



Testimony

Before the Subcommittee on Select  
Revenue Measures, Committee on Ways  
and Means, House of Representatives

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AVIATION FINANCE

Observations on the Current  
FAA Funding Structure's  
Support for Aviation  
Activities, Issues Affecting  
Future Costs, and Proposed  
Funding Changes

Statement of Gerald L. Dillingham, Director  
Physical Infrastructure Issues





Highlights of [GAO-07-1163T](#), a testimony before the Subcommittee on Select Revenue Measures, Committee on Ways and Means, House of Representatives

## 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 most of the excise taxes that support the Trust Fund will expire September 30, 2007. Several proposals, including two reauthorization bills—H.R. 2881 and S. 1300—identify various funding sources for FAA activities, including NextGen. Among these are current excise taxes, fees, and flight surcharges. 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) issues that could affect the overall cost of NextGen, and (3) the implications of selected proposals to fund aviation activities. The statement is based on recent GAO reports and testimonies.

[www.gao.gov/cgi-bin/getrpt?GAO-07-1163T](http://www.gao.gov/cgi-bin/getrpt?GAO-07-1163T).

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](mailto:dillinghamg@gao.gov).

## AVIATION FINANCE

# Observations on the Current FAA Funding Structure's Support for Aviation Activities, Issues Affecting Future Costs, and Proposed Funding Changes

## 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.

Issues that could affect the overall cost of NextGen are primarily related to the content and cost of its infrastructure and research and development. 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.

Selected proposals for funding aviation activities could generate more revenue, but could also lead to unintended consequences. For example, a House committee recommendation to raise general aviation fuel tax rates could increase Trust fund revenue, but might reduce fuel purchases, which would limit the amount of the revenue increase. H.R. 2881 would raise airport passenger facility charges, mainly benefiting larger airports, and would establish or increase fees for certain FAA certification and registration activities. However, when fees are imposed for aviation activities, care must be taken to ensure that efforts to avoid the fees do not compromise safety. 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 resulting in higher interest costs than borrowing from the U.S. Treasury.

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Mr. Chairman and Members of the Subcommittee:

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 an analysis of future demand and system capacity that was conducted by the Joint Planning and Development Office (JPDO),<sup>1</sup> 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 JPDO 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 President's budget proposes to spend \$4.6 billion over the next 5 years for NextGen, including both capital costs and research and development costs.

As you know, the current authorization for FAA, the Airport and Airway Trust Fund (Trust Fund), and most of the excise taxes that provide revenue for the Trust Fund will expire at the end of this fiscal year. Several

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

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proposals, including two reauthorization bills—H.R. 2881<sup>2</sup> and S. 1300<sup>3</sup>—specify various revenue sources to fund FAA, including NextGen.<sup>4</sup> Among these sources are the current excise taxes, including fuel taxes; certification and registration fees; and flight surcharges. 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 issues could affect the overall cost of NextGen? (3) What are the implications of selected provisions of proposals to fund aviation activities? My remarks are based on recent GAO reports and testimonies<sup>5</sup> on FAA’s current funding structure, NextGen, and funding options that might address concerns about FAA’s current funding structure. 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. We conducted our work during July 2007 in accordance with generally accepted government auditing standards.

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## 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 the 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

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<sup>2</sup>H.R.2881, 110th Cong., 1st Sess. (June 27, 2007).

<sup>3</sup>S.1300, 110th Cong., 1st Sess. (May 3, 2007).

<sup>4</sup>In addition, H.R. 2698 would authorize appropriations for FAA’s civil aviation research and development projects.

<sup>5</sup>*Airport Finance: Observations on Planned Airport Development Costs and Funding Levels and the Administration’s Proposed Changes in the Airport Improvement Fund*, [GAO-07-885](#) (Washington, D.C.: June 2007); *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).

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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 drawn down funds when actual revenues have fallen short of projected 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.

- Although revenue estimates indicate that the current funding structure can potentially support FAA's activities, including NextGen, a number of issues could affect the overall cost of NextGen, especially those related to its technology requirements. A major issue is the specific systems and associated costs of NextGen infrastructure and research and development. 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, some of which are still being developed, 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 might 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 cost-effectively as possible.

