mandated that airspace users purchase and install ADS-B Out avionics, the first stage of the program, by Dec 31, 2019 – at an estimated cost of $1 billion to US airlines. In 2016, JetBlue announced plans to move forward with equipage of its fleet not only with ADS-B Out to connect with the FAA's ground based ADS-B system but also to install additional avionics to take advantage of enhanced surveillance capabilities with space-based ADS-B by early 2019. Hosted on satellites and providing coverage over oceanic and remote Oceanic airspace outside radar or other ground-based systems, we believe space-based ADS-B will provide significant reduced oceanic separation benefit to JetBlue for flights in the Caribbean region outside of FAA's radar coverage area.

I have spoken publicly to emphasize the benefit we've seen from ADS-B in the Gulf of Mexico and the potential for reduced separation and greater efficiency for our international flights, saying:

> "We're really anxious to see what ADS-B can bring to the offshore routes and developing even more, from Florida down to the Caribbean area and Puerto Rico, and putting more capability in that airspace."

Unfortunately, JetBlue's flights between South Florida and California that can take advantage of ADS-B in the Gulf account for just one percent of our total daily operations. JetBlue and all airspace users will see even greater benefit of enhanced surveillance capabilities after users equip in 2020 if FAA can deliver reduced oceanic separation standards or other benefits, and present a path to decommission resulting ground-based radar redundancies.

JetBlue's decision to invest now in advanced space based communication, navigation and surveillance capabilities is also driven by the benefit we anticipate from work by Aireon, a joint venture of Iridium Communications and Nav Canada. Aireon will expand air traffic surveillance across the globe by installing ADS-B receivers on a network of Low Earth Orbit satellites worldwide. Nav Canada is a partner in the joint venture and has signed a contract to be its first customer when the service becomes available in 2018. Aireon has signed contracts with ten 10 other Air Navigation Service Providers around the world. Unfortunately the FAA declined to participate in the joint venture and has not yet made a decision about oceanic services. While JetBlue is encouraged by and driven to invest in the potential for additional benefits of ADS-B, FAA's absence in the groundbreaking Aireon project raises serious concerns about the United States role in leading air traffic services and ATC technology and reinforces the need for ATC Reform.

Another critical concern faced by all airlines is the FAA's shortage of air traffic controllers. These staffing shortages, especially in the congested northeast, have contributed to significant delays across the national air space system. Paul Rinaldi, President of the National Air Traffic Controllers Association, has testified before this Committee that while staffing has been a NATCA concern for years, it has now "reached a crisis". He attributes this to multiple factors, including the stop-and-go funding and FAA governance. He asserts that certified professional controller staffing at the FAA is at a 28-year low at eighty-one percent of the operational target level, with a significant number of controllers now eligible to retire. NATCA has noted that N90, the New York TRACON, is in most critical need of more staffing. JetBlue's customers know this all too well.

As demonstrated by the comments above, JetBlue is deeply concerned with the progress of bringing NextGen and its benefits to the area that needs it most – the northeast. Thus, while JetBlue supports and remains committed to FAA's work on NextGen, we and our customers know more must be done.

In order for all users of the system to see real and meaningful benefits from NextGen and for the US to reclaim its ATC leadership role, we must reform the governance and funding of our Air Traffic Control system. JetBlue supports separating ATC into a new non-governmental entity, freeing it to keep pace with the accelerating rate of change in the aviation industry. A more nimble and better funded ATC would be able to efficiently implement the dynamic components of NextGen, more efficiently address the complex staffing shortages and thus enhance safety, reduce aircraft delays and expand the efficiency of the National Airspace System for all of its users.

Today, FAA is stymied by the increasingly unpredictable appropriations process and cannot borrow against annual receipts to fund required long-term investments in new technology and facilities. When compared to Nav Canada's ability to invest in and benefit from programs like Aireon's enhanced surveillance space based ADS-B receivers, we see an opportunity lost.

Given JetBlue operates in some of the nation's most congested airspace, we have a particular interest in ATC Reform to facilitate NextGen progress. Today, nearly 70 percent of JetBlue flights operate at airports that are under an FAA ground delay or ground stop program nearly half of the time. This figure is staggering and unacceptable. To tinker with the status quo, with the same governance and funding limitations, is similarly unacceptable. That's why JetBlue supports ATC Reform.

