



**Testimony for the Record**

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**United States Senate  
Committee on Commerce, Science and Transportation**

**Hearing on  
“FAA Reauthorization: Air Traffic Control Modernization and Reform”**

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Good morning, Chairman Thune, Senator Nelson. Thank you for the opportunity to join you this morning to testify on the operation and needed modernization of the nation's airspace.

I'm pleased to speak on behalf of Business Roundtable, an association of more than 200 CEOs of major U.S. companies. Business Roundtable's CEO members lead companies with \$7.2 trillion in annual revenues and nearly 16 million employees. These companies comprise more than a quarter of the total market capitalization of U.S. stock markets and invest \$190 billion annually in research and development – equal to 70 percent of U.S. private R&D spending. Our companies pay more than \$230 billion in dividends to shareholders and generate more than \$470 billion in sales for small and medium-sized businesses annually.

Aviation is critically important to all members of Business Roundtable. Today, civil aviation in the United States accounts for 5.4 percent of our GDP, contributes \$1.5 trillion in total economic activity each year, and supports 11.8 million jobs. Business Roundtable's members include leaders of major U.S. aerospace companies, but more broadly, every one of our members relies on air transportation every day as customers of cargo and passenger airlines. For example, 30 to 40 percent of all daily airline passengers are making trips for business purposes.

The CEOs of Business Roundtable are global leaders in their respective industries, and they recognize the value of American leadership in aviation. The United States was, of course, site of the Wright Brothers' historic first powered flight in a heavier-than-air vehicle. Commercial

airlines developed in this nation, and so did air traffic control; begun initially by a nonprofit, federally chartered corporation, air traffic control was taken over by the federal government during the Great Depression. Following World War II, commercial and general aviation boomed in the United States. As the 20<sup>th</sup> century ended, our aviation system still set the standard as not only the world's largest but also the world's safest and most technologically advanced.

Sadly, our preeminent position has been lost and our future leadership is in doubt. The U.S. air traffic system remains the world's safest and the world's largest. But it is not the most technologically advanced, nor the world's most cost-effective.

The Business Roundtable last year conducted an analysis that superimposed Canadian rates for air traffic control services on U.S. flight data, and preliminary results suggest that, in aggregate, the Canadians are delivering services for lower cost than the FAA today. Canada's cost advantage may result partly due to a less-complex airspace than the United States' – and complexity drives cost – but one would expect that the larger-scale U.S. operation would also create its own efficiencies and lower costs.

Unfortunately, neither business leaders nor the flying public can take the future health of U.S. aviation for granted. Challenges with the FAA's provision of air traffic control services have existed for decades, but are now becoming more acute. FAA has failed to keep its equipment modernized for the entirety of its history, including during times of budgetary plenty. Our national air traffic control system relies on essentially the same technology – ground based-

radar and voice radio transmission – as it did in the 1960s. FAA is operating Enroute Centers that are mostly over 50 years old. Almost all of the FAA’s surveillance technology is still analog. And the FAA trains controllers now the same way it did more than 20 years ago.

Like many other stakeholders, we are concerned about the slow and uncertain pace of the modernization effort represented by the Federal Aviation Administration’s NextGen program. Like you, we read the numerous reports by the Government Accountability Office and the Department of Transportation Inspector General documenting cost overruns and late delivery of new systems. The most recent report, from the National Academies, released at the beginning of this month was particularly damning when it said:

- “The original vision for NextGen is not what is being implemented today.”
- “This shift in focus has not been clear to all stakeholders.”
- “Airlines are not motivated to spend money on equipment and training for NextGen.”
- “Not all parts of the original vision will be achieved in the foreseeable future.”

These reports identify underlying problems that have led stakeholders to question whether we have the best model – not just for delivering NextGen but also for the ongoing operation and management of what used to be the world’s most advanced air traffic control system.

The fact that the FAA has been consistently behind when it comes to innovation isn’t just an inconvenience – it has real costs for the users of the airspace and the public at large.

