

January 1999

# Major Management Challenges and Program Risks

Department of  
Transportation



---

---



---

**United States  
General Accounting Office  
Washington, D.C. 20548**

---

**Comptroller General  
of the United States**

January 1999

The President of the Senate

The Speaker of the House of Representatives

This report addresses the major performance and management challenges that have limited the effectiveness of the Department of Transportation (DOT) in carrying out its missions. It also addresses corrective actions that DOT has taken or initiated on some of these challenges and further actions that are needed. For many years, we and others have documented challenges for the performance and management of the Department that encompass major program areas—in acquisition management, Year 2000 compliance, and safety and security programs in the aviation area; acquisition management by the Coast Guard; the oversight of large-dollar highway and transit projects; and departmentwide financial management. In addition, we have documented unique challenges facing airline competition and Amtrak's financial viability.

Many of the challenges we identified are long-standing and will require sustained attention by DOT and the Congress. While DOT has efforts under way to address issues in some of its programs, these activities are in the early stages of implementation. It will take time to fully address the issues we and others have identified and to assess whether the Department has resolved them. We have designated as high risk two major challenges facing DOT—significant cost overruns, schedule delays and

---

performance shortfalls experienced by the multibillion-dollar air traffic control modernization program and serious financial management weaknesses at the Federal Aviation Administration.

This report is part of a special series entitled the Performance and Accountability Series: Major Management Challenges and Program Risks. The series contains separate reports on 20 agencies—one on each of the cabinet departments and on most major independent agencies as well as the U.S. Postal Service. The series also includes a governmentwide report that draws from the agency-specific reports to identify the performance and management challenges requiring attention across the federal government. As a companion volume to this series, GAO is issuing an update to those government operations and programs that its work has identified as “high risk” because of their greater vulnerabilities to waste, fraud, abuse, and mismanagement. High-risk government operations are also identified and discussed in detail in the appropriate performance and accountability series agency reports.

The performance and accountability series was done at the request of the Majority Leader of the House of Representatives, Dick Armey; the Chairman of the House Government Reform Committee, Dan Burton; the Chairman of the House Budget Committee, John Kasich; the Chairman of the Senate Committee on Governmental Affairs, Fred Thompson; the Chairman of the Senate Budget Committee, Pete Domenici; and Senator Larry

---

Craig. The series was subsequently cosponsored by the Ranking Minority Member of the House Government Reform Committee, Henry A. Waxman; the Ranking Minority Member, Subcommittee on Government Management, Information and Technology, House Government Reform Committee, Dennis J. Kucinich; Senator Joseph I. Lieberman; and Senator Carl Levin.

Copies of this report series are being sent to the President, the congressional leadership, all other Members of the Congress, the Director of the Office of Management and Budget, the Secretary of Transportation, and the heads of other major departments and agencies.

A handwritten signature in black ink, appearing to read "D.M. Walker", with a long horizontal line extending to the right.

David M. Walker  
Comptroller General of  
the United States

---

# Contents

---

Overview	6
Major Performance and Management Issues	16
Related GAO Products	66
Performance and Accountability Series	73

---

---

---

---

# Overview

---

With a budget of \$48 billion in fiscal year 1999, the Department of Transportation (DOT) faces critical challenges as it attempts to ensure the safe and efficient movement of people and the cost-effective investment of resources in the nation's transportation infrastructure, including its highways and transit systems, airports, airways, ports, and waterways. While DOT has had many successes in improving the nation's transportation systems, it has also experienced problems that have impeded its ability to achieve these objectives. We, DOT's Inspector General, and the Department itself have documented these problems and recommended solutions. Although some actions have been taken to address these recommendations, major performance and management challenges remain.

---

## The Challenges

---

Acquisition of Major Aviation and Coast Guard Systems Lacks Adequate Management and Planning

The Federal Aviation Administration's (FAA) and the U.S. Coast Guard's major acquisition programs continue to face significant challenges that require management attention. Over the past 17 years, FAA's multibillion-dollar air traffic control modernization program has experienced

cost overruns, delays, and performance shortfalls of large proportions. The Congress has appropriated over \$25 billion for the program through fiscal year 1998, and FAA estimates that the program will need an additional \$17 billion for fiscal years 1999 through 2004. Because of its size, complexity, cost, and problem-plagued past, we have designated this program as a high-risk information technology initiative since 1995. The Coast Guard is planning potentially the largest acquisition project in its history, a 20-year, \$9.8 billion project to replace or modernize many of its ships and aircraft. However, we found that the Coast Guard needs to more thoroughly address the project's justification and affordability. For example, the remaining useful life of the aircraft—and perhaps the ships—may be much longer than the agency originally estimated. We recommended that DOT and the Coast Guard take several steps to improve their planning process, such as revising acquisition guidelines so future projects are based on accurate and complete data.

---

Serious Challenges  
Remain in Resolving  
FAA's Year 2000  
Risks

FAA faces considerable challenges in making its computer systems ready for the year 2000. In August 1998, we testified that FAA

was unlikely to complete all critical tests in time and that unresolved risks—including those associated with data exchanges, international coordination, reliance on the telecommunications infrastructure, and business continuity planning—threatened aviation operations. The implications of FAA’s not meeting the Year 2000 deadline are enormous and could affect hundreds of thousands of people through customer’s inconvenience, increased airline costs, grounded or delayed flights, or degraded levels of safety.

---

FAA and the Nation’s  
Airports Face  
Funding  
Uncertainties

DOT and the Congress face a challenge in reaching agreement on the amount and source of long-term financing for FAA and the nation’s airports. The National Civil Aviation Review Commission recently recommended that the Congress fund FAA through a combination of cost-based user charges, fuel taxes, and general fund revenues. However, we and others have noted that FAA lacks sufficiently detailed and reliable cost data to accurately determine the agency’s costs. In addition, continued funding for airports will be critical to ensuring adequate capacity for the national airport system. From 1997 through 2001, planned development at airports might require as much as \$10 billion

per year nationwide, which would need to be obtained from a variety of public and private sources. Several proposals to increase airports' funding have emerged in recent years, including increasing the amount of funding from FAA, but many of them are controversial.

---

**Aviation Safety and Security Programs Need Strengthening**

Over the years, we have identified numerous shortcomings in FAA's safety and security programs. Shortcomings in FAA's safety programs include the need for the agency to improve its oversight of the aviation industry, record complete information on inspections and enforcement actions, provide consistent information and adequate training for users of weather information, and resolve data protection issues to enhance the proactive use of recorded flight data to prevent accidents. In addition, while progress has been made in strengthening airport security, it will take years for FAA and the aviation industry to fully implement current initiatives.

---

Lack of Aviation Competition Contributes to High Fares and Poor Service for Some Communities

Although airline deregulation is generally considered to be a success by DOT and others, contributing to better service and lower fares for most travelers, not all communities have benefited from it. In a number of small and medium-sized communities, a lack of aviation competition contributes to higher fares and poorer service. Operating barriers—such as exclusive-use gate leases and “slot” controls that limit the number of takeoffs and landings at certain congested airports—contribute to higher fares and service problems by deterring new entrant airlines while fortifying established airlines’ dominance at key airports. Recently proposed alliances between the nation’s six largest airlines have raised additional concerns about competition.

---

DOT Needs to Continue Improving Oversight of Surface Transportation Projects

Many large-dollar highway and transit projects, each costing hundreds of millions to billions of dollars, continue to incur cost increases, experience delays, and have difficulties acquiring needed financing. DOT’s Federal Highway Administration provided over \$21 billion in fiscal year 1998 to assist the states in building and repairing highways and bridges. We have identified several options to help improve the management of

these projects, particularly those involving large amounts of dollars, depending on the oversight role that the Congress chooses for the federal government. DOT's Federal Transit Administration (FTA)—with a budget of \$4.8 billion in fiscal year 1998—has improved its oversight of federal transit grants. However, the agency needs complete, timely information to help ensure the correction of deficiencies found during its oversight reviews.