Since the Vision 100 bill in 2003, there's been talk of "Bringing NextGen to Broadway". Tackling the challenges of airspace in the Northeast Corridor is complex but couldn't be more important. Problems in the northeast cascade throughout the national airspace system every day. That's why JetBlue President and CEO Robin Hayes, in a speech to the International Aviation Club in 2015, said:

> "We've seen real benefits from NextGen, but we need more alignment in this important transformation. We also need to direct infrastructure improvements into the regions of the country where they'll produce the most benefits, like the Northeast Corridor. The pace of change really needs to accelerate, especially in New York, which is the busiest air travel market in the country and has the most to gain from NextGen improvements."

The new Chairman of the NextGen Advisory Committee, FedEx President and CEO Dave Bronczek, agrees. In his opening comments at the NAC's February 22, 2017 meeting, he called for New York to be a priority, saying:

> "We cannot continue to, or even be perceived as continuing to focus solely on low hanging fruit, avoiding the real challenges to NextGen. We have the right venue, the right people, the motivation, here and now, to tackle the big challenges and prove the benefits of NextGen. Ten years into the program, we cannot still be saying fixing New York is too hard."

As an airline with more than two thirds of its flights at airports with FAA traffic programs in place almost half the time, JetBlue can attest to the impact delays in the northeast corridor have on the rest of the system. Our customers, the traveling public, deserve better. As Mr. Bronczek knows, whether it's for those who travel to or through the northeast corridor or those impacted by delays across the nation, it's long past time to bring NextGen to Broadway – for the benefit of all users of the system.

We believe that the key to achieving the ATC modernization we all want is to separate the operation of our nation's ATC system from the safety and regulatory oversight functions of FAA. Our ATC funding and governance system is broken beyond repair within the constraints of government. The Committee has heard from other witnesses effectively advocating for ATC Reform at today's hearing, and JetBlue stands in support of their remarks.

Mr. Chairman, Congressman DeFazio, thank you for the opportunity to present JetBlue's views today.

GAO U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

May, 24, 2017

The Honorable Bill Shuster
Chairman
Committee on Transportation and Infrastructure
House of Representatives

Air Traffic Control: Information Relating to Committee's Recent Hearing on Reforms to FAA and the Nation's Aviation System

Dear Mr. Chairman:

I understand that during the committee's May, 17, 2017 hearing entitled "The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America", there was some discussion of GAO's work related to (1) the potential separation of the Federal Aviation Administration's (FAA) air traffic control operation and modernization responsibilities from its safety oversight responsibilities and (2) the implementation status of the Next Generation Air Transportation System (NextGen). Given GAO's responsibility to ensure that Congress has current, accurate, and complete information, we would like to take the opportunity to reiterate the relevant findings from our recent work in these two areas. A selected list of related GAO reports from 2005 through 2016 is provided in enclosure I.

The first area we would like to address stems from legislation introduced in February 2016 to transfer air traffic control operations from FAA to a government-charted corporation. This move would effectively separate the nation's air traffic control and aviation safety oversight functions, both of which FAA currently oversees. We have not taken a position on the potential separation of the air traffic control system. We have, however, published two related reports, both of which focus primarily on selected experts' views of key issues surrounding a potential restructuring or separation of the air traffic control system. Our first report, published on February 10, 2016, conveyed the preliminary views of our selected experts, who had a wide range of expertise. On October 13, 2016, GAO published a final report entitled Air Traffic Control: Experts' and Stakeholders' Views on Key Issues to Consider in a Potential Restructuring (GAO-17-131), which, in addition to expert views, provided lessons learned from three countries' air traffic control transition experiences. Experts we interviewed said that many issues should be considered in a potential restructuring, including organizational management, funding and financing, and transition time and related costs. Furthermore, experts emphasized the importance of ensuring ongoing communications and coordination between the safety regulator and a new air traffic control entity should a restructuring occur. Lessons learned included implementing strategies to mitigate communication and coordination challenges.