Airlines and independent aviation all bear significant costs because of less-than-optimal routings and excessive block times. From the standpoint of airlines and other aircraft operators, reducing delays will mean important savings in fuel and crew time, their two largest operating costs. And with intelligent consolidation of air traffic control facilities, enabled by 21<sup>st</sup>-century technology, the unit cost of services will be reduced, yielding further cost savings for aircraft operators. Retiring many obsolete facilities and ground-based navigation aids will produce additional cost savings.

These lost benefits for airlines and aircraft operators translate to unnecessary delays for shippers and travelers, including the huge numbers who are traveling every day on business. Advanced technologies and procedures would enable more planes to land and take off safely on existing runways, reducing delays. Likewise, more direct flight routes at the altitudes with the most favorable tailwinds will speed up flights and also reduce delays. Last year, President Obama estimated the potential reduction in airspace delays at 30 percent. Even if that number is a little high, I was glad to hear the president acknowledge the kinds of benefits a modernized system will provide.

Unnecessary time flying in the air also means adverse environmental impacts. More direct routings and optimized flight paths will reduce aviation fuel consumption and thereby cut CO<sub>2</sub> emissions. Shorter and more-precise landing paths (like those implemented in Seattle) will

reduce noise exposure around airports, which may make it easier to add critically needed runway capacity around the country.

And, as I mentioned earlier, the FAA's failure to keep its systems updated also means that the US is no longer the global leader in aviation. A modernized air traffic control system would advance America's global commercial leadership by expanding export opportunities. Overseas sale of technologies developed and deployed in the United States would allow highly innovative U.S. aerospace companies to expand their global market and increase domestic employment.

In testimony last November before the House Transportation and Infrastructure Committee, I said that funding is the most obvious challenge facing the FAA. Last year's sequester served as a wake-up call for aviation stakeholders, with its furloughs of controllers and the near-shutdown of 149 contract towers. And the current sequester law has seven more years to go. The FAA's current annual budget for Facilities & Equipment is now \$1 billion less than what it was projected to be five years ago. Alarming, a senior FAA official recently said the agency faces a \$5 billion funding shortfall over the next seven years. With regard to NextGen, the FAA and stakeholders are currently engaging in triage, figuring out which few projects the agency can afford to pursue in the current highly uncertain funding environment.

FAA Administrator Michael Huerta, in a speech last year at the Aero Club of Washington, said: "There is simply no way the FAA can implement NextGen, recapitalize our aging infrastructure,

and continue to provide our current level of services without making some serious trade-offs.”

The current funding system clearly does not provide the resources that are needed.

But the heart of the problem is not simply a lack of resources, but the broken budgetary process itself. The provision of air traffic control services is a technology-driven enterprise.

The federal budgetary process prevents FAA from pursuing the kind of incremental technology refreshment that is standard procedure in technology driven enterprises.

For an example of how this ought to work, look at two member companies of Business Roundtable: AT&T and Verizon. In the years we’ve been talking about NextGen, both have gone through four generations of cellular technology, from powering a basic flip phone to 4G streaming video in today’s modern iPhone.

What the FAA is trying to do is to fund a \$20 billion capital modernization effort out of annual and unpredictable cash flow. This makes no business sense, as my CEO membership would tell you. Most other transportation sectors issue long-term revenue bonds to finance large capital modernization—including airports, pipelines, railroads, and even bridges and interstate highways. But bonding is something the FAA cannot do. Our federal government simply does not have a capital budget.

To accommodate the budget process, FAA does its developments in massive bundles. Infrequent updating leads to constant obsolescence and higher costs. Despite excellent contractor performance, systems are frequently out of date, even when they are newly delivered, because their specifications were designed so far in advance of delivery. Further, budgets and schedules are almost always exceeded.

This inadequate budgetary process also causes FAA management to cater primarily to Congress and OMB as its customers, rather than to the more appropriate airspace users, passengers, and shippers. As a result, today's FAA tends to be quite slow in responding to the needs of airspace users. Because of the slow development of procedures to allow for more direct routing, flights continue to follow waypoints located where bonfires guided aircraft in the early 20<sup>th</sup> century.