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- Selected proposals for funding aviation activities could generate additional revenues, but in some cases could also lead to unintended consequences. For example, a recommendation from the House Committee on Transportation and Infrastructure to increase the tax rates for general aviation jet fuel and aviation gasoline would increase Trust Fund revenue, but could reduce fuel purchases, which would limit the amount of the revenue increase. In addition, a provision of H.R. 2881 would allow airports to raise their passenger facility charges (PFC).<sup>6</sup> This action would provide additional revenues for aviation infrastructure, especially for larger airports. However, it could also reduce the demand for air travel. Another provision of H.R. 2881 would establish new or increased fees for certain FAA certification and registration activities, and such fees would provide additional revenues. In general, though, when fees are imposed for aviation activities, care must be taken to ensure that efforts to avoid the fees do not compromise safety. An S. 1300 provision 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 other stakeholders are concerned that such a fee could lead to reduced air service for small communities. Another S. 1300 provision would allow FAA to seek debt financing for capital projects in the private capital market—a proposal that, according to proponents, would provide a stable funding source, but would result in higher interest costs for the government than borrowing from the Treasury.

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## Background

Although there have been fluctuations in its funding sources, FAA has been supported by the current structure for decades. The agency is funded primarily by the Trust Fund (82 percent)—which receives revenues from a series of excise taxes paid by users of the national airspace system—and by the General Fund. The excise taxes are associated with purchases of airline tickets and aviation fuel, as well as the shipment of cargo, and most 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

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<sup>6</sup>The 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.

Fund for FAA operations. Table 1 shows the distribution of Trust Fund revenues for fiscal year 2005 by source.<sup>7</sup>

**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 <sup>a</sup>	(101)	(1)
<b>Total</b>	<b>\$10,754</b>	<b>100</b>

Source: GAO analysis of FAA data.

<sup>a</sup>Includes refunds of taxes on aviation fuel other than gas (noncommercial) and on aviation gasoline (noncommercial) as well as other refunds or credits.

The Trust Fund was established by the Airport and Airway Revenue Act of 1970<sup>8</sup> 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;<sup>9</sup> 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

<sup>7</sup>As 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.

<sup>8</sup>Pub. L. No. 91-258.

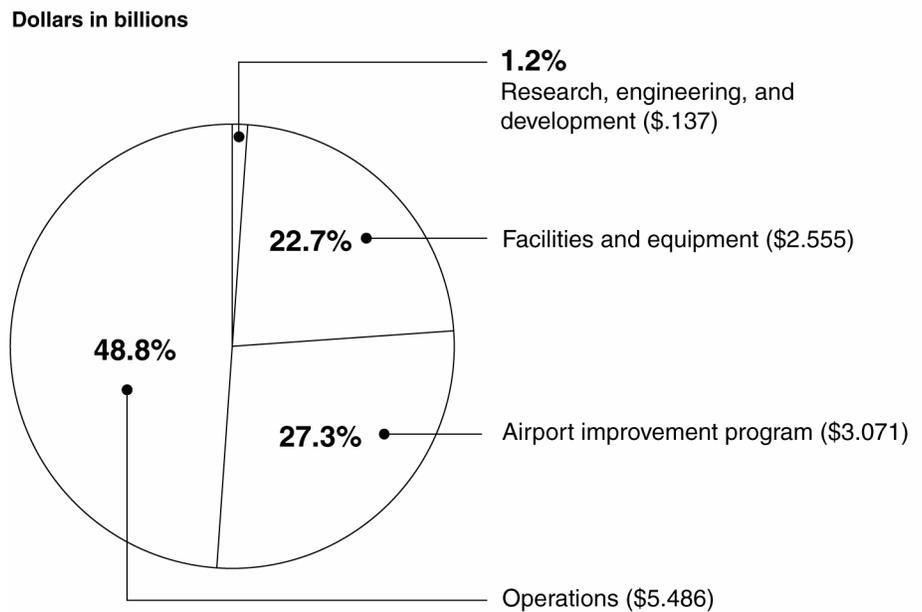
<sup>9</sup>For the past few years, FAA and the National Aeronautics and Space Administration have been the primary supporters of JPDO activities. The administration's proposed budget for fiscal year 2008 for FAA includes \$17.8 million to support JPDO activities. The National Aeronautics and Space Administration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

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has provided all or some portion of the funding for FAA's Operations account. In fiscal year 2006, expenditures from the Trust Fund totaling \$11.2 billion were made among the four accounts as shown in figure 1.

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**Figure 1: Trust Fund Expenditures for Fiscal Year 2006**



Source: GAO analysis of FAA data.

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## 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.

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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.

