



Testimony
Before the Committee on Finance,
U.S. Senate

For Release on Delivery
Expected at 10:00 a.m. EDT
Thursday, July 12, 2007

**FEDERAL AVIATION
ADMINISTRATION**

**Viability of Current
Funding Structure for
Aviation Activities and
Observations on Funding
Provisions of
Reauthorization Proposals**

Statement of Gerald L. Dillingham, Ph.D.
Director, Physical Infrastructure Issues



G A O

Accountability * Integrity * Reliability



Highlights of [GAO-07-1104T](#), a testimony before the Committee on Finance, U.S. Senate

Why GAO Did This Study

The Federal Aviation Administration (FAA) operates one of the safest air transportation systems in the world, but this system is under growing strain as the demand for air travel increases. Recognizing the need to transform this system, Congress created the Joint Planning and Development Office (JPDO), housed within FAA, to plan and develop the Next Generation Air Transportation System (NextGen). The current authorization for FAA, the Airport and Airway Trust Fund (Trust Fund), and the excise taxes that support the Trust Fund will expire September 30, 2007.

Reauthorization bills in the Senate (S. 1300) and the House (H.R. 2881) identify various revenue sources, including current excise taxes, flight surcharges, and certain fees, to fund FAA, including NextGen. Concerned about the need for stable, sustainable financing for the nation's multibillion-dollar transportation infrastructure investments, including NextGen, GAO has designated transportation financing as high risk.

GAO's statement addresses (1) the extent to which the current funding structure can support FAA's activities, including NextGen, (2) the implications of selected provisions of proposals to fund aviation activities, and (3) issues that could affect the overall cost of NextGen. The statement is based on recent GAO reports and testimonies, updated through interviews with FAA officials and stakeholder representatives.

www.gao.gov/cgi-bin/getrpt?GAO-07-1104T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gerald L. Dillingham at (202) 512-2834 or dillinghamg@gao.gov.

FEDERAL AVIATION ADMINISTRATION

Viability of Current Funding Structure for Aviation Activities and Observations on Funding Provisions of Reauthorization Proposals

What GAO Found

Recent estimates indicate that FAA's current funding structure—consisting primarily of Trust Fund revenues plus a contribution from the General Fund of the U.S. Treasury—can potentially support FAA's activities, including NextGen. The current structure has provided sufficient funding for FAA's activities to date, and both FAA and the Congressional Budget Office (CBO) have estimated that revenues will continue to increase. According to CBO projections through 2017, the current structure, if maintained, could support about \$22 billion in additional spending over current spending levels (adjusted for inflation). Congress could also raise more revenue for FAA by raising excise tax rates or by increasing the General Fund contribution. However, contributions from the General Fund may be limited by the federal government's long-term fiscal imbalance, and policy choices, structural changes in the aviation industry, and external events could affect Trust Fund revenues. Furthermore, the current funding structure raises concerns about equity and efficiency because users may pay more or less than the costs of the air traffic control services they receive, and therefore they may lack incentives to use the national airspace system as efficiently as possible.

Selected proposals for funding aviation activities have implications for revenue generation, but could pose unintended consequences. For example, S. 1300 would authorize a surcharge of \$25 per flight on many flights to help pay for NextGen capital projects. While a surcharge would create an incentive for efficient use of air traffic services, some stakeholders raise the possibility that such a fee could lead to reduced air service for small communities. S. 1300 would also allow FAA to seek debt financing for capital projects in the private capital market—a proposal designed to create a stable revenue source but costlier than using appropriations or borrowing from the U.S. Treasury. H.R. 2881 would raise airport passenger facility charges, thereby benefiting larger airports more than smaller ones, and it would increase fees for certain FAA certification and registration activities. However, in general, when fees are imposed for aviation activities, care must be taken that they do not contribute to a situation in which safety might be compromised.

Issues that could affect the overall cost of NextGen are primarily related to the content and cost of its infrastructure and research. JPDO is developing and has issued some key planning documents that will provide more insights into some of these issues, but questions remain over which entities will perform activities such as research and development. Other issues include the cost savings that could result from more efficient FAA operations and acquisition processes, which could reduce the need for new NextGen funding, and the extent to which public-private partnerships and leasing can be used to acquire NextGen infrastructure as flexibly and cost-effectively as possible.

Mr. Chairman and Members of the Committee:

We appreciate the opportunity to participate in today's hearing on the future funding of the Federal Aviation Administration (FAA). As you know, FAA operates one of the safest air transportation systems in the world, but this system is under growing strain as the demand for air travel increases. According to FAA, over 740 million passengers flew in fiscal year 2006, and 1 billion passengers per year are expected to fly in 2015. FAA also predicts that 10,000 corporate aircraft, including traditional business jets, turboprops, and very light jets, will be added to the fleet between 2007 and 2017. To accommodate this increased traffic, instrument flight rule operations—the most significant source of demand on the air traffic control system—are projected to rise by 36 percent, from roughly 45,000 per day to 61,000 per day over the same decade. Yet even at today's flight levels, flight arrival delays are approaching the record levels set in 2000, when one in four flights reached its destination late. The consensus is that the current air traffic control system cannot be expanded to meet this expected growth. According to a federal analysis of future demand and system capacity, the estimated cost to the U.S. economy of failing to meet future airspace demands could be \$22 billion annually by 2023.

