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Reforming Air Traffic Control

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The Federal Aviation Administration (FAA) operates the nation's air traffic control system. It also regulates aviation safety and provides grants to airports. The agency has a $16 billion budget and 45,000 employees.

In recent decades, many nations have partly or fully separated their air traffic control (ATC) systems from their governments. In 1996 Canada moved its ATC to a private nonprofit corporation, Nav Canada. That reform is the model for an FAA restructuring bill that just passed the House Transportation and Infrastructure Committee.

Air traffic control reform is long overdue. Moving ATC operations out of the government would improve efficiency and spur innovation. The benefits would include shorter flight times, fewer delays, and lower fuel costs.

Management and Technology Failures

The FAA has struggled to modernize America's ATC system. It relies on 20th-century technologies, such as radar and voice radio, despite the development of newer technologies, such as satellite-based navigation. Air traffic control is a high-technology industry, but we are still running it as an old-fashioned bureaucracy from Washington.

In a detailed study of the FAA's performance, economist Robert Poole found that the agency is risk averse, slow to make decisions, and mismanages procurement.[1] It loses skilled people to private industry because of a lack of pay flexibility and frustration with the government work environment. Poole found that the FAA "is slow to embrace promising innovations," and is "particularly resistant to high-potential innovations that would disrupt its own institutional status quo."[2] That is the opposite of what is needed in a dynamic technology-based industry.

Dorothy Robyn, a policy expert in the Clinton and Obama administrations, examined ATC reforms in a Brookings Institution study. She concluded, "As a traditional government agency constrained by federal budget rules and micromanaged by Congress, the FAA is poorly suited to run what amounts to a capital-intensive,

high-tech service business."[3]

Robyn argues that Congress has "long blocked large-scale consolidation of the FAA's aging and inefficient facilities" and it "micromanages FAA spending on investment and maintenance."[4] Members of Congress have intervened to save FAA jobs in their districts, and they have required the FAA "to procure certain hardware and encouraged it to select certain contractors."[5] The FAA's "zombie" air traffic control towers that receive little night traffic are another example of pork-barrel waste.[6]

These problems can be solved by separating ATC from direct federal control. That would also solve the conflict of interest arising from the FAA both operating ATC and overseeing aviation safety. Splitting off ATC operations would increase transparency because hidden decisions now made internally within the FAA would be made public.[7] Such a separation is recommended by the International Civil Aviation Organization.

In coming years, rising demands for air travel are expected to severely strain the FAA. Our airspace is getting crowded, and our antiquated ATC is causing delays and wasting fuel. Transitioning to new ATC technologies would increase safety, while also raising airspace capacity and saving fuel by allowing aircraft to fly more direct routes. New technologies would also reduce the number of needed ATC facilities.

However, those benefits remain elusive because the FAA has struggled to upgrade its system. A 2005 auditor's report stated: "For more than two decades, ATC system acquisitions under the National Airspace System modernization program have experienced significant cost growth, schedule delays, and performance problems."[8] A 2012 auditor's report found that half of FAA's major acquisition programs were behind schedule.[9] A 2016 auditor's report found that several critical programs "remain over budget and behind schedule due to overambitious plans, unresolved requirements, software development problems, ineffective contract management, and unreliable cost and schedule estimates."[10]

The FAA has made some advances, but the 2016 auditor's report found that its "total budget, operations budget, and compensation costs have doubled while operational productivity … has decreased substantially."[11] Another recent report found shortcomings in the FAA's workforce management, including too few qualified controllers at numerous major airports.[12]

A report from the U.S. Travel Association warned that our "air traffic control system uses technology from the World War II era that causes systematic delays and cancellations," and that upgrades remain "mired by setbacks, cost overruns and delays as a result of FAA mismanagement" and budget cuts.[13] A report from the Eno Center for Transportation found that "many stakeholders are losing confidence in FAA's ability to move forward" with technology upgrades.[14]

Gains from Privatization

Dozens of nations have restructured their air traffic control systems to separate them from their government budgets. Canada privatized its system in 1996 in the form of a self-funded nonprofit corporation, Nav Canada. That reform caught the eye of House Transportation and Infrastructure Committee chairman Bill Shuster (R-PA), who has introduced legislation to transfer our ATC to an "independent, not-for-profit corporation" that would have a "self-sustaining, cost-based user fee structure."[15]

The Canadian reform has been very successful. Nav Canada has won three International Air Transport Association (IATA) Eagle Awards as the world's best ATC provider.[16] The IATA says Nav Canada is a "global leader in delivering top-class performance," and its "strong track record of working closely with its customers to improve performance through regular and meaningful consultations, combined with technical and operational investments supported by extensive cost-benefit analysis, place it at the forefront of the industry's air navigation service providers."[17]

In Canada, funding was changed from a government ticket tax to direct charges on aircraft operators for services provided. Nav Canada revenues come from charges for flying through Canadian airspace and for terminal services at airports. Those cost-based charges are a more efficient way to price ATC services than the U.S. system, which is mainly based on ticket taxes. Dorothy Robyn notes that our fee system biases airlines in favor of multiple small jets for many routes, when a single larger jet would be more efficient from an ATC perspective.[18]

Nav Canada is a private monopoly, so there might be concerns that its user charges would rise excessively. But that has not happened. Indeed, Nav Canada's real customer charges have fallen by one-third over the past decade, as

efficiency has increased.[19] The system is handling 50 percent more traffic than before privatization, but with 30 percent fewer employees.[20] One reason for the good performance is that airlines and other aviation stakeholders have seats on Nav Canada's corporate board, and those stakeholders have a strong interest in increasing both efficiency and safety.

