



# Resolving the Crisis in Air Traffic Control Funding

By Vaughn Cordle and Robert W. Poole, Jr.



## THE ATC BUDGETARY CRISIS

The air traffic control (ATC) system is faced with a major funding crisis, which puts at risk ambitious plans to double or triple the system's capacity over the next 20 years. Based on the recommendations of the National Civil Aviation Review Commission (known generally as the Mineta Commission), Congress authorized the reorganization of the air traffic control functions of the Federal Aviation Administration into a performance-based organization. The new Air Traffic Organization (ATO) was formally launched early in 2004, headed by former airline executive Russell Chew. But the high hopes for faster and more cost-effective modernization, and for productivity gains, are now at serious risk, with consequences for all

of aviation. Just over a year after the start-up of the reorganized ATO, its ability to modernize the system is seriously threatened.

Recent ATO budgetary presentations show that without fundamental changes, there would be a cumulative \$8.2 billion difference between costs and available funding from FY 2004 through FY 2009. The vitally important capital budget (known as Facilities & Equipment) would be seriously affected, receiving \$3.2 billion less investment over that time period. This means that at the very time that commercial air travel is recovering to pre-9/11 trend lines, and as the general aviation industry is poised for the introduction of large numbers of very light jets (VLJs) into controlled airspace, crucial modernization investments will be deferred or not made at all. And without major capacity-increasing modernization,

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the return of serious airspace congestion is inevitable. Rationing of scarce capacity (as has already been introduced at Chicago O’Hare) hangs over aviation as a predictable consequence.

The budgetary shortfall arises due to three basic causes. The first is a dramatic reduction in proceeds from the 7.5 percent tax on the value of airline tickets, which is the largest funding source for the ATO. Thanks to the low-fare revolution caused by intensified competition from low-cost carriers, average prices paid for most airfares have declined dramatically over the past five years, and this revolution shows every sign of being a permanent, structural change. The ATO’s projected revenue over the next 5, 10, and 20 years is many billions less than expected and needed. And in the current airline financial climate, increasing taxes on this beleaguered industry is simply not an option. Second, the FAA’s operating costs have increased markedly during the same time period. Third, since FAA funding is part of the federal budget process, it is constrained by government-wide concerns over the large federal budget deficit.

## RETHINKING HOW WE PAY FOR ATC

This report suggests that the looming ATC funding crisis offers an opportunity to rethink and restructure the way America pays for air traffic control. It turns out that we are the only country (apart from a few tiny island states and very poor countries) still using excise taxes to fund this vital public infrastructure. The entire modern world (except us) charges aviation users for ATC services, following standards promulgated by the International Civil Aviation Organization, to which the United States is a signatory. A funding stream based on such payments would have two major advantages over the present tax structure: (1) it would grow in step with aviation activity, rather than being constrained by federal budget problems, and (2) it could provide the basis for issuing revenue bonds for modernization, ensuring that vital capacity improvements get made in a timely fashion.

Therefore, it is time to rethink the way we pay for air traffic control. Indeed, the 1997 Mineta Commission report, which led to the creation of the ATO, strongly recommended that funding for the new ATO be based on payments for air traffic services, paid directly by aviation users to the ATO. The Mineta Commission pointed out that in addition to creating a stronger customer/provider relationship, such direct

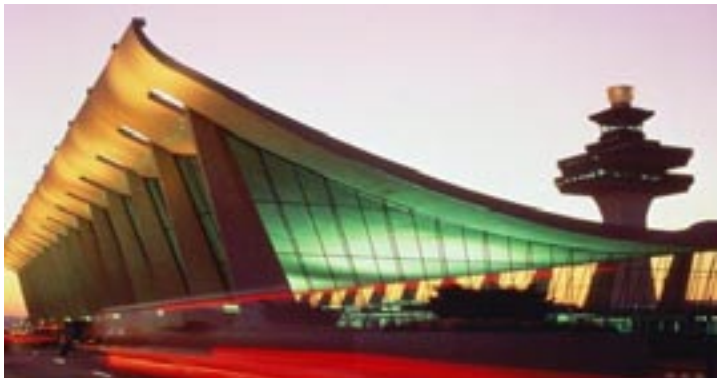
user payments would constitute a bondable revenue stream. That would permit funding air traffic control modernization by issuing long-term revenue bonds, rather than via annual appropriations.