In 2003, recognizing the need for a new and different type of air traffic control system to deal with the expected growth, Congress authorized the creation of the Joint Planning and Development Office (JPDO),¹ housed within FAA, to lead a collaborative effort of federal and nonfederal aviation stakeholders to conceptualize and plan the Next Generation Air Transportation System (NextGen). The transformation to NextGen will involve the acquisition of numerous systems to support precision satellite navigation; digital, networked communications; integrated weather information; and layered, adaptive security. The total estimated expenditures for NextGen—for both capital costs and research and development costs—is \$4.3 billion over the next 5 years.

As you know, the current authorization for FAA, the Airport and Airway Trust Fund (Trust Fund), and the excise taxes that provide revenue for the Trust Fund will expire at the end of this fiscal year. Reauthorization proposals have been introduced in both the Senate² (S. 1300) and the House³ (H.R. 2881), which identify various revenue sources to fund FAA, including NextGen.⁴ These sources include the current excise taxes, flight surcharges, and certification and registration fees. As requested, my statement today will address the following questions: (1) To what extent can the current funding structure support FAA's activities, including NextGen? (2) What are the implications of selected provisions of proposals to fund aviation activities? (3) What issues could affect the overall cost of NextGen? My remarks are based on recent GAO reports and testimonies⁵ on FAA's current funding structure, funding options that might address

¹JPDO was authorized by the Vision 100—Century of Aviation Reauthorization Act (Pub. L. No. 108-176).

²S.1300, 110th Cong., 1st Sess. (May 3, 2007).

³H.R.2881, 110th Cong., 1st Sess. (June 27, 2007).

⁴In addition, H.R. 2698 would authorize appropriations for FAA's civil aviation research and development projects.

⁵*Airport Finance: Preliminary Analysis Indicates Proposed Changes in the Airport Improvement Program May Not Resolve Funding Needs for Smaller Airports*, GAO-07-617T (Washington, D.C.: Mar. 28, 2007);

those concerns, and NextGen. For these reports and testimonies, we reviewed relevant literature, examined FAA data and forecasts, and interviewed FAA and other government agency officials, aviation industry group representatives, and academic and financial experts. In addition, for this statement, we analyzed provisions of the reauthorization proposals dealing with funding FAA and NextGen and discussed them with FAA officials and aviation industry group representatives. We conducted our work during July 2007 in accordance with generally accepted government auditing standards.

Summary

- Recent estimates indicate that FAA’s current funding structure—consisting primarily of Trust Fund revenues plus a contribution from the General Fund of the U.S. Treasury—can potentially support FAA’s activities, including NextGen. In aggregate, since the Trust Fund was created in 1970, revenues to the fund have exceeded appropriations from it, resulting in an uncommitted balance, or surplus. This balance has declined in recent years, from about \$7.3 billion at the end of fiscal year 2001 to about \$1.8 billion at the end of fiscal year 2006. This decline has occurred because expenditures from the fund are based on projected revenues and FAA has had to draw down funds when actual revenues have fallen short of projections and have not been sufficient to cover expenditures. To help ensure that revenues are sufficient to cover expenditures, H.R. 2881 proposes that Congress base expenditures from the Trust Fund on 95 percent, rather than 100 percent, of estimated Trust Fund revenues. Notwithstanding these recent shortfalls, both FAA and the Congressional Budget Office (CBO) have estimated that FAA’s revenues will continue to grow over the next decade under the current structure. For example, CBO has projected that at current tax rates, the current structure could support about \$22 billion in additional spending over current spending levels (adjusted for inflation) through 2017. Moreover, should Congress wish to provide additional funding for FAA activities, it could raise additional revenue under the current structure by raising the rates on one or more of the current excise taxes or by increasing the General Fund contribution. This contribution may, however, be limited by the federal government’s long-term fiscal imbalance, and policy choices, structural changes in the aviation industry, and external events could affect revenues to the Trust Fund. Furthermore, the current funding structure raises concerns about equity and efficiency because users may pay more or less than the costs of the air traffic control services they receive, and therefore they may lack incentives to use the national airspace system as efficiently as possible.

Federal Aviation Administration: Observations on Selected Changes to FAA’s Funding and Budget Structure in the Administration’s Reauthorization Proposal, GAO-07-625T (Washington, D.C.: Mar. 21, 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); *Aviation Finance: Observations on Potential FAA Funding Options*, GAO-06-973 (Washington, D.C.: Sept. 29, 2006); *National Airspace System Modernization: Observations on Potential Funding Options for FAA and the Next Generation Airspace System*, GAO-06-1114T (Washington, D.C.: Sept. 27, 2006); and *Federal Aviation Administration: An Analysis of the Financial Viability of the Airport and Airway Trust Fund*, GAO-06-562T (Washington, D.C.: Mar. 28, 2006).