People may also be concerned that an institution such as ATC should be open and transparent, and privatization can achieve that. Nav Canada publishes reports detailing its financial, operating, and safety metrics, and it runs one of the safest systems in the world. One key metric—losses of separation—has been cut in half since privatization, as safety has improved.[21]

Another advantage of privatization is innovation. Nav Canada is praised for its development of new technologies. Robert Poole said, "the technical expertise at Nav Canada has led to a thriving business marketing innovative ATC hardware and software and advising other air navigation service providers."[22] Nav Canada's former chairman said the company has "sold and installed our home-grown technology around the world from Australia to Hong Kong to Dubai, and all over the UK and Europe."[23]

In Senate hearings in 2015, the head of the U.S. National Air Traffic Controllers Association (NATCA) described some of Canada's advantages:

> They have the air traffic controller, the engineer, and the manufacturer working together from conceptual stage all the way through to training, implementation, and deployment within their facilities. And what that does is it saves time and money. And they actually are developing probably the best equipment out there, and they are selling it around the world. And they are doing it in a 30-month to three-year time frame, when we have to look much longer down the road because of our procurement process in this country.[24]

In 2016 the NATCA backed the Shuster bill to move our ATC into a nonprofit corporation.[25] It may seem odd that a labor union is supportive of such reforms, but the controllers are concerned that our system is not receiving the steady funding and advanced technology that is needed. A self-funded ATC would create more financial stability than the current system, which is buffeted by chaotic federal budget battles.

A study by Glen McDougall and Alasdair Roberts examined 10 partly or fully commercialized (or privatized) ATC systems in other nations.[26] They looked at

performance and safety data, and they interviewed users of the different systems. They found that, in general, service quality improved, safety improved, and costs were reduced in the commercialized systems.

A 2005 Government Accountability Office study looked at the performance of commercialized ATC systems in Australia, Canada, Germany, New Zealand, and Britain.[27] It concluded that the systems had cut costs, invested in new technologies, and had either maintained or increased safety under the reforms.

Reforms Are Long Overdue

Since the 1970s, numerous studies and commissions have recommended restructuring the U.S. air traffic control system.[28] In the 1990s, for example, the Clinton administration proposed moving ATC from the FAA to a self-funded government corporation.

Today, the dominant reform model is the Canadian system, which inspired the 2016 legislation introduced by Bill Shuster. Privatization would provide the flexibility, incentives, and funding needed for ATC managers to increase efficiency and pursue innovation. Innovation is the key to reducing flight times, increasing airspace capacity, and cutting fuel costs.

In a recent interview, the head of Nav Canada, John Crichton, was blunt: "This business of ours has evolved long past the time when government should be in it . . . Governments are not suited to run … dynamic, high-tech, 24-hour businesses."[29]

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[2] Ibid., p. 3.
[3] Dorothy Robyn, "Air Support: Creating a Safer and More Reliable Air Traffic Control System," Brookings Institution, July 2008, p. 2.
[4] Ibid., p. 16.
[5] Poole, p. 41.
[6] Alan Levin, "Zombie Towers Live as Taxpayers Fund Flightless Skies," *Bloomberg Business*, November 13, 2012.
[7] Robyn, "Air Support," pp. 6, 17.
[8] Government Accountability Office, "National Airspace System: FAA Has Made Progress but Continues to Face Challenges in Acquiring Major Air Traffic Control Systems," GAO-05-331, June 2005, p. 1.
[9] Government Accountability Office, "Air Traffic Control Modernization: Management Challenges Associated with Program Costs and Schedules Could Hinder NextGen Implementation," GAO-12-223, February 2012.

[10] Department of Transportation, Inspector General, "FAA Reforms Have Not Achieved Expected Cost, Efficiency, and Modernization Outcomes," January 15, 2016, p. 10.
[11] Ibid., p. 5.
[12] Joan Lowy, "Watchdog: Too Few Air Traffic Controllers Where Needed Most," Associated Press, January 26, 2016.
[13] U.S. Travel Association, "Thanksgiving in the Skies: A Look at the Future of Air Travel in America," November 4, 2014, p. 5.
[14] Eno Center for Transportation, "Addressing Future Capacity Needs in the U.S. Aviation System," November 2013, p. 30.
[15] Summary of the Aviation Innovation, Reform, and Reauthorization Act of 2016, http://transportation.house.gov/airr-act.
[16] Nav Canada, "About Us," www.navcanada.ca/en/about-us/Pages/default.aspx.
[17] International Air Transport Association, "IATA Announces 2011 Eagle Awards," June 6, 2011.
[18] Robyn, "Air Support," pp. 19, 20.
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[21] Edward H. Stevens, "Time for a Paradigm Shift to Privatization and User Fees in the U.S." *The Journal of Air Traffic Control* (Winter 2013): 36-39.
[22] Poole, p. 46.
[23] Nicholas Geer, Address at Annual General Meeting, Nav Canada, Ottawa, February 7, 2013.
[24] Paul Rinaldi, National Air Traffic Controllers Association, Testimony to the U.S. Senate Committee on Commerce, Science, and Transportation, May 19, 2015.
[25] National Air Traffic Controllers Association, "NATCA Announces Position on Air Traffic Control Reform Proposal," February 3, 2016.
[26] Glen McDougall and Alasdair Roberts, "Commercializing Air Traffic Control: Have the Reforms Worked?" Suffolk University Law School, February 17, 2009.
[27] Government Accountability Office, "Air Traffic Control: Preliminary Observations on Commercialized Air Navigation Service Providers," GAO-05-542T, April 20, 2005.
[28] Bart Elias, "Air Traffic Inc.: Considerations Regarding the Corporatization of Air Traffic Control," Congressional Research Service, R43844, January 5, 2015.
[29] Susan Carey, "Nav Canada Draws Interest in U.S.," *Wall Street Journal*, October 18, 2015.