This study recommends that Congress make the ATO a self-supporting unit of the FAA, by authorizing it to charge aviation users directly for its services. The ATO would also be authorized to raise money for capital spending (modernization) by issuing long-term revenue bonds in the capital markets. The FAA’s safety regulation and miscellaneous other functions would still be supported, as they are now, by \$2 billion per year of general fund monies. And the airport grants program (AIP) could be continued at its current size by a modest tax on airline tickets and cargo waybills (in the vicinity of 1 percent).

The transition period to bond-funding of modernization would produce net savings to airlines of hundreds of millions of dollars per year, especially in the early years. At the same time, modernization would be accelerated, thanks to the ability to raise large amounts up front to finance capital expenditures for which there was a demonstrated business case. Modernization plans would first have to be approved by a new ATO Board, consisting largely of aviation stakeholders. This Board would also determine the structure of the new charges for air traffic control services.

Overall, five factors come together to make now the right time for considering this basic shift in paying for the ATC system:

- The funding crunch urgently needs addressing before serious damage is done to the already seriously impacted ATC modernization program. Since increasing aviation taxes is not a credible approach in the current airline environment, nor is increasing the general fund contribution at a time of massive federal budget deficits, switching to a fee system that gives real voice to the ATO’s customers is the most viable alternative.
- The fledgling Air Traffic Organization faces huge challenges in transitioning to a truly businesslike entity. The Mineta Commission correctly identified a customer-provider payment mechanism as a key factor in producing a truly performance-based organization, but Congress has thus far ignored that part of its recommendations. It’s time to finish the job, by fully implementing what the Commission judged essential.
- With new technology available that promises dramatic



increases in ATC productivity, and the need to replace more than half the controller workforce over the next decade (due to retirements), there is a unique window of opportunity for major change that must not be missed. The ATO's customers should insist that it be fully taken advantage of.

- The ATO is nearing completion of a meaningful cost-accounting system, which will identify the true costs of providing its various ATC services, a precondition for developing a basis for charging for those services.
- The current aviation taxes sunset in FY 2007, so Congress must address the issue during the next 18 months in any case.

Real ATC reform will make it possible to meet the challenge set forth by the Joint Planning & Development Office (JPDO) of doubling or tripling the capacity of the ATC system by 2025, just 20 years from now. And it will create a means to do this at substantial cost savings.

## TAXES VS. FEES

This report, like the Mineta Commission's in 1997 and the DOT's Executive Oversight Group in 1994, proposes that the ATO be funded by direct fees and charges, not taxes. This means that following the approval of a fee schedule by the Secretary of Transportation, the existing ticket tax and segment fee would be phased out and the new ATC charges would be phased in. Aviation users (the ATO's customers) would pay the ATC charges directly to the ATO, which would bill each customer for its services, based on the approved fee schedule. Thus, the ATC charges would not flow into the U.S. Treasury to be appropriated by Congress. They would be like the sums paid by U.S. Postal Service cus-

tomers for stamps and parcel delivery, the bills paid to the Tennessee Valley Authority by its electricity customers, or the landing fees and space rentals paid by airlines to Reagan National and Dulles International Airports.