---

**Amtrak's Financial  
Condition Is  
Tenuous**

Despite efforts to control expenses and increase revenues, the National Railroad Passenger Corporation's (Amtrak) financial condition has substantially deteriorated in recent years. Since it began operations in 1971, Amtrak has received nearly \$22 billion in federal subsidies for operating and capital expenses, and it is likely to remain heavily dependent on federal assistance well into the future. Amtrak loses about \$2 for every dollar it earns in revenues from its train service, and only 1 of Amtrak's 40 routes covers its costs. Amtrak's deteriorating financial condition has raised the possibility of both bankruptcy and liquidation. The business decisions that Amtrak makes regarding the structure of its route system will play a crucial role in determining its

long-term viability. While Amtrak has proposed cutting routes to improve its overall financial performance, it has encountered opposition because of the desire of local communities to see their service continued. Because there is no clear public policy that defines the role of passenger rail in the national transportation system and because Amtrak is likely to remain dependent on federal assistance, the Congress needs to decide on the nation's expectations for intercity rail and the scope of Amtrak's mission in providing that service.

---

**DOT Lacks  
Accountability for  
Its Financial  
Activities**

DOT's lack of accountability for its financial activities impairs its ability to efficiently and effectively manage programs and exposes the Department to potential waste, fraud, mismanagement, and abuse. Since 1993, when the Office of Inspector General began auditing the financial statements of certain agencies within the Department, it has been unable to determine whether the reported financial results are correct and has thus been unable to express an opinion on the reliability of these statements. The Inspector General also has been unable to express an opinion on the reliability of the departmentwide statements since these

statements were audited beginning with fiscal year 1996. A key issue affecting the ability to express an opinion on these financial statements has been DOT's inability to reliably determine the quantities, the locations, and the values of property, plant, and equipment and inventory, reported at \$28.5 billion as of September 30, 1997. Serious financial management weaknesses at FAA contribute to this situation. Consequently, we have designated financial management at FAA as high-risk. In addition, DOT lacks a cost-accounting system or an alternative means of reliably accumulating and reporting the full cost of specific projects and activities. Due to the effects of the property, plant, and equipment, inventory, and cost-accounting deficiencies, it is unlikely that DOT can accurately determine costs and meaningfully link costs to performance measures.

---

**Progress and  
Next Steps**

Many of the challenges facing DOT are not new to either the Department or the Congress. Individual agencies within DOT have efforts under way to address some of them, but more remains to be done. For example, FAA has initiated activities to address many of our concerns about its air traffic control modernization program, such

as developing a complete air traffic control systems architecture, but none are completed. FAA is also taking steps to address its Year 2000 challenges, such as working with the International Civil Aviation Organization on international issues, although much remains to be done. We are continuing to review FAA's progress in these areas.

FAA will need to continue efforts to fully implement its cost-accounting system so that it can use reliable and accurate data to improve its management and performance and to establish user fees as mandated by the Congress. While FAA is taking some steps to address shortcomings with its aviation safety program, including totally revamping its inspection program, eliminating the shortcomings will take considerable time and effort. We are also reviewing FAA's efforts in this area.

To improve FTA's oversight of transit grants, the agency needs to complete implementation of a new information tracking system. This system will enable headquarters officials to better oversee grantee's performance. In addition, DOT has a plan for resolving the financial management deficiencies that were identified in its

financial statement audits. However, the Department faces significant challenges in achieving its goal of receiving an unqualified audit opinion on its financial statements because of the numerous shortcomings that need to be addressed. Although strategic and annual performance plans, completed under the Government Performance and Results Act of 1993, discuss several of the challenges we identified, these plans generally provide insufficient details to address them.

Adequately addressing many of the challenges we identified will require sustained attention by DOT and the Congress. For example, while DOT has attempted to enhance airline competition by such efforts as granting a limited number of additional slots at two airports, further actions, some of which are controversial, may be needed by the Congress, DOT, and the private sector. Finally, additional actions may be needed by the Congress to address long-term financing for FAA, the federal oversight role for large-dollar highway projects, and the future of Amtrak.

---

# Major Performance and Management Issues

---

With a budget of \$48 billion in fiscal year 1999, DOT is responsible for ensuring the safe and efficient movement of people and the cost-effective investment of resources in the nation's transportation infrastructure, including its highways and transit systems, airports, airways, ports, and waterways. DOT employs about 100,000 civilian and military people across the country, and its programs are administered by 10 operating administrations and bureaus.<sup>1</sup> While DOT has had many successes in improving the nation's transportation systems, it has also faced challenges that have impeded its ability to achieve its objectives.

Over the years, we, DOT's Inspector General, the Department itself, and others have documented shortcomings with the performance and management of the Department and unique challenges facing air and passenger rail travel. This report summarizes our recent findings and recommended solutions concerning acquisition management by FAA and the Coast Guard, Year 2000 compliance by FAA, long-term funding for FAA and the nation's

---

<sup>1</sup>DOT's administrations and bureaus are FAA, the Federal Highway Administration, the Federal Railroad Administration, FTA, the Maritime Administration, the National Highway Traffic Safety Administration, the Research and Special Programs Administration, the St. Lawrence Seaway Development Corporation, the U.S. Coast Guard, and the Bureau of Transportation Statistics.

airports, aviation safety and security, aviation competition, oversight of surface transportation projects, Amtrak's financial condition, and financial management issues. This report also describes how DOT has addressed some of its weaknesses through plans that it has developed in response to the Government Performance and Results Act. In many cases, addressing the challenges we identified will require a sustained effort by DOT, working with other federal, state, and local stakeholders and the Congress.

---

**The Acquisition  
of Major Aviation  
and Coast Guard  
Systems Lacks  
Adequate  
Management and  
Planning**

FAA and the U.S. Coast Guard are undertaking long-term, costly programs to modernize and replace aging equipment. Our work has shown that these agencies need to improve the management of these programs to ensure that federal funds are effectively and efficiently used.

---

**The Inadequate  
Management of Air  
Traffic Control  
Modernization Has  
Led to Many  
Difficulties**

Faced with rapidly growing volumes of air traffic and aging equipment to control air traffic, in 1981 FAA initiated an ambitious air traffic control modernization program. The cost of this effort—which involves acquiring a vast network of radar and automated data-processing, navigation, and communications equipment and air traffic

control facilities—is expected to total \$42 billion through fiscal year 2004. The Congress has appropriated over \$25 billion of the \$42 billion through fiscal year 1998, and FAA estimates that the program will need an additional \$17 billion for fiscal years 1999 through 2004. Over the past 17 years, the modernization program has experienced cost overruns, delays, and performance shortfalls of large proportions. Because of its size, complexity, cost, and problem-plagued past, we designated the air traffic control modernization program as a high-risk information technology initiative in 1995. Many of the shortcomings we reported then remain unresolved, and we continue to believe this program remains at high risk.

Our work has identified some of the root causes of the modernization program's problems and pinpointed solutions to address them:

- The many systems in the modernization program have been developed without the benefit of a complete systems architecture, or overall blueprint, to guide the program. The result has been unnecessarily higher spending to buy, integrate, and maintain hardware and software. We recommended that FAA develop and enforce a complete

systems architecture and implement a management structure that is similar to the Chief Information Officer (CIO) provisions of the Clinger-Cohen Act of 1996.

- FAA lacks the reliable cost-estimating processes and cost-accounting practices needed to effectively manage information technology investments, leaving it at risk to make ill-informed decisions on critical multimillion-, even billion-, dollar air traffic control systems. We recommended that FAA institutionalize defined processes for estimating the projects' costs and develop and implement a managerial cost-accounting capability.
- FAA's processes for acquiring software, the most costly and complex component of air traffic control systems, are ad hoc, sometimes chaotic, and not repeatable across projects. As a result, FAA is at great risk of not delivering promised software capabilities on time and within budget. Furthermore, FAA lacks an effective approach to improve software acquisition processes. We recommended that FAA improve its software acquisition capabilities by institutionalizing mature acquisition processes and reiterated our prior recommendation that a CIO organizational structure be established.

- FAA's organizational culture has impaired the acquisition process. Employees have acted in ways that did not reflect a strong enough commitment to mission focus, accountability, coordination, and adaptability. We recommended that FAA develop a comprehensive strategy for addressing this issue.

FAA is responding to many of these recommendations. Specifically, FAA has initiated activities to develop a complete air traffic control systems architecture, to institutionalize defined cost-estimating processes, to acquire a cost-accounting system, to improve its software acquisition capabilities, and to improve its organizational culture. Most recently, FAA has committed to hiring a CIO who would report directly to FAA's Administrator, a structure similar to the provisions of the Clinger-Cohen Act of 1996. In addition, DOT's 1999 performance plan, which was submitted to the Congress in February 1998, describes FAA's actions to improve certain aspects of the air traffic control modernization program, such as poor processes for estimating costs and poor accounting practices. However, the plan does not include goals for mitigating the risks associated with the modernization or

measures for determining progress towards these goals.