Second, we have long monitored FAA's efforts to modernize the nation's air traffic control system, including its implementation of the satellite-based NextGen program. In 1995 we placed FAA's air traffic control modernization program on GAO's High Risk List. We define a high-risk program as one that is at high risk due to its vulnerabilities to fraud, waste, abuse, and

mismanagement, or is most in need of transformation.[1] For several years prior to 1995, our reviews of the modernization program found it to be consistently over budget and behind scheduled implementation. Because of FAA's efforts and progress made in addressing most of the root causes of its past problems and its commitment to sustaining progress in the future, we removed the air traffic control modernization program from the high risk list in 2009. FAA's modernization program was subsequently re-named NextGen, and formal development and implementation began in 2007. We have conducted numerous studies over the past decade to monitor the progress of NextGen implementation.

Most recently, on November 17, 2016, we published a report entitled *Next Generation Air Transportation System: Information on Expenditures, Schedule, and Cost Estimates, Fiscal Years 2004-2030* (GAO-17-241R). That report discussed, among other things, FAA's cost estimates for NextGen over the years. We reported that the cost of NextGen was estimated in 2007 to be between $29 and $42 billion, equally divided between FAA and the airline industry.[2] We found that FAA's NextGen total cost estimates have evolved, but have not increased markedly since fiscal year 2004. FAA's 2016 business case, for example, estimated the agency's total cost for NextGen at $20.6, which is within the range of the original 2007 planning estimate of $15-$22 billion. The business case also estimated costs to the aviation industry at $15.1 billion, which is also within the range of the original 2007 planning estimate.

That same report also provided an update on NextGen' s implementation status. We found that FAA anticipates implementing major NextGen programs as planned by 2025, but that planned technology enhancements and implementation of advanced applications are expected to extend beyond 2030.[3] According to FAA's 2016 plan, the aviation industry should be able to use at least some of the available capabilities from the major NextGen programs by 2020 and most of the capabilities by 2025. However, according to that plan, some NextGen activities that FAA originally envisioned for the mid-term (2013-2018) have been deferred beyond 2030. FAA officials told us that the deferred activities are no longer needed or are not technically or operationally feasible. GAO has ongoing work looking at the status of FAA's implementation of NextGen and the challenges to completion of this phase of air traffic control modernization. We have briefed this Committee's majority and minority staff on this work and plan to issue our report in the summer of 2017.

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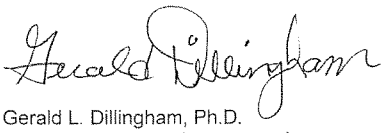
[1] In 1990 GAO began reporting on government operations that we identified as "high risk." Since then, generally coinciding with the start of each new Congress, we have reported on the status of progress to address High Risk areas and updated the High Risk List. The most recent High Risk update was in February 2015. That update identified 32 High Risk areas.

[2] The estimates did not include costs to the Department of Defense or other federal agencies, only FAA and airline industry costs.

[3] The Future of the NAS, U.S. Department of Transportation, Federal Aviation Administration, (Washington, D.C: June 2016).

Should you or your staff have questions, please contact me at (202) 512-4803 or DillinghamG@gao.gov.

Sincerely yours,



Gerald L. Dillingham, Ph.D.
Director, Physical Infrastructure Issues

Enclosure – I

Enclosure I: Selected GAO Reports and Testimonies Related to the Next Generation Air Transportation System (NextGen), 2005-2016

Next Generation Air Transportation System: Information on Expenditures, Schedule, and Cost Estimates, Fiscal Years 2004-2030, GAO-17-241R (Washington, D.C.: Nov 17, 2016).

Air Traffic Control: Experts' and Stakeholders' Views on Key Issues to Consider in a Potential Restructuring, GAO-17-131 (Washington D.C: Oct. 13, 2016).

Aviation Finance: Observations on the Effects of Budget Uncertainty on FAA, GAO-16-198R (Washington, D.C.: November 19, 2015).

Next Generation Air Transportation System: Improved Risk Analysis Could Strengthen FAA's Global Interoperability Efforts, GAO-15-608 (Washington, D.C.: July 29, 2015).

Air Traffic Control System: Selected Stakeholders' Perspectives on Operations, Maintenance, and Structure, GAO-14-770 (Washington D.C.: Sept. 12, 2014).

National Airspace System: Improved Budgeting Could Help FAA Better Determine Future Operations and Maintenance Priorities, GAO-13-693 (Washington, D.C.: Aug. 22, 2013).