- Selected provisions of proposals for funding aviation activities have implications for revenue generation, but in some cases could have unintended consequences. For example, S. 1300 would authorize the FAA Administrator to impose a surcharge of \$25 per flight on many aircraft owners and operators to help pay for NextGen capital projects. While a surcharge would create an incentive for efficient use of air traffic services, some stakeholders question the equity of charging the same fee for aircraft of all sizes, and raise the possibility that such a fee could lead to reduced air service for small communities. S. 1300 would also allow FAA to seek debt financing for capital projects in the private capital market—a proposal that could possibly create a stable revenue source, but would cost the government more than paying for its investments with appropriations or borrowing from the Treasury. H.R. 2881 would allow airports to raise their passenger facility charges (PFC).⁶ This action would provide additional revenues for aviation infrastructure and likely benefit larger airports more than smaller airports. However, it could also have a limited effect on the demand for air travel. H.R. 2881 would also establish increased fees for certain FAA certification and registration activities, and such fees would provide additional revenues. However, in general, when fees are imposed for aviation activities, care must be taken to prevent them from contributing to a situation in which safety might be compromised.
- While revenue estimates indicate that the current funding structure could adequately support NextGen, a number of issues could affect its overall cost, especially those related to its resource requirements. A major issue is the precise content and associated costs of NextGen infrastructure and research. JPDO is developing and has already released some key planning documents that describe the capabilities needed to transition to NextGen, establish time lines for completing essential tasks, and identify the responsibilities of the JPDO partner agencies for these tasks, together with the required funding. These documents should provide more insight into NextGen’s requirements and costs. Additionally, questions remain over which entities will fund and conduct some of the necessary research, development, demonstration projects, and training that will be needed to achieve certain NextGen capabilities. Other issues include the cost savings that could result from improvements in FAA operations and acquisition processes, which could reduce the need for new NextGen funding, and the extent to which FAA uses public-private partnerships and leasing to acquire NextGen infrastructure as flexibly and as cost-effectively as possible.

Background

Although there have been fluctuations in its funding sources, FAA has been supported by the current structure for decades. The agency is primarily funded by the Trust Fund (82 percent)—

⁶The PFC program allows the collection of PFC fees up to \$4.50 for every enplaned passenger at commercial airports controlled by public agencies. Airports use these fees to fund FAA-approved projects that enhance safety, security, or capacity; reduce noise; or increase air carrier competition.

which receives revenues from a series of excise taxes paid by users of the national airspace system—and by General Fund revenues. These excise taxes are associated with purchases of airline tickets and aviation fuel, as well as the shipment of cargo, and are scheduled to expire September 30, 2007. Trust Fund revenues are available for use subject to appropriation. Including interest earned on its balances, the Trust Fund received about \$11.2 billion in 2006. In addition, about \$2.6 billion was appropriated for fiscal year 2006 from the General Fund for FAA operations. Table 1 shows the distribution of Trust Fund revenues for 2005 by source.⁷

Table 1: Sources of Trust Fund Revenue, Fiscal Year 2005

Dollars in millions

Revenue source	Amount	Percent
Passenger ticket tax	\$5,161	48
Passenger flight segment tax	1,900	18
Cargo tax	461	4
Fuel tax	971	9
International departure and arrival tax	1,922	18
Interest	440	4
Refunds ^a	(101)	(1)
Total	\$10,754	100

Source: FAA.

^aRefunds include: refund of aviation fuel other than gas (noncommercial), refund of aviation gasoline (noncommercial), and other refunds/credits.

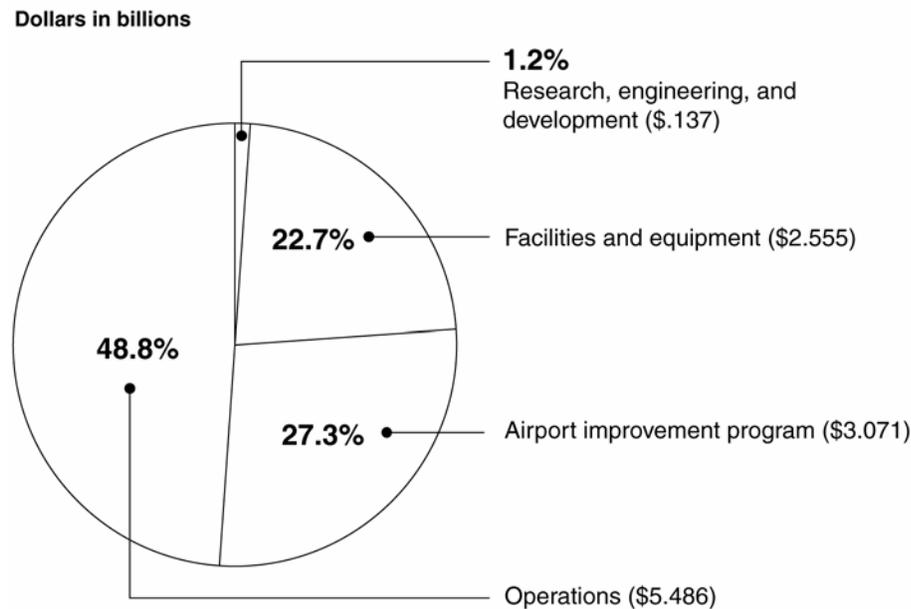
The Trust Fund was established by the Airport and Airway Revenue Act of 1970⁸ to help fund the development of a nationwide airport and airway system and to fund investments in air traffic control facilities. It provides all of the funding for three of FAA's four accounts, including (1) the Facilities and Equipment (F&E) account, which funds technological improvements to the air traffic control system; (2) the Research, Engineering, and Development (RE&D) account, which funds research on issues related to aviation safety, mobility, and the environment as well as most of FAA's contribution to JPDO;⁹ and (3) the Airport Improvement Program (AIP), which provides grants for construction and safety projects at airports. In addition, at various times during its history, the Trust Fund has provided all or some portion of the funding for FAA's Operations account. In 2006, expenditures from the Trust Fund totaling \$11.2 billion were made among the four accounts as shown in figure 1.