Moreover, in an effort to restructure the modernization program, FAA—in consultation with the aviation community—is developing a phased approach to modernization, including a new way of managing air traffic known as “free flight.” Free flight would allow pilots more flexibility in choosing routes for their aircraft than the present system of highly structured rules and procedures for air traffic operations. Free flight, which will be implemented in phases, is expected to provide benefits to users and help improve aviation safety and efficiency. The agency, however, faces many challenges in implementing free flight in a cost-effective manner. The challenges for FAA include (1) providing effective leadership and management of modernization efforts, (2) developing plans in collaboration with the aviation community that are sufficiently detailed to move forward with the implementation of free flight, and (3) addressing outstanding issues related to the development and deployment of technology.

While improvements have been initiated, FAA's efforts to address our concerns are not yet completed, and several major systems development projects continue to face challenges that could affect their costs, schedules, and performance. For example, in March 1998 we reported that the Standard Terminal Automation Replacement System—which entails replacing old computers, controller workstations, and related equipment at about 170 of FAA's terminal air traffic control facilities—is facing difficulties staying within its cost baseline. Costs for the new air traffic controller workstations are increasing because of such unexpected factors as the need for additional resources to maintain the program's schedule and design changes that air traffic controllers called for after reviewing the equipment. These unexpected factors led FAA to reprogram \$29 million in fiscal year 1998 funds for the project. In addition, the project's baseline schedule called for equipment to become operational at the first sites in December 1998. Since that time, we have reported that FAA estimates that the project's cost has the potential to increase from \$294 million to \$410 million over the approved baseline and that the project's initial completion could be delayed by almost 2-1/2 years.

Additionally, we recently reported that FAA is not effectively managing information security for future air traffic control modernization systems. The agency does not consistently include well-formulated security requirements in specifications for all new modernization systems, as required by FAA policy. Furthermore, FAA does not have a well-defined security architecture, a security concept of operations, or security standards—all of which are needed to define and help ensure adequate security throughout our nation’s air traffic control network. We recommended that FAA ensure that specifications for all new air traffic control systems include security requirements based on detailed security assessments and that the agency establish and implement a security architecture, a security concept of operations, and security standards. The agency has not yet officially responded to our recommendations.

---

The Coast Guard  
Needs to More  
Thoroughly Address  
Acquisition-Planning  
Issues

The U.S. Coast Guard is planning what is potentially the largest acquisition project in its history. This effort, the Deepwater Capability Replacement Project, involves replacing or modernizing many of the Coast Guard’s 92 ships and 209 airplanes and helicopters. However, in October 1998, we

reported that the Coast Guard needs to more thoroughly address the project's justification and affordability. The Coast Guard initially estimated that the project would cost \$9.8 billion (in constant dollars) over a 20-year period. The project is still in its early stages, but initial planning estimates call for spending \$300 million starting in fiscal year 2001 and \$500 million each year over the next 19 years.

Although the Coast Guard is correct in starting now to explore how best to modernize or replace its deepwater ships and aircraft, the Deepwater Project's only formal justification that was developed at the time of our review did not accurately or fully depict the need for replacement or modernization. In fact, the remaining useful life of the Coast Guard's deepwater aircraft—and perhaps its ships—may be much longer than the agency originally estimated. The Coast Guard withdrew the justification on the basis of concerns expressed by the Office of Management and Budget and is developing more accurate and updated information. We recommended that DOT and the Coast Guard take several steps to improve their planning processes, such as expediting the development and the issuance of updated information on the remaining

service life of ships and aircraft and revising its acquisition guidelines so that future projects are based on more accurate and complete data. In addition, the agency could face major financial obstacles in proceeding with a project that costs as much as initially proposed. At an estimated \$500 million a year, expenditures for the project would take virtually all of the Coast Guard's anticipated spending for capital projects. To align contractors' proposals more realistically with the agency's budget and other capital needs, we recommended that the Coast Guard evaluate whether contractors should base their proposals on a funding level that may be lower than \$500 million each year. While Coast Guard officials seemed receptive to our recommendations, DOT has not officially responded to our report.

---

**Key Contacts**

John H. Anderson, Jr., Director  
Transportation Issues  
Resources, Community, and Economic  
Development Division  
(202) 512-2834  
andersonj.rced@gao.gov

Joel C. Willemsen, Director  
Civil Agencies Information Systems

Accounting and Information Management  
Division  
(202) 512-6408  
willemssenj.aimd@gao.gov

---

---

**Serious  
Challenges  
Remain in  
Resolving FAA's  
Year 2000 Risks**

To perform its mission, FAA depends on an extensive array of information-processing and communications technologies. Without these specialized computer systems, the agency could not effectively control air traffic, target airlines for inspection, or provide up-to-date weather information to pilots and air traffic controllers. For example, each of FAA's 20 en route air traffic control facilities, which monitor aircraft at the higher altitudes between airports, depends on about 50 interrelated computer systems to safely guide and direct aircraft. The implications of FAA's not meeting the Year 2000 deadline are enormous and could affect hundreds of thousands of people through customers' inconvenience, increased airline costs, grounded or delayed flights, or degraded levels of safety.

In early 1998, we reported that FAA was severely behind schedule in implementing an effective Year 2000 program and warned that systems that support critical operations—such as monitoring and

controlling air traffic—could fail to perform as needed unless proper date-related calculations could be ensured. We made a series of recommendations aimed at assisting FAA in completing critical Year 2000 activities, including (1) completing an agencywide plan that provides the FAA Year 2000 program manager with the authority to enforce policy and that outlines the agency's overall strategy and (2) completing inventories and assessments of all systems and data interfaces. FAA agreed with these recommendations and has made progress in implementing them. For example, a Year 2000 program manager now reports directly to FAA's Administrator and oversees a program plan with specific goals and milestones.

More recently, however, we testified that FAA still faces serious challenges in addressing its Year 2000 problem. Specifically, in August 1998, we testified that FAA was unlikely to complete critical testing activities in time because its projections for completing testing and implementation activities were based on very optimistic schedules and because of the complexity of the agency's testing process. We also reported that unresolved crosscutting risks—including risks associated with data

exchanges, international coordination, reliance on the telecommunications infrastructure, and business continuity planning—threatened aviation operations. FAA is taking steps to address these issues. For example, FAA is working with the International Civil Aviation Organization on international issues. We are continuing to review FAA’s progress in addressing these risks.

---

**Key Contact**

Joel C. Willemsen, Director  
Civil Agencies Information Systems  
Accounting and Information Management  
Division  
(202) 512-6408  
willemsenj.aimd@gao.gov

---

**FAA and the  
Nation’s Airports  
Face Funding  
Uncertainties**

DOT and the Congress face a challenge in reaching agreement on the amount and source of long-term financing for FAA and the nation’s airports. At present, FAA’s funding is made available by the Congress from general fund and Airport and Airway Trust Fund appropriations, which was established to finance FAA’s investments in the airport and airway system, including construction and safety improvements at airports and technological upgrades to the air traffic

control system. The Trust Fund receives revenues from taxes on domestic and international travel, domestic cargo transported by air, and noncommercial aviation fuel. With the uncommitted balance in the Trust Fund estimated to increase to over \$40 billion by 2008, some have advocated taking the fund off budget to allow FAA to spend all of the revenues collected from aviation taxes. Despite several assessments over the past 2 years, a consensus does not exist regarding how to meet FAA's future funding needs.<sup>2</sup>

The latest proposal for funding FAA comes from the National Civil Aviation Review Commission, which recommends that the Congress fund FAA through a combination of cost-based user charges, fuel taxes, and general fund revenues. In the past, we and others have noted that FAA has lacked sufficiently detailed or reliable cost data. These concerns are still relevant. The Commission's report acknowledges that reliable, comprehensive cost-accounting data are needed to accurately determine the agency's costs. FAA has begun implementing

---

<sup>2</sup>See Federal Aviation Administration: Independent Financial Assessment, Coopers & Lybrand (Feb. 28, 1997); Avoiding Aviation Gridlock & Reducing the Accident Rate, National Civil Aviation Review Commission (Dec. 1997); and Air Traffic Control: Issues in Allocating Costs for Air Traffic Services to DOD and Other Users (GAO/RCED-97-106, Apr. 25, 1997).

a cost-accounting system, which will be a cornerstone for FAA's improving its efficiency. Program officials had planned to begin collecting cost data for air traffic services by October 1998, but complications associated with the method used to allocate costs have delayed this milestone. FAA will need to continue with efforts to fully implement its cost-accounting system so that it can use reliable and accurate data to improve its management and performance and to establish user fees, as mandated by the Congress.

