United States Government Accountability Office

GAO

Report to Congressional Requesters

August 2005

NASA TRAVEL

Passenger Aircraft Services Annually Cost Taxpayers Millions More Than Commercial Airlines

GAO-05-818

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GAO Accountability·Integrity·Reliability

Highlights

Highlights of GAO-05-818, a report to the Committee on Homeland Security and Governmental Affairs, U.S. Senate

Why GAO Did This Study

Since its creation, the National Aeronautics and Space Administration (NASA) has operated passenger aircraft services. These operations have been questioned in several prior audit reports. GAO was asked to perform a series of audits of NASA's controls to prevent fraud, waste, and abuse of taxpayer dollars. In this audit, GAO assessed (1) the relative cost of NASA passenger aircraft services in comparison with commercial costs, (2) whether NASA aircraft services were retained and operated in accordance with governmentwide guidance, and (3) the effectiveness of NASA's oversight and management of this program.

What GAO Recommends

Because NASA management has been largely unresponsive to similar prior recommendations, this report includes a matter for congressional consideration concerning legislation to restrict NASA's ownership of passenger aircraft and funding for passenger aircraft services to those needed solely to meet valid mission requirements. To the extent Congress determines NASA should retain passenger aircraft services, GAO makes recommendations to improve program management. NASA concurred with GAO's recommendations and outlined various planned actions. Depending on NASA actions, additional congressional action may also be needed.

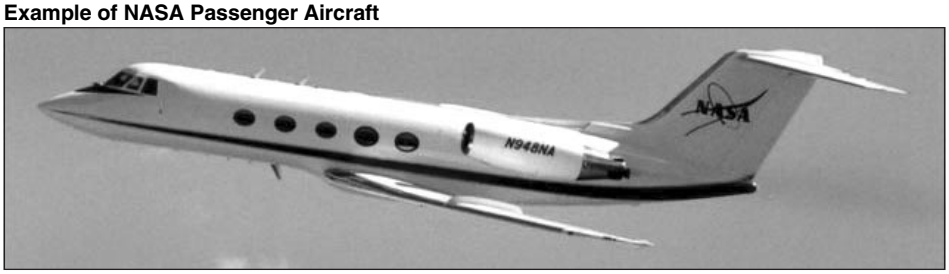
www.gao.gov/cgi-bin/getrpt?GAO-05-818.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gregory Kutz at (202) 512-9505 or kutzg@gao.gov.

What GAO Found

NASA-owned and -chartered passenger aircraft services provide a perquisite to employees, but cost taxpayers an estimated five times more than flying on commercial airlines. While the majority of NASA air travel is on commercial airlines, NASA employees took at least 1,188 flights using NASA passenger aircraft services during fiscal years 2003 and 2004.

Example of NASA Passenger Aircraft



Source: NASA.

Use of NASA passenger aircraft services can save time, provide more flexibility to meet senior executives' schedules, and provide other less tangible and quantifiable benefits. However, GAO's analysis of available reported data related to NASA passenger aircraft services during fiscal years 2003 and 2004 showed NASA reported costs were nearly $25 million compared with estimated commercial airline coach transportation costs of about $5 million. Further, this relative cost comparison, based on available NASA reported costs, did not take into account all applicable types of costs associated with its passenger aircraft services, including, for example, depreciation associated with the estimated $14 million NASA paid in 2001 to acquire several aircraft used for passenger transportation. Consequently, NASA's passenger air transportation services are much more costly than indicated by available data. Further, NASA is currently considering additional expenditures of about $77 million to upgrade and expand its existing passenger fleet.

NASA's ownership of aircraft used to provide passenger transportation conflicts with federal policy allowing agencies to own aircraft only as needed to meet specified mission requirements, such as prisoner transportation and aeronautical research. GAO's analysis of NASA passenger aircraft flights for fiscal years 2003 and 2004 showed that an estimated 86 percent—about seven out of every eight flights—were taken to support routine business operations specifically prohibited by federal policy regarding aircraft ownership, including routine site visits, meetings, speeches, and conferences. Further, agencywide oversight and management of its passenger aircraft services was not effective. NASA's ability to make informed decisions on continued ownership of its passenger aircraft fleet and on flight-by-flight justifications was impaired by the lack of reliable agencywide data on aircraft costs and other weak management oversight practices.

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GAO
Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, D.C. 20548

August 26, 2005

The Honorable Susan M. Collins
Chairman
The Honorable Joseph I. Lieberman
Ranking Minority Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Ted Stevens
Chairman
Committee on Commerce, Science, and Transportation
United States Senate

Since its creation in 1958, the National Aeronautics and Space Administration (NASA) has owned and operated a small fleet of aircraft to provide passenger transportation. These aircraft are in addition to approximately 80 aircraft that NASA reported using in its research and development and program support operations. NASA also contracted with charter carriers or had interagency agreements with other federal agencies to obtain additional passenger air transportation services. Collectively, these NASA-owned and -chartered aircraft constitute NASA's passenger aircraft services.

As we have previously reported, NASA is now contending with urgent fiscal challenges pressuring discretionary spending—requiring it to do more with fewer resources–as it seeks to carry out its new vision for space exploration.[1] In this context, you asked us to focus on controls to prevent wasteful or abusive activity with respect to resources allocated to NASA's passenger aircraft services. In general, federal policy provides that agencies should operate aircraft only as necessary to meet mission requirements, such as prisoner transportation or aeronautical research. Federal agencies' use of aircraft has been the subject of numerous audit reports over the years, including a 1977 GAO report[2] that concluded that agencies should determine whether aircraft are "essential or merely nice to have" and whether essential work could not be accomplished some

[1]GAO, *Space Shuttle: Actions Needed to Better Position NASA to Sustain Its Workforce through Retirement*, GAO-05-230 (Washington, D.C.: Mar. 9, 2005).

[2]GAO, *Improvements Are Needed in Managing Aircraft Used By Federal Agencies*, LCD-77-430 (Washington, D.C: Dec. 22, 1977).

cheaper way. In this regard, you requested that our audit address (1) the relative cost of NASA passenger aircraft services compared with commercial coach costs, (2) whether NASA's retention and operation of aircraft for passenger transportation was in accordance with applicable governmentwide guidance, and (3) the effectiveness of NASA's oversight and management of its passenger aircraft services.

To determine and assess the relative costs of NASA's passenger aircraft with comparable commercial airline costs, we relied primarily on available NASA cost data. However, wherever feasible we validated NASA's cost data with comparable independent data sources, including industry data from the manufacturers of both the Gulfstream and Beechcraft aircraft NASA used to provide passenger transportation services. Specifically, we validated the cost estimates used in our analysis with cost metrics the manufacturers reported related to their aircraft. In addition, because NASA did not maintain centralized agencywide data, we obtained available flight-by-flight NASA passenger aircraft cost and usage data from source documents maintained at NASA centers and compiled the information into our database of agencywide information. We did not attempt to determine the validity or appropriateness of the travel, nor did we assess whether the type and number of personnel using NASA passenger aircraft services were appropriate given the stated flight purposes.