⁷As recommended by FAA, we are using 2005 data to show the breakdown of Trust Fund revenue by source because of uncertainty in the available 2006 data regarding the distribution of fuel tax revenues between commercial and general aviation.

⁸Pub. L. No. 91-258.

⁹For the past few years, FAA and NASA have been the primary supporters of JPDO activities. The administration's proposed budget for fiscal year 2008 for FAA includes \$17.8 million to support JPDO activities. NASA is planning to contribute about \$18 million to JPDO in fiscal year 2008.

Figure 1: Trust Fund Expenditures for Fiscal Year 2006



Source: GAO analysis of FAA data.

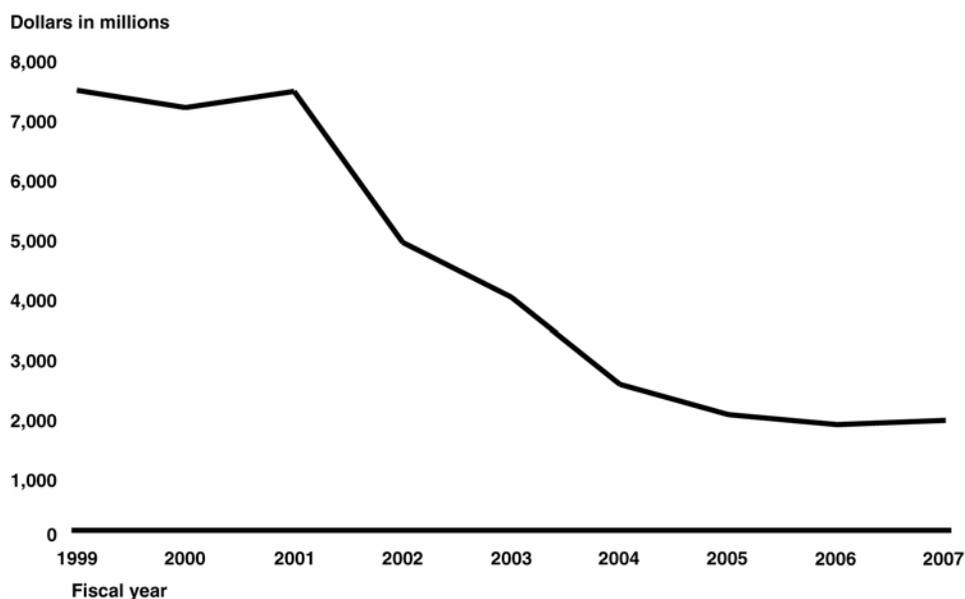
Estimates Indicate That Current Funding Structure Can Support FAA Activities, Including NextGen, but Structure Raises Concerns about Equity and Efficiency

The current funding structure—excise taxes plus a General Fund contribution—has funded FAA for many years, and estimates indicate that this structure can potentially provide sufficient funds for the next several years to support the transition to NextGen. As the number of air travelers has grown, so have excise tax revenues. Even though revenues fell with the decline in air travel following the terrorist attacks of September 11, 2001, they began to rise again in fiscal year 2004, and FAA estimates that if the current taxes remain in effect at their current rates, revenues will continue to increase.

While retaining the basic structure for funding FAA, Congress has at times changed the mix of excise taxes and some of the tax rates and has appropriated different amounts from the General Fund to offset Trust Fund fluctuations. For example, when the taxes were most recently reauthorized in 1997, Congress added the passenger segment tax while reducing the passenger ticket tax rate from 10 percent to 7.5 percent. Congress has also appropriated varying amounts of General Fund revenues for FAA during the past 25 years, ranging from 0 to 59 percent of FAA's budget and averaging around 20 percent since fiscal year 1997. The amount of the General Fund contribution fluctuates because the contribution is based on the incoming Trust Fund revenues that are available to fund the Operations account after revenues have been allocated to fund the F&E, AIP, and RE&D accounts. Therefore, fluctuations in Trust Fund revenues and FAA expenditures require different levels of General Fund contributions.