Continued funding for airports will also be critical to ensuring adequate capacity for the national airport system and avoiding congestion and delays. In April 1997, we reported that planned development at airports might cost as much as \$10 billion per year over the next 5 years. Airports rely on a variety of public and private funding sources to finance their capital development. In 1996, \$1.4 billion in federal funding was made available for capital development from the Airport and Airway Trust Fund. Other major sources of funding include airport and special facility bonds and passenger facility charges paid on each airline ticket. The amount and type of funding vary with each airport's size. While the need for funding at

larger airports may be considerable, these airports also have access to many funding sources, particularly tax-exempt bonds. The more difficult challenge may rest with meeting the funding needs of smaller airports. Smaller airports confront a potential funding shortfall that, in percentage terms, is far greater than for larger airports. Moreover, these airports have the fewest funding options, relying on federal grants for half of their funding. Maintaining the financial viability of these smaller airports will require adequate funding from existing federal and state grant programs as well as more innovative applications of existing funding.

Several proposals to increase airport funding have emerged in recent years. These include increasing the amount of funding for FAA's Airport Improvement Program, raising or eliminating the ceiling on passenger facility charges, and leveraging existing funding sources. Many of these proposals are controversial and vary in the degree to which they help specific types of airports. For example, increasing the amount of funding for the Airport Improvement Program would help smaller airports more, while raising passenger facility charges would help larger airports more. In addition,

airports and airlines have disagreed on the need to increase the ceiling on passenger facility charges above its current \$3.00 level. Airport officials contend that many needed projects are going unfunded, while airline representatives dispute this, saying that airlines are willing to fund important projects through airline assessments. To address the funding issue, FAA has been testing several innovative funding approaches through a small pilot program. However, we believe that this pilot program is likely to yield only marginal benefits because of the limited participation by airports.

---

**Key Contact**

John H. Anderson, Jr., Director  
Transportation Issues  
Resources, Community, and Economic  
Development Division  
(202) 512-2834  
andersonj.rced@gao.gov

---

**Aviation Safety  
and Security  
Programs Need  
Strengthening**

The aviation accident rate per mile traveled has remained low but flat over the last 2 decades. Unless the accident rate is reduced, however, as air travel continues to grow, the actual number of accidents will increase. We have identified numerous weaknesses in

FAA's inspection, oversight, and enforcement activities. During the last year, we have also noted shortcomings in other safety programs, such as (1) the lack of consistent information or adequate training for users of weather information and (2) unresolved data protection issues, which impede the proactive use of flight data to prevent accidents. While FAA is taking some steps to address the shortcomings in its safety programs, eliminating those shortcomings will take considerable time and effort. In addition, while progress is being made in strengthening airport security, it will take several years to address all problem areas, and FAA's weak computer security practices present significant vulnerabilities to the air traffic control system.

---

**Weaknesses in  
Aviation Safety  
Programs Need to  
Be Addressed**

We have found substantial weaknesses in FAA's safety inspection, oversight, and enforcement activities. FAA's aviation safety programs provide for the initial certification, periodic surveillance, and inspection of airlines, airports, repair stations, and other aviation entities, as well as of pilots and mechanics. These inspections are intended not only to detect actual violations but also to serve as part of an early warning system

for identifying potential systemwide weaknesses.

Over the years, we have examined FAA's inspection program and recommended improvements. In our most recent report, we pointed out that work performed by aviation repair stations—the 2,800 facilities that repair and maintain nearly half of all U.S. passenger and cargo aircraft—was cited as a factor in several accidents. About 600 of FAA's 3,000 inspectors are responsible for inspecting repair stations to ensure that work conducted by these facilities is competently done. FAA is meeting its goal of inspecting every repair station at least once a year by relying primarily on reviews by individual inspectors. However, when FAA uses teams rather than individual inspectors to review facilities, the review is more effective, uncovering more systemic and long-standing problems. Furthermore, we could not find sufficient documentation to determine how well FAA followed up to ensure that the deficiencies found during the inspections were corrected.

To improve its oversight of repair stations, we recommended that FAA expand the use of locally based teams to inspect them, particularly those that are large, are

complex, have higher rates of noncompliance, or meet predetermined risk indicators. In addition, we recommended that FAA specify what documentation should be kept on inspection results, monitor efforts to improve the quality of data for its new management information system, and expedite efforts to upgrade regulations concerning the oversight of repair stations. FAA agreed with these recommendations but has not indicated how or when they would be implemented.

When FAA's inspectors identify violations, agencywide guidance requires that they be investigated and appropriately addressed, and program office guidance requires that they be reported. We found that FAA's information on compliance in the aviation industry is incomplete and of limited use in providing early warning of potential risks and in targeting inspection resources to the greatest risks. Many inspectors do not report all problems or violations they observe, and many inspections are not thorough or structured enough to detect many violations. In addition, FAA cannot readily set risk-based priorities for resolving enforcement cases, in part, because its enforcement database does not distinguish major from minor cases. Finally, the impact of FAA's enforcement

actions on compliance is difficult to assess because the agency has not followed up on the aviation industry's implementation of corrective actions.

We recommended several actions to improve the usefulness of FAA's inspection and enforcement databases and the coordination of inspection and enforcement efforts, including (1) revising FAA's order on compliance and enforcement to specify that inspection staff are required to report all observed problems and violations and (2) providing guidance to inspectors on how to distinguish major from minor violations and to legal staff on how to identify major legal cases. In response to our recommendations and others' criticisms, FAA has developed and begun to implement a fundamentally reengineered system—the Air Transportation Oversight System—to oversee airline safety. We are monitoring the program's implementation and will report on its progress in the spring of 1999.

Poor weather conditions have been cited as a cause or a contributing factor in nearly a quarter of the aviation accidents during the last 10 years. Because of the significant impact of hazardous weather on aviation safety and efficiency, improving the weather

information available to all users of the aviation system should be one of FAA's top priorities. However, a panel of experts that we convened concluded that FAA has done a poor job in addressing the most significant concerns raised by previous reports by the National Research Council and an FAA advisory committee. For example, the panel concluded that FAA has not exercised leadership for aviation weather services, partly because it has lacked a clear policy defining its role in aviation weather activities and partly because of organizational inefficiencies. The panel also concluded that providing consistent weather information and training for users has remained a low priority for FAA. The implementation plan FAA proposes to issue later this year provides the agency with an opportunity to respond to these continuing concerns with stronger evidence of its commitment to weather issues.

The analysis of aircraft data recorded during flight has played a crucial role in determining the causes of crashes. Recently, however, some airlines have begun to proactively analyze flight data from uneventful airline flights to identify potential problems and correct them before they lead to accidents. The early experiences of

airlines that have established such programs—called Flight Operational Quality Assurance programs—attest to the ability of such programs to enhance aviation safety. In December 1997, we reported that 4 U.S. airlines and 33 foreign airlines had implemented such programs. The primary factor impeding further implementation is unresolved data protection issues. Airline managers and pilots have raised concerns about the use of such data by FAA for enforcement or disciplinary purposes and about disclosure to the media and public. The Federal Aviation Administration Reauthorization Act of 1996 directed the Administrator to issue regulations protecting data collected under the programs from public disclosure. As of November 1998, FAA had not issued a rulemaking to implement policies on either enforcement or disclosure.

DOT's 1999 performance plan includes a goal to improve aviation safety by reducing by 80 percent the number of fatal aviation accidents per 100,000 departures by 2007. However, the plan needs baseline data from which to measure the reduction.

---

**Challenges Remain  
in Addressing  
Aviation Security  
Issues**

Over the last several years, the changing threat of terrorist activities has heightened the need to improve domestic aviation security. We and others have highlighted improvements needed to address this threat. As a result, FAA is implementing recommendations made in February 1997 by the White House Commission on Aviation Safety and Security (the Gore Commission) and mandates contained in the Federal Aviation Administration Reauthorization Act of 1996 to improve security at airports. Expedient implementation of the security initiatives by FAA and the aviation industry is crucial to improving the security of domestic aviation.