Further, while our audit focused on overall management controls in place to prevent waste concerning NASA's passenger aircraft services, it was not designed to, nor did it include, investigations of any specific instances of potentially abusive activity associated with travel on NASA's passenger aircraft. Nonetheless, based on our work, it is clear NASA's current policies and practices result in significant waste of taxpayer funds. Furthermore, given the weaknesses we found in the agency's controls over its passenger aircraft services, significant abuse of such services is possible. As a result, we are planning a separate forensic audit and investigative review in this regard and will report separately when it is completed. Further details on our scope and methodology are included in appendix I. We performed our work from November 2004 through June 2005 in accordance with U.S. generally accepted government auditing standards and our investigative work in accordance with investigative standards prescribed by the President's Council on Integrity and Efficiency. We received written comments on a draft of this report from the NASA Administrator which are reprinted in appendix II.

Results in Brief

NASA's passenger aircraft services—including aircraft owned by NASA and chartered through the Federal Aviation Administration (FAA), the Department of Defense (DOD), and private charter services—cost taxpayers at least five times more per passenger than flying on commercial airlines. While the majority of NASA air travel is carried out using commercial airlines, NASA-provided data showed that NASA employees took at least 1,188 flights using NASA passenger aircraft services during fiscal years 2003 and 2004.

An analysis of available data on the cost of these NASA passenger aircraft flights showed NASA passenger aircraft services were about $20 million more costly than comparable commercial coach ticket costs. Costs associated with NASA's passenger aircraft services were in the order of $25 million, while commercial coach tickets for the same number of travelers would have been approximately $5 million. This cost comparison is based primarily on available NASA cost reporting. However, NASA's passenger air transportation services are much more costly than reported because NASA's cost reporting did not take into account all costs applicable to NASA's passenger transportation services, including costs associated with acquiring NASA's existing fleet of passenger aircraft, liability insurance costs, and costs associated with capital improvement. For example, NASA aircraft costs disclosed in its annual reporting did not reflect depreciation associated with NASA's 2001 aircraft acquisition of at least $13.9 million. Further, NASA's costs of owning and operating passenger aircraft may increase significantly in the near future with about $77 million that it is considering spending to upgrade and expand its passenger aircraft fleet. These costs include costs associated with new aircraft to replace its existing aging fleet and installation of noise abatement packages. If NASA incurs these additional passenger transportation service costs, the extent to which NASA's passenger air transportation service costs exceed commercial costs will increase further in the near term.

While costly, using NASA-owned and -chartered passenger aircraft provides a perquisite to NASA employees. Passenger aircraft services can save NASA employees' time, afford greater flexibility in meeting senior executives' schedules, and provide opportunities for other less tangible and quantifiable benefits over using commercial airlines. Interviewed passengers stated that, while the travel could have been completed using commercial airlines, travel on NASA-owned or -chartered aircraft avoided airport delays and facilitated conducting NASA business while in-flight.

Further, NASA's ownership of aircraft to provide passenger transportation supporting routine business operations is not consistent with OMB policy guidance.[3] OMB's governmentwide guidance directs agencies to acquire and retain only the number and size aircraft needed to meet direct mission requirements (such as counter-narcotics activities, troop transportation, and aeronautical research). OMB's guidance expressly provides that routine site visits, meetings, conferences, and speeches are not within its definition of mission-required activities. In contrast, while NASA's implementing guidance reiterates the OMB policy prohibition on using aircraft supporting routine business operations as a basis for continuing aircraft ownership, its guidance also provides that mission-required use of aircraft includes support for activities "directly related to approved NASA programs or projects." This guidance has been interpreted to allow acquiring and retaining aircraft for any official travel related to NASA's programs or projects, regardless of whether the travel was mission required.

Our analysis of available documentation on flight purposes shows that NASA's implementation of the provision in its guidance related to using aircraft in direct program or project support is inconsistent with OMB policy against owning aircraft to support meetings, conferences, and speeches. Specifically, our analysis of NASA passenger air transportation services for fiscal years 2003 and 2004 showed that about 86 percent of the flights were taken to support the types of routine business operations expressly prohibited by OMB's guidance for aircraft ownership. In effect, NASA's implementation of its guidance has resulted in NASA owning aircraft to provide passenger transportation for any purpose related to NASA programs or projects, regardless of whether it could have been as efficiently and effectively carried out using commercial airline services.

With respect to oversight of its passenger aircraft services, NASA lacked agencywide data on costs and usage. This limited the agency's ability to provide complete, reliable cost and usage data to NASA top leadership and congressional decision makers for consideration in decisions on acquiring, operating, and retaining aircraft in support of direct mission requirements. Because all applicable agencywide costs associated with NASA's passenger aircraft services are not accumulated and visible to agency managers for day-to-day decision making, NASA program directorates requesting use of

[3] OMB Circular No. A-126 (Revised), *Improving the Management and Use of Government Aircraft* (May 22, 1992).

the aircraft may consider them as a "free" resource because the costs are not directly assessed against their budgets.

Because NASA did not maintain agencywide data on passenger aircraft usage and costs for day-to-day management, we attempted to develop our own database capturing available NASA data on the costs and purposes of flights taken using NASA passenger aircraft services during fiscal years 2003 and 2004. However, while NASA certified to us that it provided complete data on all passenger flights, a comparison with FAA records showed that NASA records were missing data on 97 passenger flights. Further, our database did not include passenger flights by at least two other NASA aircraft—aircraft NASA classified as "program support" aircraft.

Additionally, NASA's process for overseeing and managing flight-by-flight justifications was flawed. OMB policy requires agencies to compare applicable agency flight-by-flight variable costs for proposed flights to commercial airline costs, and to only use its own aircraft services for passenger transportation if such proposed usage is cost effective. Our analysis showed that although NASA flight-by-flight justifications were shown as and approved as cost beneficial to the government; in fact, in the majority of the cases the flights were not cost effective. Available flight-by-flight documentation showed that NASA systematically understated the variable costs associated with its passenger aircraft and overstated commercial costs through use of cost data that were 6 years out of date and use of a largely unsupported multiplier of 2.5 applied to salary costs for the additional time required to fly on commercial airlines. In addition, we found weaknesses in the processes in place at NASA centers to identify and collect reimbursements from nonofficial travelers on NASA-owned or chartered aircraft.