Since the Trust Fund's creation in 1970, revenues have in aggregate exceeded spending commitments, resulting in an uncommitted balance, or surplus.¹⁰ As of the end of fiscal year 2006, the Trust Fund's uncommitted balance was about \$1.8 billion. The Trust Fund's uncommitted balance depends on the revenues flowing into the fund and the appropriations made available from the fund for various spending accounts. Policy choices, structural changes in the aviation industry, and external events have affected revenues flowing into and out of the fund. For the last 6 years, for example, the uncommitted balance has been declining because expenditures from the fund are based on projected revenues and actual revenues have been less than FAA forecasted.¹¹

Figure 2: Airport and Airway Trust Fund End-of-Year Uncommitted Balance, Fiscal Years 1999-2007



Source: FAA.

Note: Amount for end of fiscal year 2007 is estimated.

In prior work, we ran scenarios in which Trust Fund revenues continued to fall short of forecasted levels and the Trust Fund balance continued to decline, eventually falling to zero. We believe these scenarios raise concerns because in the past the Trust Fund's uncommitted balance has been used to offset lower-than-expected Trust Fund revenues and decreased General Fund contributions. The zero-balance scenario would most likely have implications for Congress in funding FAA programs, including NextGen. To address this concern, H.R. 2881 proposes to base expenditures from the Trust Fund on 95 percent, rather than 100 percent, of estimated Trust Fund revenues, which would reduce the likelihood of running the Trust Fund balance to zero.

¹⁰The Trust Fund's uncommitted balance represents money against which there is no outstanding budget commitment or budget authority to spend.

¹¹In recent years, the difference between forecasted and actual Trust Fund revenues has been smaller than it was earlier in the decade, in part because the external demand shocks have been smaller and in part because of efforts by FAA to improve its forecasting models. However, the actual balance at the end of fiscal year 2007 will likely be lower than forecasted, according to FAA.

According to projections prepared by the Congressional Budget Office (CBO),¹² the existing funding structure, if maintained, will generate substantially increasing revenues over the next decade. Assuming that the General Fund provides about 19 percent of FAA's budget, CBO estimates that through 2017 the Trust Fund can support about \$22 billion in additional spending over the baseline FAA spending levels CBO has calculated for FAA (the 2006 funding level, growing with inflation) provided that most of that spending occurs after 2010.¹³ According to FAA, the majority of the funding for NextGen will take place after 2010.

Moreover, if the desired level of spending exceeded what was likely to be available from the Trust Fund at current tax rates, Congress could make changes within the current structure that would provide FAA with additional revenue. For example, Congress could raise more revenue from airspace system users for modernization or for other purposes by raising the rates on one or more of the current excise taxes. Congress could also provide more General Fund revenues for FAA, although the nation's fiscal imbalance may make a larger contribution from this source difficult.

While the current funding structure can produce enough revenue to fund FAA, including NextGen, this structure presents equity and efficiency concerns. FAA and others have stated that the current approach to collecting funds from users through excise taxes creates inequities because the revenue contributions of different flights are not directly linked to the costs of the services that these flights receive from FAA. Some stakeholders have also raised concerns that the current funding system does not provide aircraft operators with incentives to use FAA services in the most efficient manner. For users to make efficient decisions about their use of the national airspace system, their price for using the system (the taxes or charges they pay) should accurately reflect the costs their use imposes on the system.¹⁴ These prices, along with other factors influencing supply and demand, will influence users' decisions about the type, size, and number of aircraft to operate, and when and where to operate them.¹⁵

¹²CBO, *Financing Investment in the Air Traffic Control System* (Washington, D.C.: Sept. 27, 2006).

¹³This estimate takes into account expected increases in air travel in estimating revenues, but, by law, it does not take into account any possible increases in expenditures for FAA's Operations account due to these increases in air travel because increases in expenditures are based on a baseline figure adjusted for inflation.

¹⁴Assessing both the equity and the efficiency of a funding structure requires knowledge of how costs are divided among users. FAA recently completed a cost allocation study that assigns air traffic control costs to user groups based on aircraft type. However, we determined that FAA's methodology lacked certain analyses and documentation that would be important in determining whether costs as assigned reasonably reflect the services received by various users.

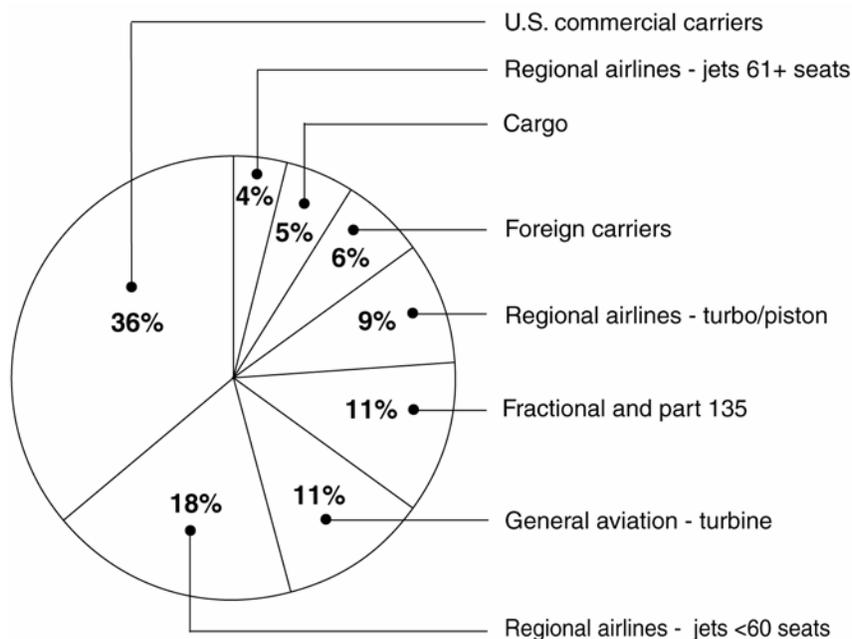
¹⁵Supply factors that influence users' decisions include other costs of operating aircraft, such as labor, fuel, and capital costs. Demand factors include the state of the economy and the price and convenience of flying compared with using other modes of transportation. Given the importance of some of these other factors to users' decisions about using the national airspace system, the influence on these decisions of the prices charged for FAA services may be comparatively small for some users.