FAA has made some progress in five critical areas as recommended by the Gore Commission and mandated by the Congress, but, given the current implementation schedule, it will take years for FAA and the aviation industry to fully implement all the initiatives. These five areas, which we reported on in May 1998, are passenger profiling, explosives detection technologies, passenger-bag matching, vulnerability assessments, and the certification of screening companies and the performance of security screeners. We reported that FAA had encountered delays of up to 12 months in

implementing these initiatives, in part, because they are more complex than originally envisioned and involve new and relatively untested technologies. Delays have also been caused by limited funding and problems with equipment installation and contractors' performance.

While progress has been made in strengthening aviation security, completing the current initiatives will require additional financial resources and a sustained commitment by the federal government and the aviation industry. For example, current funding is sufficient to provide only a limited percentage of the flying public at selected airports with protection against concealed explosives in checked baggage. Several years ago, FAA estimated that the cost of acquiring and installing the certified systems at the nation's 75 busiest airports could range from \$400 million to \$2.2 billion, depending on the number and the cost of the machines installed.

Additional improvements in airport security will need sustained, long-term efforts by FAA and the aviation industry. To maintain momentum, it is important for the Congress to provide continual oversight and to address funding issues. Starting with fiscal

year 1998, FAA began including goals and specific performance measures for its security program in its annual budget submissions. FAA also incorporated goals and performance measures for airport security into its 1998 strategic plan. By using these established goals and performance measures, the Congress can better oversee FAA's progress in improving airport security.

Securing our nation's airports alone does not ensure safe air travel. It is also critical to secure FAA's air traffic control computer systems that provide information to air traffic controllers and aircraft flight crews to help ensure the safe and expeditious movement of aircraft. A failure to adequately protect these systems, as well as the facilities that house them, could cause a nationwide disruption of air traffic or even the loss of life due to collisions. We found that FAA is ineffective in all the critical areas included in our computer security review of its air traffic control computer systems.

In the area of physical security, known weaknesses exist at many air traffic control facilities. For example, a March 1997 inspection of one facility that controls aircraft disclosed numerous physical security weaknesses, including unauthorized

personnel being granted unescorted access to restricted areas. FAA did not know of weaknesses that may have existed at other locations because it had not assessed the physical security controls at 187 facilities since 1993. Similarly, FAA does not know how vulnerable its operational air traffic control systems are and cannot adequately protect them until it performs the appropriate risk assessments of these systems and certifies and accredits them. In addition, the agency does not consistently include well-formulated security requirements in its specifications for new modernization systems. Finally, FAA's management structure and implementation of policy for air traffic control computer security are not effective. Security responsibilities are distributed among three organizations, all of which have been remiss in their security duties.

In December 1998, we reported that FAA officials indicated that they had inspected all 368 facilities and had accredited over half of these facilities. However, the agency still needs to take action on our remaining recommendations that included (1) ensuring that all systems are assessed, certified, and accredited at least every 3 years and (2) establishing an effective management structure for developing, implementing, and

enforcing air traffic computer security  
policy.

---

**Key Contacts**

John H. Anderson, Jr., Director  
Transportation Issues  
Resources, Community, and Economic  
Development Division  
(202) 512-2834  
andersonj.rced@gao.gov

Joel C. Willemsen, Director  
Civil Agencies Information Systems  
Accounting and Information Management  
Division  
(202) 512-6408  
willemsenj.aimd@gao.gov

---

**Lack of Aviation  
Competition  
Contributes to  
High Fares and  
Poor Service for  
Some  
Communities**

Deregulation of the airline industry in 1978 is generally considered to be a success by DOT and others, contributing to lower fares and better service for most air travelers largely because of increased competition spurred by the entry of new airlines into the industry and established airlines into new markets. However, a number of small and medium-sized communities have not experienced such entry and thus have experienced higher fares and/or less convenient service since deregulation.

Problems with access to certain airports and the cumulative effect of marketing strategies employed by established airlines have contributed to higher fares and poor service. To minimize congestion and reduce flight delays, FAA has set limits since 1969 on the number of takeoffs or landings—referred to as slots—that can occur during certain periods of the day at four congested airports—Chicago’s O’Hare, Ronald Reagan Washington National, and New York’s Kennedy and LaGuardia. A few airlines control most of the slots at these airports, which limits new entrants. Furthermore, the vast majority of gates at six airports in the East and Upper Midwest are exclusively leased—usually to just one airline—making it very difficult for other airlines to gain competitive access to these airports. In addition, by prohibiting flights to and from LaGuardia and National airports that exceed certain distances, perimeter rules limit the ability of airlines based in the West to compete at these airports. These operating barriers, combined with certain marketing strategies by established carriers, have deterred new entrant airlines while fortifying established carriers’ dominance at key hubs.

In addition, recently proposed alliances between the nation’s six largest airlines have

also raised concerns about competition. Three pairs of alliances have been proposed—between Northwest Airlines and Continental Airlines, Delta Air Lines and United Airlines, and American Airlines and US Airways. In June 1998, we testified that, while the alliances might offer some benefits to consumers, if all three occur, the number of independent airlines providing service on a significant number of domestic airline routes could decline, potentially reducing the choices for millions of passengers each year. We are further reviewing the proposed alliances and plan to report on them early in 1999.

Increasing competition and improving air service at airports serving communities that have not benefited from deregulation will likely entail a range of solutions—some of which are controversial—by DOT, the Congress, and the private sector. To enhance competition, DOT has begun to grant a limited number of slots to new entrants at O’Hare and LaGuardia airports. In addition, DOT has expressed concerns about potentially overaggressive attempts by some established carriers to thwart new entry. According to DOT, in recent years, there has been an increasing number of alleged anticompetitive practices—such as predatory

conduct—aimed at new competition, particularly at major hubs. In April 1998, DOT issued a draft policy that identifies anticompetitive behavior and factors that DOT will consider if it decides to pursue formal enforcement actions to correct such behavior. The proposed guidelines have been very controversial, and DOT has received hundreds of comments about them. The Omnibus Consolidated and Emergency Supplemental Appropriations Act for Fiscal Year 1999 requires DOT to send the final guidelines to the Congress and stipulates that they shall not become effective until at least 12 weeks after receipt.

In addition, legislation was introduced, but not passed, in the Congress in 1997 that addressed several barriers to competition: slot controls, perimeter rules, and predatory behavior by air carriers. These issues are expected to be raised again by the next Congress. Other issues—such as improving the availability of gates and determining whether or not to relax restrictions on the foreign ownership and control of U.S. airlines—may also need to be considered. DOT expects to complete a study in the spring of 1999 that will address airports' practices, including the availability of gates, and their effects on competition.

---

**Key Contact**

John H. Anderson, Jr., Director  
Transportation Issues  
Resources, Community, and Economic  
Development Division  
(202) 512-2834  
andersonj.rced@gao.gov

---

**DOT Needs to  
Continue  
Improving  
Oversight of  
Surface  
Transportation  
Projects**

Many large-dollar highway and transit projects, each costing hundreds of millions to billions of dollars, continue to incur cost increases, experience delays, and have difficulties acquiring needed financing. We have found, particularly for large-dollar projects, that costs have increased and financing has become more difficult at the same time that federal, state, and local governments must deal with the need for balanced budgets and many competing priorities. This situation is even more critical in light of the recently passed 6-year, \$218 billion Transportation Equity Act for the 21st Century, which will fund thousands of new major highway and mass transit projects.

---

**Improvements  
Possible in Oversight  
of Highway Projects**

DOT's Federal Highway Administration (FHWA) provided over \$21 billion in fiscal year 1998 to assist the states in repairing and replacing their aging infrastructure and

enhancing the performance of their highways and bridges. In many cases, meeting these needs takes the form of projects costing hundreds of millions to billions of dollars. These projects traditionally take longer to build and have a greater potential to experience substantial cost increases and delays. For example, the Central Artery/Tunnel project in Boston is the most expensive and complex federally assisted highway project ever undertaken. Scheduled to be completed in 2004, the project will build or reconstruct about 7.5 miles of urban highways, about half of which will be underground. The state of Massachusetts has been taking steps to contain costs, but, unless additional savings can be found, increased construction costs are likely to push the project's total net cost higher than the current \$10.8 billion estimate.

In February 1997, we reported several options that could improve the management of large-dollar highway projects, depending on the oversight role that the Congress chooses for the federal government.