Air Transportation System: FAA Has Made Some Progress in Midterm Implementation, but Ongoing Challenges Limit Expected Benefits, GAO-13-264, (Washington D.C.: Apr. 8, 2013).

Air Traffic Control Modernization: Management Challenges Associated with Program Costs and Schedules Could Hinder NextGen Implementation, GAO-12-223 (Washington, D.C.: Feb. 16, 2012).

Next Generation Air Transportation: Collaborative Efforts with European Union Generally Mirror Effective Practices, but Near-Term Challenges Could Delay Implementation, GAO-12-48 (Washington, D.C.: Nov. 3, 2011).

Next Generation Air Transportation System: FAA's Metrics Can Be Used to Report on Status of Individual Programs, But Not of Overall NextGen Implementation or Outcomes, GAO-10-629 (Washington, D.C.: July 27, 2010).

Next Generation Air Transportation System: FAA Faces Challenges in Responding to Task Force Recommendations, GAO-10-188T (Washington D.C.: Oct. 28, 2009).

Air Traffic Control: FAA Reports Progress in System Acquisitions, but Changes in Performance Measurement Could Improve Usefulness of Information, GAO-08-42 (Washington, D.C.: Dec. 18, 2007).

Next Generation Air Transportation System: Progress and Challenges Associated with the Transformation of the National Airspace System, GAO-07-25 (Washington, D.C.: Nov. 13, 2006).

Air Traffic Control: Characteristics and Performance of Selected International Air Navigation Service Providers and Lessons Learned from Their Commercialization, GAO-05-769 (Washington, D.C.: July 29, 2005).

National Airspace System: Transformation Will Require Cultural Change, Balanced Funding Priorities, and Use of All Available Management Tools, GAO-06-154 (Washington, D.C.: Oct.14, 2005).

National Airspace System: FAA Has Made Progress but Continues to Face Challenges in Acquiring Major Air Traffic Control Systems, GAO-05-331 (Washington, D.C.: June 10, 2005).

American Airlines

Stephen L. Johnson
Executive Vice President, Corporate Affairs

June 1, 2017

The Honorable Bill Shuster
Chairman, Transportation and Infrastructure Committee
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Shuster:

Thank you for holding the recent Transportation and Infrastructure hearing titled "The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America." American Airlines strongly supports your proposal to create an independent, not-for-profit entity that is equipped with the funding and flexibility to efficiently implement NextGen. We appreciate your dedication to transforming our nation's air traffic control system to become the gold standard for the world.

It came to our attention that the Democratic Summary of Subject Matter that was distributed on May 12, 2017, took out of context comments about a specific air traffic control NextGen program made by Tim Campbell, a former Senior Vice President of American Airlines. Tim Campbell's comments were not intended and should not be construed as evidence that the NextGen "blueprint" is working. Indeed, the fact remains that the industry has been talking about NextGen implementation for more than 30 years, and we are still far from our goal of modernizing the nation's air traffic control system. Only by removing the air traffic control system from the federal government will we be able to make the long-term capital expenditures necessary to reform our antiquated system.

Sincerely,

UNITED

Steve Morrissey
Vice President
Regulatory and Policy

June 1, 2017

The Honorable Bill Shuster
Chairman
House Transportation and Infrastructure Committee
2165 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Shuster:

Thank you for holding a hearing on May 17 entitled "*The Need to Reform FAA and Air Traffic Control to Build a 21st Century Aviation System for America.*" United appreciates the opportunity to share our position on this important issue.

United believes that transformational air traffic control (ATC) reform presents significant opportunities for modernizing our air traffic system, providing significant benefits to the users of the system, particularly our customers and employees, as well as communities and businesses across America. Specifically, an independent, non-profit corporation should be created to operate the system, funded by user fees and governed by a board of stakeholders. The FAA should retain all safety regulation functions. With more predictable funding and operational accountability enabled by this reform, ATC services could be provided more efficiently and effectively while upholding world-class safety standards.

United is committed to putting the customer at the center of everything we do. We are encouraged that ATC reform would improve the travel experience for our customers by reducing ATC-related delays and enabling more direct flights which would further reduce fuel burn and emissions. ATC reform would be a win-win for both our customers and employees operating in the system.

Thank you for your efforts on critical issue. United looks forward to working with you to achieve this important goal. Please do not hesitate to contact me if you have any questions or would like more information.

Sincerely,