Because NASA management has taken only limited action in response to similar prior audit recommendations in this area, this report includes a matter for congressional consideration concerning legislation to ensure that (1) NASA disposes of all passenger aircraft not used in accordance with OMB's explicit policy prohibition against owning aircraft to support travel to meetings, speeches, conferences, and routine site visits; and (2) funding for future NASA passenger aircraft purchases and operations is restricted to the minimum amount necessary to meet mission requirements consistent with OMB policy guidance restrictions. In addition, to the extent Congress determines NASA needs to continue to retain the ability to own or charter aircraft to provide passenger transportation services, we recommend NASA take a number of actions directed at establishing

policies and procedures necessary to ensure that such services are carried out efficiently and effectively, including maximizing use of flexible cost-effective arrangements to obtain passenger air transportation to meet mission requirements.

In its comments on a draft of this report, NASA concurred with the recommendations directed at NASA and outlined various ongoing and planned actions, including a comprehensive study of its passenger aircraft program to be completed by October 31, 2005. If NASA's study referred to above is carried out effectively and fully considers the various matters discussed in this report, it should provide the Congress valuable information for deciding whether legislation may be needed on this matter.

Background

Under the provisions of the National Aeronautics and Space Act of 1958, NASA is authorized to acquire aircraft.[4] Since its creation, NASA has operated a small fleet of aircraft, primarily to provide passenger transportation. According to the 2004 General Services Administration's Federal Aviation Interactive Reporting System, NASA is one of six civilian agencies[5] that reported operating aircraft primarily for the purpose of passenger transportation.

NASA's Aircraft Inventory

In fiscal year 2003, NASA reported owning and operating a fleet of 85 aircraft valued at $362 million, including aircraft dedicated to program support, research and development, and passenger transportation.

Program Support

NASA reported owning 53 aircraft that were used to provide support to programs such as the Space Shuttle, International Space Station, and Astronaut programs. The majority of these aircraft are located at the Johnson Space Center. For example, shuttle trainers are one type of program support aircraft. These aircraft have been modified to duplicate the shuttle's approach profile, cockpit cues, and handling qualities so that

[4] 42 U.S.C. § 2473 (c) (3). This authorization is subject to Congress making available appropriations.

[5]The other five civilian agencies that reported to GSA that they owned and operated aircraft in fiscal year 2004 primarily for the purpose of passenger transportation were the Departments of Homeland Security, Justice, State, Interior, and Transportation.

astronaut pilots can see and feel simulated approaches and landings before attempting an actual shuttle landing.

Research and Development

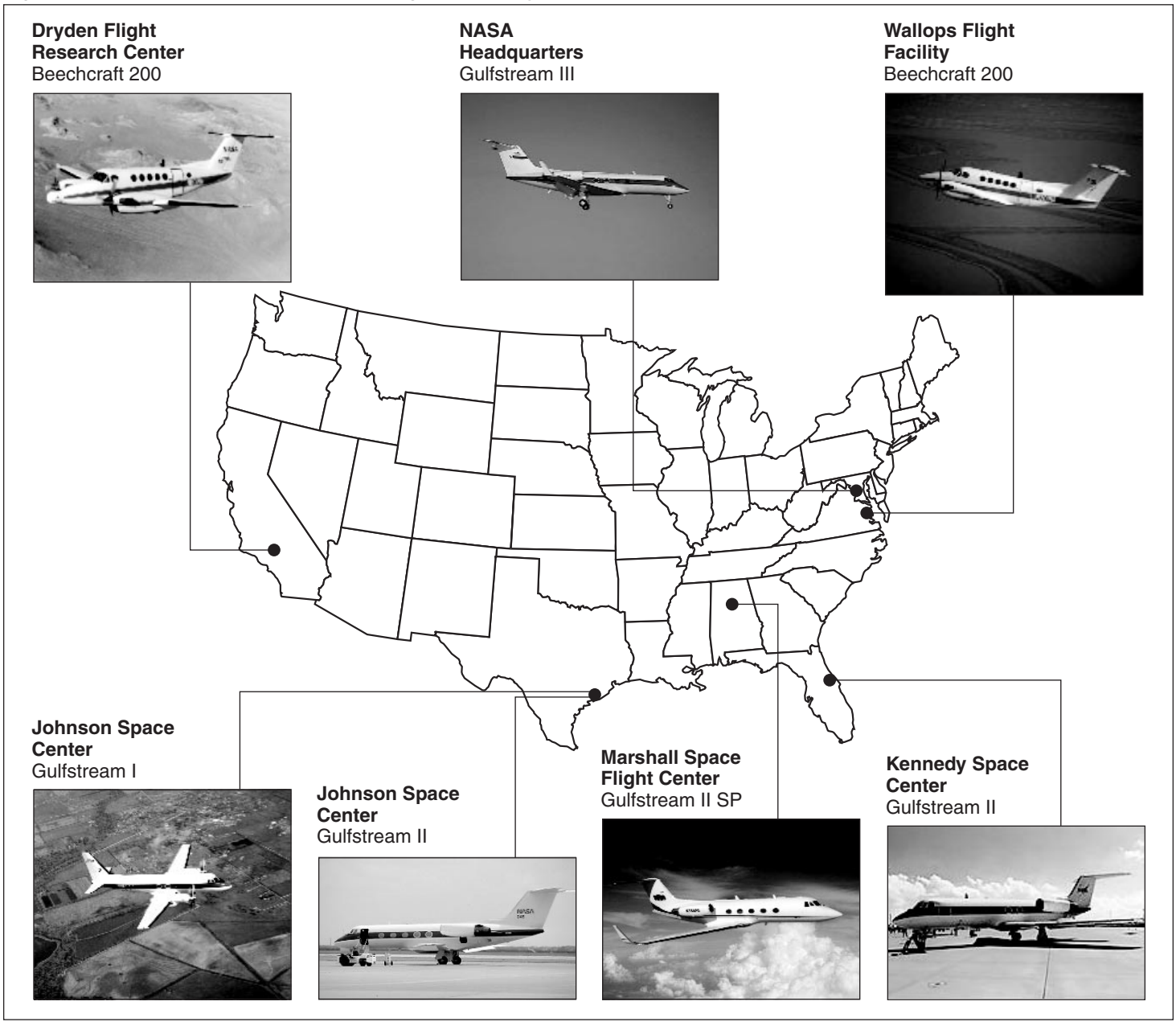
NASA reports owning 25 aircraft to support its research and development efforts. These aircraft have been modified to support the agency's mission to conduct aeronautical research at varying altitudes and atmospheric conditions. For example, NASA operates a modified Learjet 23 as a research platform for the Airborne Terrestrial Land Application Scanner.

Passenger Transportation

NASA owns seven aircraft that are used to provide passenger transportation.[6] In fiscal year 2004, NASA reported its seven passenger aircraft carried nearly 10,000 passengers and logged nearly 4 million passenger miles. Figure 1 provides an overview of the aircraft owned and operated by NASA to provide passenger transportation and their location.