- One option—once DOT or the Congress establishes an appropriate dollar threshold and definition for large-dollar highway

projects—would be for states to prepare total cost estimates for such projects. We have found that one reason costs increase on large-dollar projects over time is that the initial cost estimates are preliminary and not designed to be reliable predictors of a project's total costs.

- Another option would be for states to track progress on these projects against their initial estimates of baseline costs. While cost growth has occurred on many large-dollar projects, the amount of and reasons for these increases cannot be determined because data are not readily available from FHWA or state highway departments. Preparing estimates of baseline costs and schedules could improve the management of large-dollar projects by providing managers with real-time information for identifying problems early and for making decisions about changes to the projects that could affect costs. Tracking progress could also create a database that would allow for the identification of problems commonly experienced by projects and would provide a better basis for estimating costs in the future.
- Another option would be to establish performance goals and strategies for controlling costs as a large-dollar project

moves through its design and construction phases.

- Finally, another option would be to establish a process for the federal approval of large-dollar projects. FHWA does not approve projects at their outset; its approval consists of a series of incremental approvals that occur over the years required to plan, design, and build them. Requiring federal approval at the outset—including the approval of cost estimates and finance plans—could provide greater certainty in state planning and could help ensure successful financing by providing additional assurances to potential funding sources.

The Congress has recently taken steps to improve the management of large-dollar highway projects. The Transportation Equity Act for the 21st Century requires the states to submit finance plans for highway projects that are expected to cost \$1 billion or more. However, it will be up to FHWA to develop regulations that indicate the specific standards and information requirements for these plans.

---

**Oversight of  
Transit Projects  
Improving, but  
Better Follow-Up  
on  
Noncompliance  
Needed**

The Federal Transit Administration (FTA)—with a budget of \$4.8 billion for fiscal year 1998—has improved its oversight of federal transit grants. However, the agency needs to continue to do more to help ensure the timely correction of deficiencies found during its oversight reviews. In 1992, we designated FTA’s management and oversight of its grants as a high-risk area that was especially vulnerable to fraud, waste, abuse, and mismanagement. In 1995, as a result of various initiatives that FTA was undertaking to improve its grants management oversight, we removed the agency from our high-risk list with the understanding that we would continue to monitor the progress of its oversight initiatives. In April 1998, we reported that FTA had strengthened its oversight of federal transit grants. FTA is continuing to enhance the quality and the consistency of its oversight by improving guidance and training for staff and grantees, standardizing oversight procedures, and effectively using contractor staff. In particular, the agency’s risk assessment process helps target limited oversight resources and provides a strong foundation for improved oversight. FTA is emphasizing not only the local financial commitment of grantees seeking federal funding for new projects but is also hiring financial

management contractors to review and oversee the financial viability of projects with existing grant agreements.

However, FTA needs to continue to do more to help ensure the timely correction of deficiencies found during its oversight reviews of transit grants. We found that, frequently, some grantees still did not meet FTA's time frames for corrective action and that FTA had allowed compliance deadlines to be revised, which enabled grantees to delay corrective action. Also, FTA's oversight information system lacks complete, timely data; hence, the information cannot be used effectively by FTA's headquarters officials to manage and monitor grantees' compliance with the agency's requirements. The system is intended to track the resolution of oversight findings and has the potential to be a useful tool in monitoring compliance, identifying problems, and assessing the overall effectiveness of the oversight program in meeting performance standards. Currently, however, the information in the system is not updated as required by regional staff, nor is it used by headquarters officials to help manage or monitor the oversight activities of regional staff—leaving FTA susceptible to and unable to quickly respond to situations in its regional offices

that might compromise good oversight. According to FTA, a new tracking system has been developed to address these concerns, but it has not been fully implemented yet.

---

**Key Contact**

John H. Anderson, Jr., Director  
Transportation Issues  
Resources, Community, and Economic  
Development Division  
(202) 512-2834  
andersonj.rced@gao.gov

---

**Amtrak's  
Financial  
Condition Is  
Tenuous**

Since it began operations in 1971, Amtrak has never been profitable and, in recent years, has had to borrow money to meet its operating expenses. Since its inception, Amtrak has received nearly \$22 billion in federal subsidies for operating and capital expenses. Despite efforts to control expenses and increase revenues, Amtrak's financial condition has substantially deteriorated in recent years, and it is likely to remain heavily dependent on federal assistance well into the future. In fiscal year 1998, Amtrak's annual net loss was \$854 million, \$92 million more than its 1997 net loss of \$762 million.

Amtrak has stated that it will eliminate the need for federal operating support by 2002. If Amtrak requires federal operating subsidies after December 2002, the Amtrak Reform and Accountability Act of 1997 provides for the Congress to consider either restructuring or liquidating Amtrak. Predicting how Amtrak might be restructured is difficult. In a liquidation, not only might Amtrak's creditors (or their insurers) face losses, but the 100 million passengers each year in the Northeast Corridor, as well as millions of others in the rest of the country, could face disrupted rail service. At the time of liquidation, the losses suffered by creditors will depend on such circumstances as Amtrak's debt and financial obligations and the market value of its assets, as well as the proceeds from their sale. As of September 1997, Amtrak's data showed that combined secured and unsecured debt liability could be about \$2.2 billion. We believe, and DOT agrees, that the federal government would not be legally liable for secured and unsecured creditors' claims in the event of Amtrak's liquidation. Nevertheless, we recognize that creditors could attempt to recover losses from the United States.

The financial performance of Amtrak's intercity routes is indicative of Amtrak's financial problems. In 1997, expenses for Amtrak's core intercity passenger services were almost twice as great as revenues.<sup>3</sup> Moreover, Amtrak's expenses were at least twice as much as its revenues for 28 of its 40 routes in that year. Amtrak's expenses on 11 of these routes were 2-1/2 times or more than its revenues for each route. Finally, 14 routes lost more than \$100 per passenger carried. Only one route—the Metroliner's high-speed service between Washington, D.C., and New York City—was profitable.

Recently, Amtrak has focused on improving its financial performance by identifying growth opportunities rather than by reducing service. In explaining the rationale for not cutting Amtrak's route system further at this time, officials at Amtrak and the Federal Railroad Administration (FRA) pointed to Amtrak's mission of maintaining a national route system, noting that such a system will consist of routes with a range of profitability, including routes with lower performance that may provide connecting

---

<sup>3</sup>Overall, Amtrak's expenses were \$1.86 for every dollar in operating revenue that it earned. Core intercity passenger services include mail and express merchandise services but exclude revenues and expenses from Amtrak's commuter operations, other reimbursable activities, and commercial development. Expense amounts include depreciation, which is a noncash expense.

service with other routes or that may provide public benefits, such as serving small cities and rural areas. In the spring of 1998, Amtrak started a year-long market analysis of the role and growth potential of the national route system. The analysis is to assess service, demand, and revenues on Amtrak's current route system and alternative systems. The analysis will be used to identify service amenities, price changes, and changes to the existing route system that may improve ridership and revenues.

Because it loses money on 39 of its 40 routes, the business decisions that Amtrak makes regarding the structure of its route system will play a crucial role in determining its long-term viability. However, Amtrak has encountered opposition when it has proposed to cut routes to improve its overall financial performance because of the desire of local communities to see passenger service continued. FRA officials acknowledge that no clear public policy currently defines the role of passenger rail in the national transportation system. As a result, the Congress needs to decide on the nation's expectations for intercity rail and the scope of Amtrak's mission in providing that service. These decisions require defining

expectations for a route network, determining the extent to which the government would contribute funds, and deciding on the way any remaining deficits, if any, would be covered. We believe that Amtrak, as currently constituted, will need substantial federal operating and capital support well into the future. Whether Amtrak will be able to improve its position substantially in the near term is doubtful. If not, the Congress will be asked to provide substantial sums of money each year to support Amtrak. If the Congress is not willing to provide such levels of funds, then Amtrak's future could be radically different, or Amtrak may not exist at all.

---

**Key Contact**

John H. Anderson, Jr., Director  
Transportation Issues  
Resources, Community, and Economic  
Development Division  
(202) 512-2834  
andersonj.rced@gao.gov

---

**DOT Lacks  
Accountability for  
Its Financial  
Activities**

DOT's lack of accountability for its financial activities impairs its ability to efficiently and effectively manage programs and exposes the Department to potential waste, fraud, mismanagement, and abuse. Since 1993,

when the Office of Inspector General began auditing the financial statements of certain agencies within the Department, it has been unable to determine whether the reported financial results are correct and thus has been unable to express an opinion on the reliability of those statements. The Inspector General has also been unable to express an opinion on the reliability of the departmentwide statements since those statements were audited beginning with fiscal year 1996. In addition, DOT lacks a cost-accounting system or an alternative means of accumulating the full cost of specific projects and activities. DOT has efforts under way to correct its financial management deficiencies, but its goal of correcting all deficiencies for its fiscal year 1999 financial statement may be difficult to attain because of the numerous problems that need to be addressed.