Selected Provisions of Proposals for Funding Aviation Activities Have Implications for Revenue Generation and Could Have Unintended Consequences

Provisions of the Senate and House reauthorization bills propose different types of revenue sources to fund FAA and NextGen. These provisions have implications for revenue generation, but could also have unintended consequences.

S. 1300 includes a provision requiring the FAA Administrator to impose a surcharge of \$25 per flight to be available to pay the costs of NextGen capital projects. All owners or operators of aircraft in the national airspace system would be required to pay this surcharge except those that fall into certain exempt categories.¹⁶ FAA estimates that this fee could yield \$400 million a year by 2011. We estimate, on the basis of 2006 operations, that commercial airlines would contribute 36 percent of the fees; regional airlines would contribute 31 percent, though carrying far fewer passengers; and general aviation would contribute 11 percent (see fig. 3).

Figure 3: Distribution of Surcharge by User, Based on 2006 Operations



Source: GAO analysis of FAA data.

One potential advantage of this type of charge is that it would establish a more direct relationship between revenue and costs compared with the current excise taxes. Advocates of this approach say that funding FAA in part through such a charge would do more than the current structure to ensure that revenues are adequate to cover costs over time and to create incentives for efficient use of the national airspace system by directly connecting charges with the costs imposed by users. On the other hand, although this connection would appear to exist for FAA's costs of providing terminal control

¹⁶These exempt categories include military and public aircraft, piston engine aircraft, and turboprop aircraft operating outside of controlled airspace, among others.

services—the more flights, the more charges an operator pays—there is no obvious connection with the costs of en route services because the charge would be the same for short and long flights. In addition, concerns have been raised about the equity of a charge that would apply equally to all jet aircraft regardless of size. Another concern has been raised that the fee might lead to reduced air service by turboprop operators providing regular service to small communities as well as reduced service provided through the Essential Air Service program to small communities because of the increased expense that the fee would represent.

Another S. 1300 provision would grant FAA the authority to seek debt financing by issuing bonds directly to the private capital market. Supporters of this bonding proposal for FAA claim a number of advantages to this financing approach. One claim is that debt financing could provide FAA with a stable and predictable revenue source for funding capital development. FAA officials state that the uncertainty associated with the appropriation process makes planning for a large, complex, and expensive air traffic control system like NextGen difficult. Over the years, federal agencies have used a variety of financing approaches to acquire capital assets. However, from a governmentwide perspective, some approaches, such as bonding, raise serious concerns because they ultimately will result in higher overall costs. Moreover, if FAA were granted borrowing authority, the associated costs would be higher by borrowing directly from the private capital market instead of through the Treasury. According to Treasury officials and representatives of investment firms, this occurs because the Treasury is charged a lower interest rate to borrow money. The costs of borrowing may also be higher if the revenue option—such as taxes or user charges—used to pay back the bond is subject to appropriations because there would most likely be a risk premium added to the credit rating to compensate for the risk that appropriations may not be provided. We have reported that given the federal government’s long-term structural fiscal imbalance, any action that may increase the government’s costs requires sound justification and careful consideration before it is adopted.¹⁷

A provision of H.R. 2881 would allow airports to increase PFCs to a maximum of \$7, while an S. 1300 provision would retain the cap at \$4.50. Increasing the cap on PFCs would generate more revenue, especially for larger airports. A \$7 PFC could generate nearly \$2 billion in additional revenues for airports assuming all airports imposed the maximum PFC (see table 2).

¹⁷GAO-06-1114T.

Table 2: Projected Maximum PFC Collections for 2007 with a \$7 PFC

Dollars in millions

Airport size	2007 PFC collections^a	2007 PFC collections if only airports currently at \$4.50 increased to \$7	2007 PFC collections if all airports had a \$7 PFC
Large hub	\$1,869	\$2,831	\$3,152
Medium hub	487	706	914
Subtotal	\$2,356	\$3,537	\$4,066
Small hub	184	262	354
Nonhub	71	108	144
Nonprimary Commercial Service	1	1	5
Subtotal	\$256	\$371	\$503
Total^b	\$2,612	\$3,907	\$4,569

Source: GAO analysis of FAA data.