[6] Three of NASA's seven passenger aircraft are classified as program support because they were acquired as backups for existing shuttle trainer aircraft. However, since shortly after their acquisition (one in 1991 and two in 2001), these aircraft have been used primarily to provide passenger transportation. In addition, one aircraft, a Gulfstream I aircraft operated by the Johnson Space Center, was retired from active service in March 2005.

Figure 1: Overview of NASA-Owned Passenger Aircraft Type and Location



Source: GAO.

In addition, NASA obtained passenger transportation services through the Economy Act,[7] a cooperative agreement, and a fractional ownership contract with DOD, FAA, and Flexjet, respectively.

- DOD—Under provisions of the Economy Act, NASA acquired additional passenger aircraft services from DOD using Gulfstream V aircraft. DOD provided documentation for three NASA flights of more than 60 flight hours during fiscal years 2003 and 2004. DOD billed NASA approximately $290,000 for these services.

- FAA—During fiscal years 2003 and 2004, NASA and FAA entered into a shared-use cooperative agreement for four aircraft, three of which were owned by FAA and the other by NASA. All four aircraft were housed at Reagan National Airport in Washington, D.C. In exchange for contributing its one aircraft and $1.1 million annually during 2003 and 2004, NASA received the right to 450 total flight hours per year on any of the four aircraft. Under this agreement, NASA could schedule flights on these aircraft with a minimum of 24 hours advance notice. FAA agreed to pay routine maintenance, fuel, and personnel costs associated with the NASA aircraft. NASA was also allowed to purchase additional hours, beyond the agreed 450 hours, at the hourly rate for the specific aircraft used. During the 2-year period, NASA utilized the four aircraft in this arrangement for approximately 1,600 flight hours for a reported cost of $4.5 million, which included charges for the original 900-hour agreement plus charges for additional hours.

- Flexjet—In October 2000, conferees on the NASA fiscal year 2001 appropriation bills directed NASA to prepare a plan that considers whether fractional ownership of passenger aircraft may be beneficial.[8] In July 2002, pursuant to the conferee guidance, NASA awarded a contract with Flexjet for a 2-year demonstration program to determine the viability of using fractional ownership to meet NASA's administrative air transportation requirements. Under the 2-year demonstration NASA reported cost of approximately $3.5 million in return for a total of approximately 800 flight hours of passenger transportation services.

[7] 31 U.S.C. § 1535. Under the Economy Act, federal agencies are permitted to obtain services from other federal agencies when such services cannot be provided as conveniently or cost-effectively from commercial sources, and reimburse the other agencies for the cost of the services obtained.

[8] H.R. Conf. Rep. No. 106-988, at 164 (2000) accompanying Pub. L. No. 106-377.

Federal Guidance on Aircraft Acquisition, Operation, and Retention

OMB Circular No. A-126 (Revised), *Improving the Management and Use of Government Aircraft* (May 22, 1992), prescribes policies for executive agencies to follow in acquiring, managing, using, accounting for the costs of, and disposing of government aircraft. This circular applies to all government-owned, leased, chartered, and rental aircraft and related services operated by executive agencies, except for aircraft while in use by or in support of the President or Vice President. OMB Circular No. A-126, section 6, a., provides that the number and size of aircraft acquired and retained by an agency and the capacity of those aircraft to carry passengers and cargo should not exceed the level necessary to meet the agency's mission requirements. OMB Circular No. A-126, section 5, b., defines mission requirements to include activities related to the transport of troops and/or equipment, training, evacuation (including medical evacuation), intelligence and counter narcotics activities, search and rescue, transportation of prisoners, use of defense attaché-controlled aircraft, and aeronautical research and space and science applications. OMB Circular No. A-126, section 5, b. explicitly states that mission requirements do not include official travel to give speeches, attend conferences or meetings, or make routine site visits.

In addition to the policies prescribed by OMB Circular No. A-126, agencies must also follow the guidance of OMB Circular No. A-76[9] before purchasing, leasing, or otherwise acquiring aircraft and related services, to assure that these services cannot be obtained from and operated by the private sector more cost effectively. Further, agencies must review periodically the continuing need for all of their aircraft and the cost effectiveness of their aircraft operations in accordance with the requirements of OMB Circular No. A-76 and report the results of these reviews to GSA and OMB. Agencies are to report any excess aircraft and release all aircraft that are not fully justified by these reviews.

Once an agency has justified that it has a valid mission requirement for owning aircraft, OMB Circular No. A-126, section 8, a., permits agencies to use aircraft for official, but nonmission-required travel when:

- no commercial airline or aircraft service is reasonably available (i.e., able to meet the traveler's departure and/or arrival requirements within

[9] OMB Circular No. A-76, (Revised), *Performance of Commercial Activities* (May 29, 2003) establishes policies for competition of agency commercial activities including the use of aircraft.

a 24-hour period, unless the traveler demonstrates that extraordinary circumstances require a shorter period) to fulfill effectively the agency requirement; or

- actual cost of using a government aircraft is not more than the cost of using commercial airlines.

OMB Circular No. A-126, section 14, also provides that agencies maintain systems that will enable them to: (1) justify the cost-effective use of government aircraft in lieu of commercially available air transportation services, and the use of one government aircraft in lieu of another; (2) recover the costs of operating government aircraft when appropriate; (3) determine the cost effectiveness of various aspects of their aircraft programs; and (4) conduct the cost comparisons required by OMB Circular No. A-76 to justify in-house operation of government aircraft versus procurement of commercially available passenger aircraft services. Attachment B of OMB Circular No. A-126 also provides that agency systems must accumulate and summarize costs into the standard passenger aircraft program cost elements. For example, standard cost elements would include items such as fixed and variable crew costs, maintenance costs, fuel costs, and overhaul and repair costs.

GSA Implementing Regulations

In addition, the General Services Administration (GSA) established governmentwide policy on the operation of aircraft by the federal government—including policies for managing the acquisition, use, and disposal of aircraft that the agencies own or hire. GSA publishes its regulatory policies in the Code of Federal Regulations (C.F.R.).[10] GSA also publishes a number of other guides and manuals to help agencies manage the acquisition, use, and disposal of aircraft. These publications include the *U.S. Government Aircraft Cost Accounting Guide*, which contains information on how agencies should account for aircraft costs, and the *Fleet Modernization Planning Guide*, which provides guidance on developing cost-effective fleet replacement plans.

[10] 41 C.F.R. pt. 102-33 (2002).

Past NASA Inspector General Reporting on NASA Passenger Aircraft

NASA's Inspector General (IG) issued two reports on NASA's passenger aircraft, one in 1995 and another in 1999.[11] Both NASA IG reports were critical of NASA's management of these aircraft, identifying weaknesses in NASA's accounting and justification for its passenger aircraft. In its 1995 report, the NASA IG reported that NASA passenger aircraft cost an estimated $5.8 million more annually when compared with commercial airline transportation. The IG recommended actions with respect to NASA's (1) compliance with many of the provisions of OMB Circular Nos. A-126 and A-76 (including fully considering commercial airlines as an alternative to NASA operations of passenger aircraft services), (2) use of outdated and incomplete cost data to justify trips and approval of some trips without adequate justifications, and (3) use of passenger aircraft that were more expensive to operate than using commercial airline services.