---

**The Accuracy of  
Financial Data Is  
Uncertain**

On March 31, 1998, the Office of Inspector General was unable to express an opinion on the reliability of the departmentwide financial statements for fiscal year 1997 because it could not verify the reliability of the amounts for property, plant, and equipment reported at \$26.5 billion, inventory reported at \$2.0 billion,

postemployment benefits (primarily the Coast Guard's pension liability) reported at \$14.0 billion, and excise tax revenue reported at \$28.4 billion. Because of actions by DOT and others, the latter two audit issues have a reasonable chance of having been corrected for fiscal year 1998. However, serious financial management weaknesses at FAA contribute to the remaining issues.

In its report, the Office of Inspector General also cited problems with the Department's accounting systems, which prevented the agency from complying with the Federal Financial Management Improvement Act of 1996.<sup>4</sup> The Inspector General concluded that for the agency to comply with the act, it needs to (1) modify its accounting systems to be the primary source of financial information to prepare the consolidated financial statements and (2) complete assessments of Year 2000 computer problems.

For the property, plant, and equipment account and inventory amounts reported, the Inspector General concluded that FAA and

---

<sup>4</sup>This act requires agencies to implement and maintain financial management systems that comply substantially with Federal Financial Management System Requirements, applicable federal accounting standards, and the U.S. Standard General Ledger at the transaction level.

the Coast Guard could not reliably determine the quantities and the locations of these assets or provide sufficient information to verify their values. Specific deficiencies included (1) the lack of comprehensive physical inventories, (2) inaccurate general ledger balances, (3) inadequate subsidiary records, (4) the lack of supporting documentation, (5) unreconciled discrepancies between balances maintained in their accounting systems and the detailed subsidiary records, and (6) the lack of a cost-accounting system.

We have reported that problems in accounting for property, plant, and equipment affect DOT's ability to properly manage these assets and may result in operating inefficiencies. For example, in FAA, mission-critical equipment, such as radar and other air traffic control equipment, may be difficult to locate when needed, which could exacerbate an emergency situation. Also, theft could go undetected, and funds could be spent unnecessarily to acquire equipment that is already on hand.

We have also reported that DOT's lack of inventory accountability can result in program officials' inability to make prudent business decisions and to adequately

safeguard assets. It may also impair operational effectiveness. For example, because of inaccurate inventory information, funding requests may not be based on actual needs, unnecessary purchases may be made, and inventory may be overstocked or hoarded because of concerns about availability. The resulting excesses as well as spare parts for equipment no longer in service would require storage, inventory control, and other activities that consume operating resources. Inaccurate inventories can also result in the shortage of or the inability to locate essential parts necessary to repair mission-critical systems. Furthermore, these underlying data deficiencies preclude DOT from accurately determining the cost of its operations and may permit undetected waste, fraud, and abuse related to these assets.

---

Systems to  
Determine Full Cost  
Have Not Been  
Implemented

DOT lacks a cost-accounting system or an alternative means to accumulate costs. This means that DOT's financial reports (1) may not be capturing the full cost of specific projects and activities and (2) may lack a reliable "Statement of Net Cost," which includes functional cost allocations. The lack of cost-accounting information limits FAA's and others' ability to make effective

decisions about resource needs and to adequately control major projects, such as the \$42 billion air traffic control modernization program. For example, we have reported that without good cost information, FAA cannot reliably measure the actual cost of the modernization program against established baselines and cannot improve future cost estimates. Finally, the lack of reliable cost information limits DOT's ability to meaningfully evaluate performance in terms of efficiency and cost-effectiveness, as called for by the Government Performance and Results Act of 1993.

DOT, especially FAA, has made substantial progress in developing its cost-accounting system, but more still needs to be done. For example, an August 1998 report by DOT's Inspector General identified four systems design issues potentially involving billions of dollars that FAA needs to address before its cost-accounting system can accurately account for the full cost of operations. These issues include establishing a method to identify and reflect (1) the cost of accounting adjustments, (2) the cost for all development projects, (3) the cost incurred by other agencies for air traffic services, and (4) the correct labor cost charged to appropriate projects.

---

**Corrective  
Actions Are  
Under Way, but  
Progress in Some  
Areas Is Slow**

On May 26, 1998, the President requested DOT, among other agencies, to submit to the Office of Management and Budget by July 31, 1998, a plan for resolving the financial reporting deficiencies that were identified in its financial statement audits. DOT submitted the required plan, though not until September 30, 1998. This plan (1) identified actions by DOT, especially FAA and the Coast Guard, to correct weaknesses reported in the Inspector General's audits and (2) established the goal of an unqualified audit opinion on DOT's fiscal year 1999 financial statements. For example, the plan called for completing physical counts of and developing appropriate support for the valuation of property, plant, equipment, and inventory at FAA and the Coast Guard. It also called for developing adequately documented processes and reconciling detailed records to summary accounts.

DOT is taking actions outlined in its plan to correct financial management deficiencies, but it faces significant challenges owing to the numerous problems that need to be addressed. For example, FAA and the Coast Guard have developed plans to improve cost information, reconcile data, help ensure that the integrity of information systems is maintained, and prepare reliable financial

statements by September 30, 1999. However, progress has been slow in some areas, and much remains to be done. For example, FAA's original plan called for full implementation of its cost-accounting system by October 1, 1998; FAA subsequently revised this date to March 31, 1999, which has been described by the Inspector General as "very ambitious." If DOT continues to fall behind in meeting its planned completion dates, it is questionable whether it will achieve its goal of receiving an unqualified audit opinion for fiscal year 1999.

The financial management weaknesses discussed above are particularly troublesome at FAA because of their long-standing nature and the agency's slow progress in resolving them. Timely resolution is especially key, given that FAA is in the midst of a \$42 billion program to modernize its air traffic control systems. Until FAA's serious financial management problems are resolved, we will continue to designate financial management at the agency as high-risk.

---

**Key Contact**

Linda M. Calbon, Director  
Resources, Community, and Economic  
Development Division Accounting

---

**Major Performance and Management  
Issues**

---

and Financial Management Issues  
Accounting and Information Management  
Division  
(202) 512-9508  
calboml.aimd@gao.gov

---

# Related GAO Products

---

## Acquisition Management

Air Traffic Control: Status of FAA's Modernization Program ([GAO/RCED-99-25](#), Dec. 3, 1998).

Coast Guard's Acquisition Management: Deepwater Project's Justification and Affordability Need to Be Addressed More Thoroughly ([GAO/RCED-99-6](#), Oct. 26, 1998).

National Airspace System: FAA Has Implemented Some Free Flight Initiatives, but Challenges Remain ([GAO/RCED-98-246](#), Sept. 28, 1998).

Air Traffic Control: Immature Software Acquisition Processes Increase FAA System Acquisition Risks ([GAO/AIMD-97-47](#), Mar. 21, 1997).

Air Traffic Control: Complete and Enforced Architecture Needed for FAA Systems Modernization ([GAO/AIMD-97-30](#), Feb. 3, 1997).

Aviation Acquisition: A Comprehensive Strategy Is Needed for Cultural Change at FAA ([GAO/RCED-96-159](#), Aug. 22, 1996).

---

## Year 2000 Compliance

Responses to Questions on FAA's Computer Security and Year 2000 Program ([GAO/AIMD-98-301R](#), Sept. 14, 1998).

FAA Systems: Serious Challenges Remain in Resolving Year 2000 and Computer Security Problems ([GAO/T-AIMD-98-251](#), Aug. 6, 1998).

Air Traffic Control: FAA Plans to Replace Its Host Computer System Because Future Availability Cannot Be Assured ([GAO/AIMD-98-138R](#), May 1, 1998).

Year 2000 Computing Crisis: FAA Must Act Quickly to Prevent Systems Failures ([GAO/T-AIMD-98-63](#), Feb. 4, 1998).

FAA Computer Systems: Limited Progress on Year 2000 Issue Increases Risk Dramatically ([GAO/AIMD-98-45](#), Jan. 30, 1998).