^aThere are currently 517 commercial service airports eligible to apply for a PFC. These are airports with more than 2,500 annual enplanements.

^bMay not total due to rounding.

However, not all airports are expected to move to the maximum ceiling right away because many airports have a lesser or no PFC in place currently. If only those airports with a PFC at the current maximum of \$4.50 increased their PFC to \$7.00 and the others made no change, the proposed fee increase would yield approximately \$1.3 billion per year in additional revenues. This calculation assumes that the increased PFC would not affect passenger demand for air travel. We have previously calculated that a PFC increase could reduce passenger demand, which would reduce the PFC revenue collected at the higher rate. Nevertheless, our previous work suggests the revenue reduction due to demand effects would likely be small.¹⁸ Smaller airports (small and nonhub) would not benefit directly as much from this ability to increase PFCs because smaller airports have fewer passengers from whom to collect PFCs.¹⁹ However, smaller airports, which rely primarily on AIP grants for capital funding, may benefit indirectly from an increased cap on PFCs. AIP's Small Airport Fund, which totaled \$428 million in 2006, is funded by the turnback of up to 75 percent of large and medium hub airports' entitlements.²⁰ H.R. 2881 would increase the turnback to 100 percent of entitlements for large and medium hub airports that impose a PFC above \$4.50. While S. 1300 does not include an increase in PFCs, it does include a pilot program for up to six airports to impose unlimited PFCs if the airports collect the fee directly from passengers.

¹⁸GAO, *Passenger Facility Charges: Program Implementation and the Potential Effects of Proposed Changes*, GAO/RCED-99-138 (Washington, D.C.: May 19, 1999).

¹⁹General aviation airports are excluded since they do not have passengers that would pay a PFC.

²⁰Entitlements are AIP funds apportioned to airport sponsors and states for eligible projects based on formulas.

H.R. 2881 includes increased user fees to pay for the costs of certain certification and registration activities of FAA. Such fees would provide additional revenue and more directly link revenue contributions to the cost of the services. These fees cover services and activities for issuing certain certificates, registering aircraft and airmen, issuing airmen medical certificates, and providing a legal opinion pertaining to aircraft registration or recordation. In some cases, such as the registration of aircraft, FAA already charges a modest fee (\$5), which has not been raised since 1964. We have reported that this fee does not cover the cost of reviewing and processing a registration application and have recommended that FAA increase the fee.²¹ The proposal would raise the fee to \$130 and allow FAA to periodically adjust this and other fees based on the cost of providing the service. However, in general, when fees are imposed for aviation activities, care must be taken that they do not contribute to a situation in which safety might be compromised.

Resource Requirements for NextGen and Other Issues Could Affect Its Overall Cost

While revenue estimates indicate that the current funding structure can potentially fund NextGen, a number of issues could affect NextGen's overall cost, especially its resource requirements, which have not yet been fully determined. The precise content and associated costs of NextGen infrastructure and research are not fully known, nor are the resources that will be contributed by other federal agencies. Other issues include the cost savings that could result from more efficient FAA operations and acquisition processes, which could reduce the need for new NextGen funding, and the extent to which FAA uses public-private partnerships or leasing arrangements to acquire NextGen infrastructure as flexibly and as cost-effectively as possible.

JPDO recently estimated that the total federal cost for NextGen infrastructure through 2025 will range between \$15 billion and \$22 billion. JPDO also reported that a preliminary estimate of the corresponding cost to system users, who will have to equip with the advanced avionics that are necessary to realize the full benefits of some NextGen technologies, ranges between \$14 billion and \$20 billion.²² Thus, according to JPDO, the total costs for NextGen could be anywhere between \$29 billion and \$42 billion. We consider \$13 billion to be a significantly wide range and believe there is a need to better define the costs of NextGen.

According to JPDO officials, more precise cost estimates will depend on information contained in several key planning documents, some of which have been released and some of which are still being developed. Last month, JPDO released both the latest

²¹GAO, *Aviation Safety: Unresolved Issues Involving U.S.-Registered Aircraft*, GAO/RCED-93-135 (Washington, D.C.: June 18, 1993).

²²JPDO noted that this range for avionics costs reflects uncertainty about equipment costs for individual aircraft, the number of very light jets that will operate in high-performance airspace, and the amount of out-of-service time required for installation.

version of the NextGen Concept of Operations²³ and the first version of the NextGen Enterprise Architecture.²⁴ JPDO is developing an Integrated Work Plan that will describe the capabilities needed to transition to NextGen from the current system and provide the research, policy and regulation, and acquisition time lines necessary to achieve NextGen by 2025. The Integrated Work Plan, scheduled for release at the end of this month, is akin to a project plan and will be critical for planning the partner agencies' fiscal year 2009 budgets and programs. JPDO is also developing an Office of Management and Budget (OMB) Exhibit 300 for NextGen that will be used as input to funding decisions for NextGen research and acquisitions across JPDO's partner agencies.²⁵ This Exhibit 300 will be due to OMB in September 2007 and will inform decisions about the partner agencies' 2009 budget submissions. It will be important that these various documents be used in the near term to develop more refined cost estimates for NextGen.