This distinction is of crucial importance to the financial community, since one of the primary reasons to shift from taxes to charges is to make it possible to leverage the consistency of the revenue stream by issuing revenue bonds to be repaid out of this future stream of fee payments. The financial community will be able to make realistic projections of the future level of aviation activity, and hence of the revenue stream needed to support debt service on the bonds. It is much less able to predict the actions of future Congresses over, say, the next 20 years in appropriating funds for one tiny portion of the immense federal budget. Thus, the ability to issue revenue bonds to fund accelerated modernization depends on creating a predictable revenue stream independent of the federal budget process.

### Why Not a Fuel Tax?

Because fuel taxes have a long history in U.S. transportation, there is considerable support for the idea that there ought to be a way to use the fuel tax as a kind of user fee for air traffic control. The arguments cited typically include low cost of collection and proportionality to time spent in the system.

But against those advantages, a fuel tax has several major flaws. First, as a tax, legally speaking, it must be deposited into the Treasury and subsequently be appropriated by Congress. This has two unfortunate consequences for ATC reform. First, a sum that is subject to annual appropriation does not meet the financial markets' definition of a predictable, bondable revenue stream. So it fails to solve the financing problem, which is the theme of this entire report. Second, because a fuel tax would not be paid directly to the ATO, it would not lead to the development of a true customer-provider relationship that is critical to overall ATC reform. By leaving control of the purse strings with the appropriations committees of Congress, it would retain the status quo situation in which the Congress is the de-facto customer that the ATO must please, rather than make aviation users be the ATO's customers.

Beyond its inherent deficiencies as a tax, a fuel tax does a poor job of reflecting the costs of providing ATC services. At a time when, for example, regional jets (RJs) are con-



tending with larger jets for access to crowded terminal-area airspace, paying for ATC via a fuel tax would mean charging far less to an RJ for the exact same services delivered to a 767. So a fuel tax fails the test of being a cost-based user fee, as recommended by USATS, the Mineta Commission, and nearly all other ATC reformers.

## WHY NOT BOND JUST FACILITIES AND EQUIPMENT?

As concern about the funding crisis facing the ATO has spread, some have focused on the fact that the purpose of issuing revenue bonds is to fund capital investment. So instead of changing the entire basis of paying for ATC, why not just create a narrow revenue stream sufficient to pay for bonds for modernization? In other words, why not just bond the portion of the ATO's budget designated as Facilities and Equipment?

To answer this question requires a deeper understanding of what “modernization” is all about. Modernization does not mean simply replacing an old computer with a new one. It is far more fundamental than that, involving the use of technology to change the way air traffic control is done. Thus, modernization is inherently at least as much about operations as it is about facilities and equipment.

Historically, the FAA has operated in classic “stovepipe” fashion. Nowhere was this more true than in the two main FAA branches dealing with ATC—Operations and Facilities and Equipment. For decades, these two functions operated as separate entities, to the point that new technologies were not evaluated for whether they would lead to increases or decreases in operating and maintenance costs. This is one reason today's Operations budget is so large.

The creation of the ATO, which took effect early in 2004, marked a historic turning point, in that it put F&E and Operations into a single organizational unit. With the information that is becoming available from the new cost accounting system, it will soon be possible to plan for modernization of ATC in an integrated manner, evaluating how to redesign ATC operations so as to use technology to lower costs and increase productivity. This has never been possible before, due to both the absence of meaningful cost data and the organizational separation of F&E from Operations.

Creating a separate unit to plan and fund Facilities and Equipment would represent a big step backwards, undoing much of what is just being accomplished in setting the stage for major structural reform in how ATC is provided. And it would forego the enormous benefits of creating a customer-provider payment nexus to make the ATO accountable to its aviation customers.

## THE ROLE OF GENERAL AVIATION

We recommend that only that small segment of general aviation which makes extensive use of air traffic control services—jets and turboprops—pay fees under the new system and be represented on the stakeholder board. The large majority of piston-powered general aviation would continue to pay the aviation fuel tax, which would help to support the airport grants program. And we consider the Flight Service Station program used by general aviation to be basically a safety function, which should be paid for out of FAA's safety budget; in no cases should there be user fees for those services. We are well aware of the history of “user fees” as fighting words in U.S. aviation circles, both within the airline industry and between airlines and general aviation. Nevertheless, we believe that a simple direct charging system can be tailored to the circumstances of U.S. aviation in ways that will be fair and acceptable to all parties, including general aviation. Moreover, we judge the impending funding crisis to be so severe as to require thinking outside the box in this manner.