---

**Aviation  
Financing**

Airfield Pavement: Keeping Nation's Runways in Good Condition Could Require Substantially Higher Spending ([GAO/RCED-98-226](#), July 31, 1998).

Airport Financing: Funding Sources for Airport Development ([GAO/RCED-98-71](#), Mar. 12, 1998).

Transportation Financing: Challenges in Meeting Long-Term Funding Needs for FAA, Amtrak, and the Nation's Highways ([GAO/T-RCED-97-151](#), May 7, 1997).

Airport Development Needs: Estimating Future Costs ([GAO/RCED-97-99](#), Apr. 7, 1997).

National Airspace System: Issues in Allocating Costs for Air Traffic Services to DOD and Other Users ([GAO/RCED-97-106](#), Apr. 25, 1997).

Air Traffic Control: Improved Cost Information Needed to Make Billion Dollar Modernization Investment Decisions ([GAO/AIMD-97-20](#), Jan. 22, 1997).

---

**Aviation Safety  
and Security**

Air Traffic Control: Weak Computer Security Practices Jeopardize Flight Safety ([GAO/AIMD-98-155](#), May 18, 1998).

Aviation Safety: FAA Has Not Fully Implemented Weather-Related Recommendations ([GAO/RCED-98-130](#), June 2, 1998).

Aviation Security: Progress Being Made, but Long-Term Attention Is Needed ([GAO/T-RCED-98-190](#), May 14, 1998).

Aviation Security: Implementation of Recommendations Is Under Way, but Completion Will Take Several Years ([GAO/RCED-98-102](#), Apr. 24, 1998).

Aviation Safety: Weaknesses in Inspection and Enforcement Limit FAA in Identifying and Responding to Risks ([GAO/RCED-98-6](#), Feb. 27, 1998).

Aviation Safety: Efforts to Implement Flight Operational Quality Assurance Programs ([GAO/RCED-98-10](#), Dec. 2, 1997).

Human Factors: FAA's Guidance and Oversight of Pilot Crew Resource Management Training Can Be Improved ([GAO/RCED-98-7](#), Nov. 24, 1997).

Aviation Safety: FAA Oversight of Repair Stations Needs Improvement ([GAO/RCED-98-21](#), Oct. 24, 1997).

---

**Aviation  
Competition**

Aviation Competition: Proposed Domestic Airline Alliances Raise Serious Issues ([GAO/T-RCED-98-215](#), June 4, 1998).

Domestic Aviation: Service Problems and Limited Competition Continue in Some Markets ([GAO/T-RCED-98-176](#), Apr. 23, 1998).

Aviation Competition: International Aviation Alliances and the Influence of Airline Marketing Practices ([GAO/T-RCED-98-131](#), Mar. 19, 1998).

---

**Related GAO Products**

---

Airline Deregulation: Barriers to Entry Continue to Limit Competition in Several Key Domestic Markets ([GAO/RCED-97-4](#), Oct. 18, 1996).

Airline Deregulation: Changes in Airfares, Service, and Safety at Small, Medium-Sized, and Large Communities ([GAO/RCED-96-79](#), Apr. 19, 1996).

---

**Surface  
Transportation  
Infrastructure**

Mass Transit: Grants Management Oversight Improving, but Better Follow-Up Needed on Grantees' Noncompliance ([GAO/RCED-98-89](#), Apr. 3, 1998).

Surface Infrastructure: Costs, Financing, and Schedules for Large-Dollar Transportation Projects ([GAO/RCED-98-64](#), Feb. 12, 1998).

Transportation Infrastructure: Managing the Costs of Large-Dollar Highway Projects ([GAO/RCED-97-47](#), Feb. 28, 1997).

---

**Amtrak**

Intercity Passenger Rail: Financial Performance of Amtrak's Routes ([GAO/RCED-98-151](#), May 14, 1998).

---

**Related GAO Products**

---

Intercity Passenger Rail: Outlook for Improving Amtrak's Financial Health ([GAO/T-RCED-98-134](#), Mar. 24, 1998).

Intercity Passenger Rail: Issues Associated With a Possible Amtrak Liquidation ([GAO/RCED-98-60](#), Mar. 2, 1998).

Intercity Passenger Rail: Financial and Operating Conditions Threaten Amtrak's Long-Term Viability ([GAO/RCED-95-71](#), Feb. 6, 1995).

---

**Financial Management**

Financial Management: Federal Aviation Administration Lacked Accountability for Major Assets ([GAO/AIMD-98-62](#), Feb. 18, 1998).

Air Traffic Control: Improved Cost Information Needed to Make Billion Dollar Modernization Investment Decisions ([GAO/AIMD-97-20](#), Jan. 22, 1997).

---

**Other GAO Products**

Results Act: Observations on the Department of Transportation's Annual Performance Plan for Fiscal Year 1999 ([GAO/RCED-98-180R](#), May 12, 1998).

---

**Related GAO Products**

---

DOT's Budget: Management and Performance Issues Facing the Department in Fiscal Year 1999 ([GAO/T-RCED/AIMD-98-76](#), Feb. 12, 1998).

Federal Management: Addressing Management Issues at the Department of Transportation ([GAO/T-RCED/AIMD-97-172](#), May 21, 1997).

---

# Performance and Accountability Series

---

Major Management Challenges and Program Risks: A Governmentwide Perspective  
(GAO/OCG-99-1)

Major Management Challenges and Program Risks: Department of Agriculture  
(GAO/OCG-99-2)

Major Management Challenges and Program Risks: Department of Commerce  
(GAO/OCG-99-3)

Major Management Challenges and Program Risks: Department of Defense (GAO/OCG-99-4)

Major Management Challenges and Program Risks: Department of Education  
(GAO/OCG-99-5)

Major Management Challenges and Program Risks: Department of Energy (GAO/OCG-99-6)

Major Management Challenges and Program Risks: Department of Health and Human Services (GAO/OCG-99-7)

Major Management Challenges and Program Risks: Department of Housing and Urban Development (GAO/OCG-99-8)

Major Management Challenges and Program Risks: Department of the Interior  
(GAO/OCG-99-9)

Major Management Challenges and Program Risks: Department of Justice (GAO/OCG-99-10)

Major Management Challenges and Program Risks: Department of Labor (GAO/OCG-99-11)

Major Management Challenges and Program Risks: Department of State (GAO/OCG-99-12)

Major Management Challenges and Program Risks: Department of Transportation  
(GAO/OCG-99-13)

Major Management Challenges and Program Risks: Department of the Treasury  
(GAO/OCG-99-14)

Major Management Challenges and Program Risks: Department of Veterans Affairs  
(GAO/OCG-99-15)

Major Management Challenges and Program Risks: Agency for International Development  
(GAO/OCG-99-16)

Major Management Challenges and Program Risks: Environmental Protection Agency  
(GAO/OCG-99-17)

Major Management Challenges and Program Risks: National Aeronautics and Space Administration (GAO/OCG-99-18)

Major Management Challenges and Program Risks: Nuclear Regulatory Commission  
(GAO/OCG-99-19)

Major Management Challenges and Program Risks: Social Security Administration  
(GAO/OCG-99-20)

Major Management Challenges and Program Risks: U.S. Postal Service (GAO/OCG-99-21)

High-Risk Series: An Update (GAO/HR-99-1)

**The entire series of 21 performance and accountability reports and the high-risk series update can be ordered by using the order number **GAO/OCG-99-22SET**.**

---

## **Ordering Information**

**The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. VISA and MasterCard credit cards are accepted, also. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.**

### **Orders by mail:**

**U.S. General Accounting Office  
P.O. Box 37050  
Washington, DC 20013**

### **or visit:**

**Room 1100  
700 4th St. NW (corner of 4th & G Sts. NW)  
U.S. General Accounting Office  
Washington, DC**

**Orders may also be placed by calling  
(202) 512-6000 or by using fax number  
(202) 512-6061, or TDD (202) 512-2537.**

**Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.**

**For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to: [info@www.gao.gov](mailto:info@www.gao.gov)**

**or visit GAO's World Wide Web Home Page at:  
<http://www.gao.gov>**

---

**United States  
General Accounting Office  
Washington, D.C. 20548-0001**

**Official Business  
Penalty for Private Use \$300**

**Address Correction Requested**

---

<p><b>Bulk Rate Postage &amp; Fees Paid GAO Permit No. G100</b></p>
---