The IG's 1999 report focused on one passenger aircraft located at NASA's Marshall Space Flight Center and estimated that the cost of commercial airlines in comparison with the NASA-owned aircraft was $2.9 million less over a 5-year period. Similar to the 1995 report, the 1999 report was also critical of NASA's implementation of guidance in OMB Circular Nos. A-126 and A-76. Further, the report noted that the agency had not effectively addressed actions recommended in the 1995 report concerning the need to more fully and effectively evaluate the use of commercial airlines. The IG recommended that NASA management dispose of the passenger aircraft at Marshall and instead use commercial airlines to satisfy Marshall's air transportation requirements. NASA management disagreed with the findings of both IG reports, stating that commercial airlines cannot effectively meet all the mission requirements and the capability of NASA aircraft outweighs the marginal costs savings of total reliance on commercial airlines.

[11]NASA Office of the Inspector General, Final Report, NASA Aircraft Management, LA-95-001 (Washington, D.C.: Mar. 28, 1995) and NASA Office of the Inspector General, A-76 Study of NASA 3 Aircraft, IG-99-057 (Washington, D.C.: Sept. 30, 1999).

NASA Passenger Aircraft Costs Are Substantially More Than Commercial Airline Costs

An analysis of NASA's reported costs for its passenger aircraft services shows they are an estimated five times more costly than commercial airline coach tickets. For purposes of this aggregate comparative cost analysis, we considered available NASA reported data on costs applicable to its passenger aircraft services—both variable and fixed costs--in comparison with commercial airline service costs. Specifically, to assess the aggregate costs associated with NASA-owned and -chartered passenger aircraft, we accumulated available NASA annual report passenger aircraft services cost data for fiscal years 2003 and 2004, validated to the extent feasible with industry standards, and compared these cost estimates with total estimated commercial airline costs based on the cost of an average coach ticket. We determined that NASA's reported costs for the aircraft it owned or chartered were on the order of about $20 million more costly over a 2-year period than if NASA had used commercial airline services to carry out the same number of business trips. Specifically, estimated costs associated with NASA's passenger aircraft operations during fiscal years 2003 and 2004 were almost $25 million, while we estimated the cost of commercial coach tickets for the same number of travelers would have been approximately $5 million—about $20 million more to provide NASA passenger aircraft services than if commercial airlines were used to provide passenger transportation over the 2-year period.

Table 1 summarizes our analysis of commercial and NASA passenger transportation costs by types of NASA-owned or -chartered aircraft. We identified the number of passengers from NASA's aircraft request forms and NASA annual performance reports.[12] We then multiplied the identified number of passengers by our estimate of NASA's average commercial coach round-trip ticket cost. We determined the average coach round-trip ticket cost of approximately $426 by analyzing all airfares purchased with NASA's travel cards in fiscal years 2003 and 2004. Specifically, we identified approximately $49,776,000 in round-trip airfare tickets in NASA travel card purchases during fiscal years 2003 and 2004, and divided this dollar amount by the number of tickets purchased (116,865) to determine an average ticket cost of approximately $426. Finally, we compiled an estimate of NASA's passenger aircraft service costs, which included costs related to personnel, maintenance, and fuel, from annual cost reports and budget information provided by NASA.

[12]When request forms did not include data on passengers, we used other NASA reports to identify the number of passengers on flights.

Table 1: Comparison of Commercial and NASA Passenger Transportation Costs by Location or Charter Provider for Fiscal Years 2003 and 2004

Location or charter provider (type of aircraft)	Passengers flown	NASA's reported cost	Estimated average coach ticket costs	Difference
Johnson Space Center (Gulfstream I & Gulfstream II)	2,009[a]	$5,069,000[b]	$856,000	$4,213,000
NASA Headquarters (NASA Gulfstream III, FAA chartered Gulfstream IV, and two FAA chartered Citation Excels)	2,109[a]	4,532,000[c]	898,000	3,634,000
Marshall Space Flight Center (Gulfstream IISP)	2,374[a]	4,463,000[d]	1,011,000	3,452,000
Flexjet Chartered Aircraft (Learjet Models 31A and 60)	1,337[a]	3,551,000[e]	570,000	2,981,000
Dryden Flight Research Center (Beechcraft 200)	1,404[f]	3,380,000[d]	598,000	2,782,000
Kennedy Space Center (Gulfstream II)	1,675[a]	2,548,000[d]	714,000	1,834,000
Wallops Flight Facility (Beechcraft 200)	884[a]	856,000[d]	377,000	479,000
DOD Chartered Aircraft (Gulfstream V)	34[a]	290,000[g]	14,000	276,000
Total	**11,826**	**$24,689,000**	**$5,038,000**	**$19,651,000**

Source: GAO analysis based primarily on NASA's costs disclosed in various annual reports.

[a]Passenger numbers were taken from aircraft request forms provided by NASA.

[b]Costs for Johnson Space Center aircraft were taken from annual reports and budget information when passenger aircraft costs were not separated from program support aircraft costs.

[c]Costs associated with the use of NASA's Gulfstream III and FAA aircraft at Reagan National Airport were taken from NASA Headquarters cost reports.

[d]Aircraft costs were taken from 2003 and 2004 annual aircraft cost reports.

[e]Flexjet costs were taken from NASA's Report on the NASA Fractional Aircraft Demonstration Program, July 2004.

[f]Passenger numbers were taken from 2003 and 2004 annual aircraft performance reports.

[g]Costs for flights on DOD aircraft were taken from NASA's aircraft request forms used to justify these flights.

This calculation of the difference between the relative cost of NASA-provided passenger transportation services and commercial airline costs does not consider per diem, in-transit salary and benefits, and other factors associated with using NASA passenger services. NASA officials believe that a comparison of NASA and commercial airline passenger services should include estimates of such cost savings shown in its passenger aircraft request forms. We recognize that, to the extent that all passengers on the aircraft had a valid purpose for travel, there may be personnel-related cost savings associated with use of NASA's passenger aircraft services; however, it was not feasible for us to reliably identify such costs using independent (non-NASA) sources. Further, as discussed in a subsequent section of this report, we have concerns about the reliability of some of NASA's cost and associated savings data captured in its flight

request documentation. In addition, we also identified questionable savings attributed to non-official travelers.