Finally, the combination of the air traffic control operator and its regulator within the same government agency – as we have today – is not beneficial to safety and results in a confusion of roles and responsibilities, loss of transparency and accountability, and greater frustration for users when they try to make the system work. It has also created an organizational culture that resists innovation. As this month's report by the National Academies observed:

“The FAA and the United States rightly pride themselves on a devotion to safety and an excellent safety record to match. At the same time, a conservative safety culture can affect how quickly process and technological change can happen—a challenge in an



arena where technologies change rapidly. Such a culture may inhibit the adoption of new technologies or increased automation that could potentially result in net improvements in both safety and efficiency. A strong safety culture can make up for some limitations in an architecture. For example, while it is a good thing for controllers and pilots to be highly sensitive to close-calls, it would be better if the architecture and design precluded those near-misses from happening. Moreover, if the FAA is going to be held accountable for an extremely conservative safety culture—which has historically been the case—then it should be recognized that such conservatism will understandably bias the agency away from innovation. Thus, there are risks associated with a safety culture as well, not least of which are opportunity costs due to not deploying improved (and potentially even safer) technology and procedures in the long run. In addition, excessive care regarding safety can result in the accumulation of technical debt—the deferral of significant refactoring and infrastructure refresh.”

A few years ago, I convened an expert group to help Business Roundtable study this issue, including former FAA and Transportation Department officials and knowledgeable aviation policy advisers. These experts with government and private-sector experience identified the series of challenges that I’ve outlined here and principles that must form the basis for

overcoming them. The status quo is simply too costly to continue. Any alternative should include:

- Separation of the air traffic control operator from the regulator to improve transparency and accountability, and increase safety.
- An organizational structure that accounts for multiple objectives so that safety and access are valued along with cost efficiency, and there is assurance against any value-leakage outside of the operation.
- Governance of air traffic control by a board that is appointed by stakeholders (including users, employees and government interests) with a fiduciary duty to the operation.
- A revenue structure that enables air traffic control to be fully self-supporting without government financial support and completely free of the Federal budgetary process.
- Financing capability to enable air traffic control to finance its capital expenditures, accelerate its modernization and level out its cash outlays.
- Wage and benefit structures that protect employees, prevent disruption of employees' reasonable career expectations, and preserve a collaborative culture within air traffic control.

Other countries have charted a similar course of action. Researchers have found that over the last two decades most other Western countries have restructured the way air traffic control is funded and governed—for example, in Australia, Canada, Germany, and the United Kingdom. In these and many other cases, the governments have decided that air traffic control is a high-

tech service business that can be funded directly by its aviation users, who become customers, just as airlines are customers of airports. More than 50 countries have separated their air traffic control systems from their transport ministries, leading to arm's-length regulation of air safety—just like that applied to airports, airlines, and all the other components of aviation.

While the principles I've outlined are accepted in other countries, they would be major changes for U.S. air traffic control. They certainly require a full assessment of their feasibility for the U.S. system. We have been holding discussions with the principal stakeholders over the past year, working to answer these many questions. As business leaders, it's particularly important to the Business Roundtable that the business case for any new structure be sound and well thought out.

Spinning off air traffic control from the rest of the FAA and running it as a separate entity is not a particularly large or complex transaction for corporate America. Tools and precedents exist for managing the risks that come with any innovation. That doesn't mean, however, that we don't need a thorough planning process just as any one of the CEO members of Business Roundtable would use if they were pursuing a restructuring of this sort.

In the end, I believe the greatest risk to our system is allowing the status quo to continue or pursuing more half-measures and calling them reform. We've been down that path. We cannot allow the fear of change to prevent us from doing what is needed.

Instead, I hope that you, as the senators responsible for oversight of FAA, will use the reauthorization process to put America on the path to a modern air traffic control system and global leadership in aviation. Now is not the time for timidity, or minor reforms. Now is the time for decisive, bipartisan action to restore America's leadership in aviation. Business Roundtable looks forward to working with you to achieve these important goals.