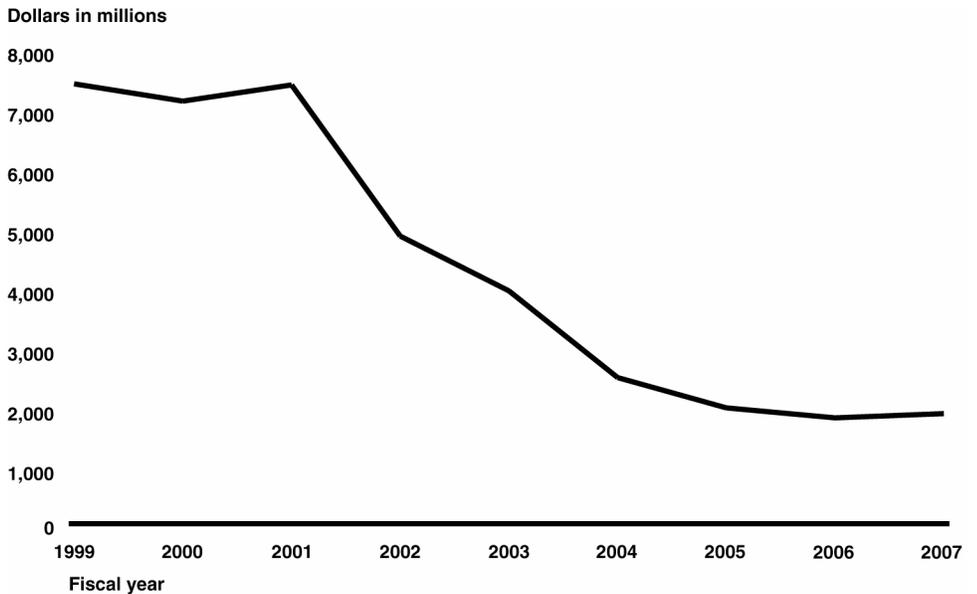
Since the Trust Fund's creation in 1970, revenues have in the aggregate exceeded spending commitments, resulting in an uncommitted balance, or surplus.<sup>10</sup> As of the end of fiscal year 2006, the Trust Fund's uncommitted balance was about \$1.8 billion. The Trust Fund's uncommitted balance depends 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.<sup>11</sup>

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

<sup>11</sup>In 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.

**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.

According to projections prepared by the Congressional Budget Office (CBO),<sup>12</sup> the existing funding structure, if maintained, will generate

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

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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.<sup>13</sup> 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.

Although the current funding structure may 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.<sup>14</sup> These prices, along with other factors influencing supply and demand, will influence users' decisions

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<sup>13</sup>This 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.

<sup>14</sup>Assessing 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.

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about the type, size, and number of aircraft to operate, and when and where to operate them.<sup>15</sup>

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## Technology Requirements and Other Issues Could Affect NextGen's 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 technology requirements, which have not yet been fully determined. The specific systems and associated costs of NextGen infrastructure and research and development are not fully known, nor are the resources that will be contributed by other federal agencies. Other issues include the cost savings that might 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 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.<sup>16</sup> 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. In June 2007, JPDO released both the latest version of the NextGen Concept of

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<sup>15</sup>Supply 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.

<sup>16</sup>JPDO noted that this range for avionics costs reflects uncertainty about equipage 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.

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Operations<sup>17</sup> and the first version of the NextGen Enterprise Architecture.<sup>18</sup> 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 and development, 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 development and acquisitions across JPDO's partner agencies.<sup>19</sup> 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.

Although 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 real terms (i.e., constant 2005 dollars) from fiscal year 2005

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<sup>17</sup>The 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 development 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.

<sup>18</sup>The 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.

<sup>19</sup>Section 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.

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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. Furthermore, according to the draft report, 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, 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.<sup>20</sup> Cost savings could come about by, for example, consolidating facilities or outsourcing services, should Congress choose to approve such measures. 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

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<sup>20</sup>GAO, *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).

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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.

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## Selected Proposals for Funding Aviation Activities Could Generate More Revenue but Could Also Lead to Unintended Consequences

Several proposals, including a recommendation from a House committee and selected provisions of the House and Senate reauthorization bills, specify different types of revenue sources to fund FAA and NextGen. These proposals have implications for revenue generation, but could also lead to unintended consequences.

The House Committee on Transportation and Infrastructure has recommended to the House Committee on Ways and Means that it increase the tax rates for general aviation jet fuel and aviation gasoline. If these rate increases are enacted, the fuel taxes would provide additional revenue to the Trust Fund. However, the increases, although relatively small, might also lead to reductions in fuel purchases by general aviation aircraft operators. Any estimate of the revenue gain from the higher tax rates should take into account these possible reductions in fuel purchases. Other factors that could be considered in setting general aviation fuel tax rates are the extent to which the rates should be set to make FAA's funding more cost-based and how much users are able to pay.