However, NASA's cost estimates do serve to provide indicators of general ranges of costs that may be avoided by using NASA passenger aircraft services. Using available NASA documentation of costs that would have been incurred if commercial airlines were used would increase the estimated commercial airline costs to approximately $11 million, and reduce the difference between NASA's passenger airline services and commercial airlines to about $13 million over the 2-year period.[13] Specifically, available NASA passenger aircraft services flight request documentation generally included estimated costs associated with not only airline tickets, but also estimates for salary and benefit costs associated with lost work time, per diem expenses, and rental car costs associated with the additional time required if commercial airlines were used to provide passenger transportation. Consequently, even when available NASA estimates of costs associated with commercial airline transportation services were included, a comparison with the costs of its passenger air transportation services shows that they are nearly 2.3 times more costly than commercial airlines.

Additional Costs Associated with NASA Passenger Aircraft May Be Substantial

Our cost analysis, based primarily on data included in NASA's annual reporting on its aircraft operations, did not include data on all relevant types of costs attributable to NASA's passenger aircraft services.[14] Consequently, the full cost of continued operation of NASA's passenger aircraft fleet in comparison with commercial airline services would be substantially more than the $20 million estimate for fiscal years 2003 and 2004. Specifically, the following types of costs were not accounted for in NASA's various annual reports on its passenger aircraft services.

Acquisition and Capital Costs

NASA' s current inventory of seven passenger aircraft is valued at more than $33 million, including two Gulfstream II aircraft purchased in 2001 for a total of about $13.9 million. An allocable portion of the acquisition and

[13]Reported costs for NASA passenger aircraft services totaled $24,689,000, and estimated commercial costs provided by NASA totaled $11,311,000, yielding a difference of $13,378,000 between commercial and NASA passenger aircraft costs.

[14]Statement 4 of the Statements of Federal Financial Accounting Standards defines full cost as the total cost of direct and indirect support used to produce an output.

associated capital improvements to these assets is part of NASA's annual cost of operating its passenger aircraft services. In addition, these costs may increase in the near future. A July 2004 fleet plan prepared for NASA recommended upgrading and expanding its passenger aircraft fleet as soon as possible with an initial investment of $75 million. Further, NASA is considering an investment of an estimated $1.5 million in a noise restriction package for its Gulfstream III aircraft during fiscal year 2008, making the total investment that NASA is currently considering about $77 million.

Hangar Costs

NASA aircraft received hangar and maintenance services even though they were housed on government property. Industry data on hangar costs show that they total about 5 percent of total aircraft operation costs.

Liability Insurance Costs

Although the government operates under a self-insurance policy, the liability associated with operation of passenger aircraft is a cost factor that must be considered given the significant number of passenger flights taken using NASA-owned aircraft over the last 2 years. Industry estimates show liability insurance costs represent approximately 2 percent of total aircraft operating costs.

NASA Passenger Aircraft Ownership to Support Routine Business Not Justified

Not only were NASA's passenger aircraft services significantly more costly than commercial airlines, but NASA's continued ownership of aircraft to provide air transportation supporting routine NASA business operations was not in accordance with OMB guidance. OMB guidance (1) limits the number and size of aircraft acquired and owned by an agency to carry passengers to the level necessary to meet mission requirements, including, for example, use of aircraft for prisoner transportation, intelligence and counter narcotics activities, and aeronautical research; and (2) explicitly prohibits owning aircraft to support routine business functions, including providing air transportation to attend meetings, conferences, and routine site visits. In contrast, NASA's implementing guidance, while generally consistent with OMB guidance, was interpreted to allow acquiring and retaining aircraft for any official travel, regardless of the mission-required nature of the travel. Our analysis of available flight data showed that an overwhelming majority (86 percent) of the flights taken during fiscal years 2003 and 2004 using NASA passenger aircraft services were to support routine business operations, including attending meetings, conferences, and site visits. Excluding flights related to the Columbia accident, routine business flights accounted for about 97 percent of NASA passenger aircraft flights. Further, although OMB guidance required NASA to periodically

prepare studies to determine if continued ownership of passenger aircraft was justified, the agency's studies were either incomplete or did not consider commercial airline service alternatives.

Implementation of NASA Guidance Inconsistent with OMB Policy on Aircraft Ownership

NASA implementation is not consistent with OMB policy on aircraft ownership. OMB Circular No. A-126, the governing federal policy guidance in this area, provides that agencies should own aircraft only to the extent needed to meet mission requirements, such as troop transportation, prisoner transportation, intelligence and counter narcotics activities, and aeronautical research. OMB's policy guidance further provides that agencies should not own aircraft to provide transportation to meetings, routine site visits, and speeches. However, NASA implementing guidance, while generally consistent with OMB policy, does not clearly and uniformly address the federal policy limiting aircraft ownership to those assets needed to meet mission requirements. NASA Procedural Requirements (NPR),[15] section 3.3.2, reiterates the OMB policy prohibition on using passenger aircraft to provide transportation supporting routine business operations as a basis for continuing to own aircraft. However, in the following sections (sections 3.3.2.1 through 3.3.2.5), NASA's guidance provides that mission-required use of aircraft includes support for activities "directly related to approved NASA programs and projects." These elaborating sections were mistakenly operationally determined to mean that all travel using NASA passenger aircraft services was directly related to NASA programs or projects, regardless of whether they were of a routine, nonemergency nature.

The NASA IG's 1999 report[16] on NASA's passenger aircraft at its Marshall Space Flight Center also questioned whether that aircraft's use was consistent with the OMB limitation on owning aircraft only for mission-required purposes. The audit report recommended that NASA change the definition of mission requirements in its policy guidance to conform to the definition of mission requirement stated in OMB guidance. However, in its response to the audit report, NASA management stated that there was no difference between its guidance and the OMB guidance and therefore it would not take any action to clarify its policy guidance.

[15]NPR 7900.3A, effective April 1999, expires December 2005.

[16]NASA Inspector General Report, IG-99-057.

Most Flights on NASA Passenger Aircraft Do Not Meet OMB Definition of Mission Requirements

Our analysis of available documentation on flight purposes shows that NASA's implementation of its guidance related to using aircraft in direct program or project support has resulted in owning aircraft to support meetings, conferences, and speeches in direct conflict with OMB's policy prohibition in this area. In effect, NASA circumvented the OMB policy on restricting aircraft ownership to those needed to carry out mission requirements by operationally determining that nearly all travel using passenger aircraft services was directly related to NASA programs or projects. Our analysis of NASA passenger air transportation services for fiscal years 2003 and 2004 showed that about 86 percent of the flights were taken to support the types of routine business operations that are expressly prohibited by OMB's guidance for aircraft ownership.