While JPDO has released estimates for NextGen, questions remain over how much it will cost and which entities will fund and conduct some of the necessary research, development, demonstration projects, and training that will be key to achieving certain NextGen capabilities. In the past, the National Aeronautics and Space Administration (NASA) has performed a significant portion of federal aeronautics research and development, including intermediate technology development. However, NASA's aeronautics research budget and proposed funding show a 30-percent decline, in constant 2005 dollars, from fiscal year 2005 through fiscal year 2011. To its credit, NASA plans to focus its research on the needs of NextGen. However, NASA is also moving toward an emphasis on fundamental research and away from developmental work and demonstration projects, which could negatively affect NextGen if other agencies do not assume these efforts. According to FAA and JPDO officials, they are currently studying these issues and trying to assess how much research and development work FAA can assume. FAA has proposed increasing its research and development funding by \$280 million over the next 5 years. However, a draft report by an advisory committee to FAA stated that FAA would need at least \$100 million annually in increased funding to assume NASA's research and development work, and establishing the necessary infrastructure within FAA could delay the implementation of NextGen by 5 years.

The overall cost of NextGen could be reduced to the extent that FAA realizes cost savings from improved operations and acquisition processes. We have reported that,

²³The NextGen Concept of Operations provides written descriptions of how the NextGen system is envisioned to operate in 2025 and beyond, including highlighting key research and policy issues that will need to be addressed. Following an introductory section, the Concept of Operations has eight sections covering air traffic management operations, airport operations and infrastructure services, net-centric infrastructure services, shared situational awareness services, security services, an environmental management framework, safety management services, and performance management services.

²⁴The NextGen Enterprise Architecture is a technical description of the NextGen system, akin to a blueprint for a building. The Enterprise Architecture is meant to provide a common tool for planning and understanding the complex, interrelated systems that will make up NextGen.

²⁵Section 300 of OMB Circular No. A-11, Preparation, Submission, and Execution of the Budget (Nov. 2, 2005), sets forth requirements for federal agencies for planning, budgeting, acquiring, and managing information technology capital assets. Exhibit 300 is designed to ensure that the business case for an investment is tied to an agency's mission statement, long-term goals and objectives, and annual performance plans. It is submitted with an agency's budget submission to OMB.

over the past few years, FAA has made significant progress in moving to more businesslike and cost-effective operations, which should better position the agency for the complex implementation of NextGen.²⁶ Cost savings could come about in a number of ways. For example, the transformation to NextGen may present new opportunities for consolidating facilities or outsourcing services, both of which could bring long-term savings to FAA. In addition, FAA has reported improvements in its management of major system acquisitions. To the extent that FAA can keep NextGen systems on schedule, FAA may be able to avoid the escalation in acquisition costs that plagued its past modernization efforts. Keeping acquisitions on schedule will also mean realizing more quickly the increased efficiencies or safety benefits of new systems and technologies, as well as avoiding the costs and inefficiencies of maintaining existing systems.

Finally, the extent to which FAA employs public-private partnerships or leasing arrangements as part of its acquisition strategy for NextGen could affect the system's overall cost. FAA is currently exploring these types of options for its future nationwide rollout of Automatic Dependent Surveillance-Broadcast, a surveillance system that FAA considers a cornerstone technology of NextGen. We believe that these types of arrangements could produce significant cost savings and lessen some risks for FAA. However, such arrangements must be carefully structured to protect the interests of the public and the federal government, and to ensure proper governmental oversight.

With the excise taxes that fund most of FAA's budget scheduled to expire at the end of September 2007, Congress will need to act to avoid a lapse in revenue to the Trust Fund. If the taxes are not reauthorized by that time, the only revenues credited to the Trust Fund will be the interest earned on the fund's cash balance. FAA estimates that two previous lapses in 1996 and 1997 resulted in the Trust Fund not receiving about \$5 billion in taxes and fees that were never recovered.

FAA estimates that the uncommitted balance in the Trust Fund at the end of fiscal year 2007 will be about \$1.8 billion dollars. At current monthly spending levels, a 2- to 3-month lapse in fiscal year 2008 could reduce the revenue in the Trust Fund enough to cause the uncommitted balance to fall to zero. If the Trust Fund balance falls to zero, the continuation of FAA's programs—including the development of NextGen and grants to airports—would depend on providing additional revenues from the General Fund.

Thank you, Mr. Chairman, that concludes my statement. I will be pleased to answer any questions that you or other Members of the Committee might have.

²⁶GAO, *Federal Aviation Administration: Key Issues in Ensuring the Efficient Development and Safe Operation of the Next Generation Air Transportation System*, GAO-07-636T (Washington, D.C.: Mar. 22, 2007).

Contacts and Acknowledgments

For further information about this testimony, please contact Gerald L. Dillingham at (202) 512-2834. Other key contributors to this testimony include Paul Aussendorf, Jay Cherlow, Bess Eisenstadt, Maureen Luna-Long, Faye Morrison, Richard Scott, and Teresa Spisak.

(540159)

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.