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).

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

Dollars in millions

Airport size	2007 PFC collections <sup>a</sup>	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
<b>Subtotal</b>	<b>\$2,356</b>	<b>\$3,537</b>	<b>\$4,066</b>
Small hub	184	262	354
Nonhub	71	108	144
Nonprimary Commercial Service	1	1	5
<b>Subtotal</b>	<b>\$256</b>	<b>\$371</b>	<b>\$503</b>
<b>Total<sup>b</sup></b>	<b>\$2,612</b>	<b>\$3,907</b>	<b>\$4,569</b>

Source: GAO analysis of FAA data.

<sup>a</sup>There are currently 517 commercial service airports eligible to apply for a PFC. These are airports with more than 2,500 annual enplanements.

<sup>b</sup>May 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. These calculations assume 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.<sup>21</sup> 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.<sup>22</sup> However, smaller airports, which rely primarily on AIP grants for capital funding, would benefit indirectly from an increased cap on PFCs. AIP's Small

<sup>21</sup>GAO, *Passenger Facility Charges: Program Implementation and the Potential Effects of Proposed Changes*, GAO/RCED-99-138 (Washington, D.C.: May 19, 1999).

<sup>22</sup>General aviation airports are excluded since they do not have passengers that would pay a PFC.

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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.<sup>23</sup> H.R. 2881 would increase the turnback to 100 percent of entitlements for large 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.

H.R. 2881 includes new and 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 legal opinions pertaining to aircraft registration or recordation. In some cases, such as the registration of aircraft, FAA already charges a modest fee (\$5), but this fee 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 it.<sup>24</sup> 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 to ensure that efforts to avoid the fees do not compromise safety.

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.<sup>25</sup> 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).

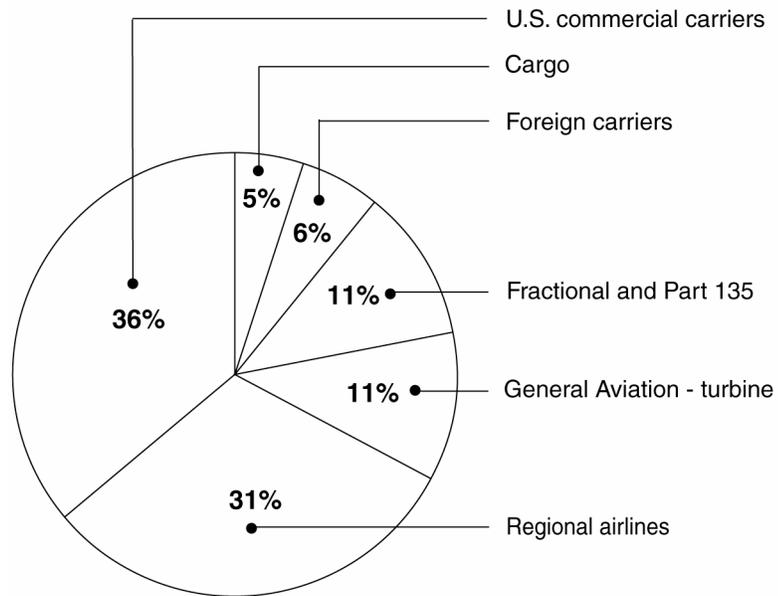
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<sup>23</sup>Entitlements are AIP funds apportioned to airport sponsors and states for eligible projects based on formulas.

<sup>24</sup>GAO, *Aviation Safety: Unresolved Issues Involving U.S.-Registered Aircraft*, [GAO/RCED-93-135](#) (Washington, D.C.: June 18, 1993).

<sup>25</sup>These exempt categories include military and public aircraft, piston engine aircraft, and turboprop aircraft operating outside of controlled airspace, among others.

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



Source: GAO analysis of FAA data.

Note: Regional airlines include jets with 60 or fewer seats (18 percent), jets with 61 or more seats (4 percent), and turbo/piston aircraft (9 percent).

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 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.

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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.<sup>26</sup>

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With most of the excise taxes that largely fund 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. 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

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<sup>26</sup>[GAO-06-1114T](#).

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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 Subcommittee might have.

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## GAO Contact and Staff 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, Carol Henn, Maureen Luna-Long, Faye Morrison, Teresa Spisak, and Tristan To.

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