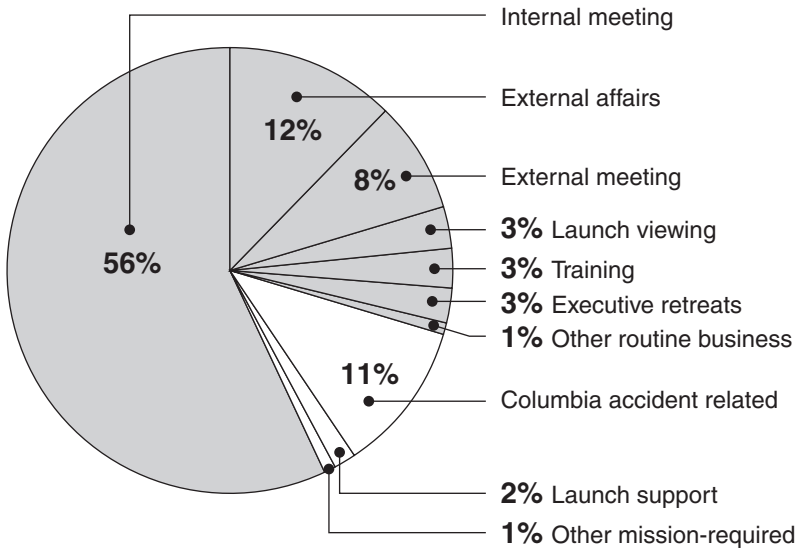
Specifically, we categorized the documented flight purpose listed on 1,188 NASA aircraft request forms for NASA passenger aircraft usage during fiscal years 2003 and 2004 into 10 categories in order to determine the frequency of different uses for NASA's passenger aircraft services.[17] In conducting our analysis, we categorized any flight as mission required if it could be linked to OMB's definition of mission requirements, regardless of its apparent, non-emergency nature. As a result, some flights we categorized as mission required may have actually been routine in nature. For example, in response to the 1999 NASA IG report, NASA management stated that launch support flights were required to transport NASA emergency response teams to launch sites within hours to help resolve unexpected launch-related problems. However, most launch support flights during our audit period were scheduled more than 24 hours before the flight departure date. Of the 19 flights we identified as directly supporting NASA launches, only 7 were scheduled less than 2 days prior to the flight, and overall the flights were scheduled an average of approximately 3 days prior to departure. In one example, on July 29, 2003, Kennedy Space Center requested the use of a NASA passenger aircraft to fly from Florida to California as launch support for the joint Canadian Space Agency/NASA Scientific Satellite Atmospheric Chemistry

[17]We were unable to identify a purpose for and categorize all flights because of (1) missing documentation and (2) incomplete data. For example, flights for Dryden Flight Research Center's Beechcraft 200 passenger aircraft were not included because descriptive flight data, such as flight purposes, were not consistently listed on request forms. In addition, we excluded flights on two other program-support aircraft that were occasionally used to transport passengers. In addition, request forms for approximately 97 flights were not provided by NASA until after we identified the flights through a review of FAA flight tracking records, and were therefore not provided in time for our analysis.

Experiment Mission. The flight was requested on July 29, 2003, 12 days before the flight's August 10, 2003, departure and 14 days before the August 12, 2003, launch. We categorized this flight as being related to launch support. However, the fact that the flight was scheduled nearly 2 weeks in advance of the flight departure brings into question whether the flight was time sensitive and indicates that commercial coach service could have been used.

Figure 2 presents the results of our analysis and categorization of NASA's use of owned and chartered aircraft over fiscal years 2003 and 2004 into 10 categories.

Figure 2: Percentage of NASA Passenger Aircraft Flights by Purpose



Total flights: 1,188

Mission-required flights (14%)

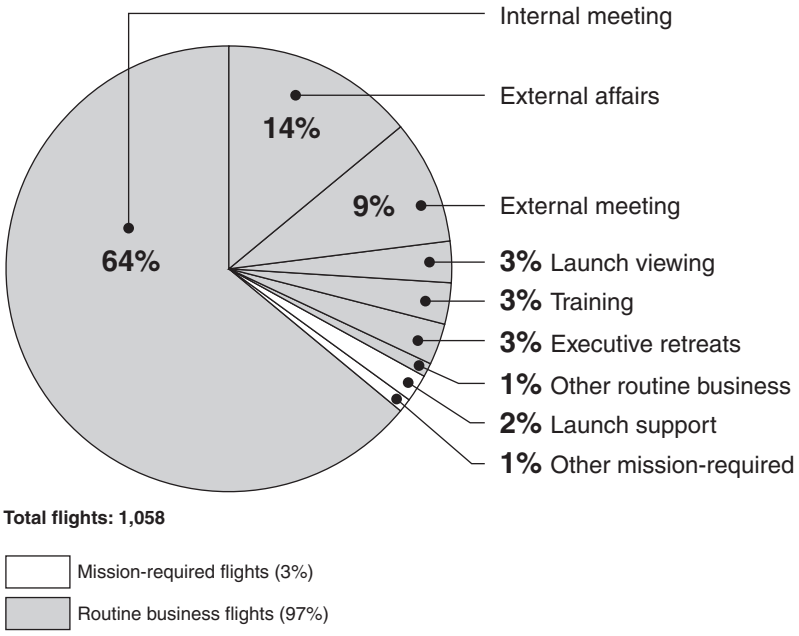
Routine business flights (86%)

Source: GAO analysis of NASA Aircraft Request Forms.

As shown in figure 2, available data showed that about 14 percent of the flights taken using NASA passenger aircraft had a stated purpose that appeared to comply with OMB Circular No. A-126's definition of mission required. As shown in figure 3, excluding flights related to the Columbia

accident investigation, only 3 percent of NASA's passenger aircraft activity was related to mission-required travel.

Figure 3: Percentage of NASA Passenger Aircraft Flights by Purpose (Excluding Flights Related to the Columbia Accident)



Source: GAO analysis of NASA Aircraft Request Forms.

Table 2 highlights examples of flights in which NASA passenger aircraft services were used to support non mission-critical NASA business operations that are not consistent with OMB's definition of mission-required use necessary to justify continued passenger aircraft ownership.