## MAJOR CAPACITY INCREASES

The Next Generation Air Transportation System (NGATS) plan, released by the JPDO in December 2004,



speaks of the need to accommodate up to three times today's level of air traffic by 2025. This need is driven by the continued growth of regional jets and fractional ownership (group ownership of an aircraft), as well as the possibility of as many as 13,500 VLJ air taxi aircraft and many thousands of unmanned aerial vehicles (UAVs) by 2025. Clearly, increasing airspace capacity to this extent will require more than just incremental, business-as-usual improvements. As the JPDO report itself suggests, "Achieving the vision of a transformed air transportation system requires us to open our minds to new possibilities, embrace new approaches, and create new ways to work together."

The "agile air traffic system" proposed as part of NGATS amounts to a reinvention of how ATC is provided, illustrating the point made previously about modernization being far more than substituting new computers and displays for old ones. To achieve the kinds of capacity increases discussed in the JPDO's plan requires rethinking the entire operating concept of ATC, shifting from a human-centric model to a network-centric one that will make use of far more, and more precise, information about aircraft position and intentions, and about weather, than the current system collects or could use. This will permit much closer spacing of aircraft, in both en-route and terminal environments, while maintaining high levels of safety.

Institutionally, to realize this vision requires two things: (1) a seamless ATO, in which capital investment is fully integrated with operations, and (2) a robust source of capital funding, on a timely basis, for ground, air, and space-based elements of the new system. Both will be provided by the kind of funding reform proposed in this report.

## MAJOR COST SAVINGS

We know from detailed studies that there are significant economies of scale in ATC facilities. With today's technology, there is no inherent reason why an en-route center or TRACON needs to be geographically located beneath the airspace it controls. Large cost-saving opportunities exist for facility consolidation within the ATO, yet as long as it is embedded in the federal budget process, such major changes are about as likely as the closing of surplus military bases. In addition, the shift to the NGATS agile air traffic system will change the role of controllers, by automating some procedures and putting more information and control in cockpits. This means the ratio of controllers to activities should trend downward over time, as productivity increases. But this will only happen if the ATO's aviation customers demand it. Powerful status-quo forces will resist these productivity-increasing changes.

Here again, the experience of countries with user-paid ATC systems is illustrative. Australia, Germany, South Africa, and the United Kingdom have either completed or are embarking on significant consolidation of ATC facilities. During the post-9/11 slump in aviation activity, they cut their overhead and reduced total head-count, in sharp contrast to the FAA. While a stakeholder board of directors, such as Nav Canada's, provides a direct way for users to influence policy decisions of the ATC provider, the customer/provider payment nexus appears to provide strong incentives to take customer concerns seriously, even in the absence of such a board.

## DIVESTING THE DC AIRPORTS: A MODEL FOR COMPARISON

We are proposing a dramatic change, but it's no less dramatic than the change Congress authorized 20 years ago for the Washington, D.C. airports. Like the ATO, the Dulles and National airports were then part of the FAA's appropriated budget. They were unable to modernize, and they were not directly responsive to what their customers wanted.

Those whose memories and experiences go back 20 years can well remember the obsolete, over-crowded terminal at National and the great under-utilization of Dulles. The airports were starved for capital investment

for modernization. Reformers argued that Congress could accomplish the goal of making Dulles and National into customer-friendly airports not by further GAO critiques or tougher oversight hearings but by devolving authority and funding. They pointed to the user-funded models in place at hundreds of other airports, in which predictable streams of landing-fee and lease revenues make it possible to issue long-term revenue bonds for modernization, in addition to covering operating costs. They pointed to the natural interest of customers in influencing the kinds of operating and investment decisions that would be made, and the responsiveness of airport management to such customers.

Congress decided to accept these premises, enacting legislation in 1986 to devolve day-to-day control of the airports to a newly created airports authority, removing the airports from the FAA budget and authorizing them to adopt the user-funding model. In the following 18 years, the two airports have been completely transformed. User-charge funding proved to be robust, and the airports were able to issue large-scale bond offerings to finance their terminal and airside expansion projects. The same management and staff were empowered to provide far better facilities and services to their customers. There is probably no one in the D.C. metro area, or in Congress, who would revert back to the old model, under which the airports



reported to and received their funding from Congress, as part of the federal budget process. What Congress did for the Washington, D.C. airports in 1986 it can and should do for the Air Traffic Organization in 2005 or 2006.

The message of this policy paper is that air traffic control is analogous in many ways to the Washington airports. The experience of three dozen other countries demonstrates that user-charge funding works: it provides not only operating funds but the means of issuing long-term revenue bonds to finance ATC modernization. Faced with direct accountability to their customers, user-funded ATC providers develop customer-focused corporate cultures, modernize their procurement practices, and increase their productivity. Accountability to their customers takes over from direct accountability to congressional committees.

Congress has before it the opportunity to bring about such a transformation of air traffic control. In doing so, it could cite the strong recommendations of the Mineta Commission, as well as the successful model of the transforma-

## EXPERT GROUPS AGREE

Support for shifting the funding of air traffic control from excise taxes to user charges is a consistent theme of serious reform proposals extending over the past two decades. It is integral to the reform recommendations of diverse expert groups, regardless of whether their reform approach was an independent FAA, a government ATC corporation, or a separate ATC organization within the FAA. Among the advocates of shifting to ATC charges have been the following:

- The Air Transport Association, as part of its proposal for a federal ATC corporation (1985);
- The Aviation Safety Commission, as part of recommending an

independent, self-financed Federal Aviation Authority (1988);

- The Transportation Research Board, in its *Winds of Change* report (1991);
- The Congressional Budget Office, as part of a major report on how best to pay for large-scale transportation infrastructure (1992);
- The National Commission to Ensure a Strong Competitive Airline Industry (known as the Baliles Commission), in recommending a self-supporting ATC corporate entity within DOT (1993);
- The National Performance Review, Vice President Gore's reinventing government office, (1993);
- The Secretary of Transportation's

Executive Oversight Group, in its proposal for a self-supporting government ATC corporation called USATS (1994);

- The National Civil Aviation Review Commission (Mineta Commission), in recommending the creation of a performance-based organization for ATC within the FAA (1997).

Each of these expert bodies reviewed the FAA's performance of the air traffic control mission, both tactical (day-to-day operations) and strategic (long-term modernization). After careful consideration, each independently concluded that a funding base of excise taxes, allocated via the federal budget process, was poorly matched to the needs of operating the high-tech service business of air traffic control.

tion of the D.C. airports. The impending FAA fiscal crisis, along with the sunset of existing aviation excise taxes, makes timely congressional action on this issue imperative.

## ABOUT THE AUTHORS

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## RELATED STUDIES

Robert W. Poole, Jr., *Corporatized Air Traffic Control*, Reason Foundation Policy Study No. 307, March 2003, <http://www.rppi.org/ps307.pdf>

Robert W. Poole, Jr. and Viggo Butler, *How to Commercialize Air Traffic Control*, Reason Foundation Policy Study No. 278, February 2001, <http://www.rppi.org/ps278.pdf>

Robert W. Poole, Jr. and Viggo Butler, *Reinventing Air Traffic Control: A New Blueprint for a Better System*, Reason Foundation Policy Study No. 206, May 1996, <http://www.rppi.org/ps206.html>



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