Table 2: Summary of Examples of Routine Business Flights Using NASA Passenger Aircraft during Fiscal Years 2003-2004

Usage category	Flight purpose description	Flight itinerary	Estimated commercial ticket costs[a]	NASA-reported flight cost[b]
Internal meeting	Budget reviews for space shuttle and space station at the Johnson Space Center	Dulles, VA to Houston, TX and return	$3,000	$11,000
Internal meeting	Senior management budget meetings at NASA headquarters	Johnson Space Center, TX to Washington, DC and return	3,000	24,000
External affairs	Attendance at Pearl Harbor 60th anniversary ceremony, attendance at heads of agency meeting	Reagan National, VA to Anchorage, AK to Tokyo, Japan to Honolulu, HI and return	28,000	59,000
External affairs	Attendance at the 2003 inauguration ceremony for the governor of Florida	Kennedy Space Center, FL to Tallahassee, FL and return	2,000	5,000
External meeting	Travel by the Presidential Commission on Implementation of U.S. Space Exploration Policy (PCSE) to conduct required public hearings on the exploration policy	Dulles, VA to San Francisco, CA and return	8,000	51,000
External meeting	Attendance at an annual Engineer of the Year Awards Conference	Kennedy Space Center, FL to Baltimore, MD and return	3,000	14,000
Launch/landing viewing	Attendance at the Jet Propulsion Laboratory to observe the Cassini landing on Saturn	Reagan National, VA to Burbank, CA and return	3,000	11,000
Executive retreat	Attendance at the NASA Enterprise Council Retreat in Blue Mountain Lake, NY and attendance at the Space Shuttle 112 Crew Ceremony at Johnson Space Center	Kennedy Space Center, FL to Washington, DC to Saranac Lake, NY to Johnson Space Center, TX to Washington, DC and return to Kennedy	8,000	32,000
Executive retreat	Participate in NASA Leadership Council retreat	Johnson Space Center, TX to Austin, TX to Washington, DC and return	3,000	23,000
Training	E-Payroll training at Marshall Space Flight Center	Kennedy Space Center, FL to Marshall Space Flight Center, AL and return	2,000	18,000

Source: GAO analysis of NASA aircraft request forms and other NASA reports.

[a] From NASA aircraft request forms.

[b] Calculated by taking NASA's total reported costs, dividing by NASA reported flight hours for each aircraft, and then multiplying by the number of flight hours for the specific flight. NASA reported costs were taken from NASA's 2003 and 2004 Aviation Financial Reports and Johnson Space Center's

Budgeted Costs for Mission Management Aircraft Operations. NASA aircraft flight hour usage numbers were taken from NASA's 2003 and 2004 Annual Aircraft Performance Reports. For aircraft not owned by NASA, the reported cost includes the amount billed to NASA as listed on the aircraft request form.

The results of our interviews with passengers on such flights showed that, while use of the NASA aircraft was more convenient, better accommodated busy NASA SES-level staff schedules, and was more productive, the trip purposes could have been accomplished through travel on regularly scheduled commercial airlines.

Flawed Implementation of OMB Guidance on Use of Government vs. Commercial Resources

OMB Circular No. A-126 policy guidance instructs agencies to periodically conduct OMB Circular No. A-76 cost comparisons to determine whether commercial activities should be conducted using government resources or commercial sources. NASA's A-76 studies conducted to date have asserted that because not all flight purposes could be achieved using commercial airlines, commercial airlines are not a viable alternative and were not considered in any of the studies. However, as discussed previously, our analysis of NASA passenger aircraft flights taken during fiscal years 2003 and 2004 as well as our discussions with passengers on those flights disclosed that the vast majority of the flights could have been accomplished using commercial airlines. As a result, NASA's A-76 studies inappropriately excluded potentially more cost-effective commercial airline services from consideration.

Little supporting documentation is available for four of the seven aircraft in NASA's passenger aircraft fleet that were acquired decades ago. Consequently, it was difficult to determine how these aircraft acquisitions were justified and if there was a mission requirement justifying aircraft ownership at that time.[18]

The five NASA A-76 studies on NASA-owned aircraft did not include a comparison of NASA's passenger aircraft costs with commercial airline

[18] NASA acquired two of the aircraft in 2001 to serve as replacements for two of the agency's four shuttle trainer aircraft. Those aircraft were used for passenger transportation during the period of our review. Another aircraft was acquired in 1991 to serve as a shuttle trainer, but was never modified to serve in that role.

costs.[19] NASA's studies compared its aircraft ownership costs against costs of NASA leasing aircraft to provide passenger transportation services because "commercial airlines cannot effectively meet all mission requirements." For example, NASA's March 2004 A-76 study was based on the assumption that NASA aircraft would be required to support mission requirements of an estimated 400-450 flight hours a year--essentially the total number of flight hours flown by that NASA center's passenger aircraft during 2003 and 2004. While NASA may continue to require access to some mission-required passenger aircraft services for which commercial airlines would not be a viable alternative, assuming that all prior flight hours were mission required without first examining the purpose for these flights is not consistent with the OMB guidance.

In addition to NASA-owned aircraft, as discussed previously, NASA obtained passenger aircraft services through interagency agreements with DOD and FAA, and a fractional ownership pilot demonstration contract with Flexjet. These alternative approaches offer ready access to passenger aircraft without the fixed cost investment and the need to fund aircraft maintenance, pilot training, and other costs associated with aircraft ownership. For example, under NASA's contract with Flexjet, NASA had guaranteed availability to passenger air transportation services. Specifically, the contract with Flexjet allowed NASA to schedule flights with a minimum of 8 hours advance notice. According to a NASA contractor's December 2004 study, such arrangements to obtain passenger transportation services provide a cost-effective alternative to agency ownership of aircraft when demand is highly variable or less than 150 to 200 hours a year. Such flexible arrangements could provide NASA with quick-turnaround access to air passenger transportation services, and appear to have the ability to have met NASA's limited mission-required needs during the period of our review.

Further, NASA has not performed any A-76 studies for three of its aircraft that were used as passenger aircraft. NASA purchased two Gulfstream II aircraft in 2001 as contingency backups to, and eventual replacements for, its existing shuttle trainer aircraft fleet. However, since purchasing the aircraft, NASA has been using these aircraft as part of its passenger aircraft

[19] Aviation Services Studies: Johnson Space Center, NASA 2 Mission Management Aircraft, March 2004; Johnson Space Center, NASA 2 Gulfstream G-1, December 1999; Dryden Flight Research Center, NASA 7 King Air 200, February 2000; Goddard Space Flight Center – Wallops Flight Facility, NASA 8 King Air 200, February 2000; NASA Headquarters, NASA 1 Gulfstream III, February 2000.

services fleet. Subsequent changes in NASA's long-term strategy for space flight now show that shuttles will not be used after about 2010. As a result, the continuing mission-required need to retain these aircraft is questionable.

In its 1995 and 1999 reports, the NASA IG[20] expressed concern over NASA's exclusion of commercial airline transportation from its A-76 studies. In both reports, the IG reported that the A-76 studies NASA management performed with respect to its passenger aircraft improperly excluded a cost comparison with commercial airlines. While the IG recommended that NASA program offices responsible for passenger aircraft operations perform A-76 studies to include consideration of accomplishing air travel needs using commercial airlines, NASA management contended that because of isolated travel destinations and extremely short advance notice, commercial airlines could not meet its travel needs. However, our analysis of available documentation supporting flights taken during fiscal years 2003 and 2004 shows that most were requested more than 24 hours in advance of flight departure and most NASA centers are located within an hour's drive of commercial airports.

Ineffective Oversight and Management of Passenger Aircraft Services

NASA's oversight and management controls over its passenger aircraft operations were ineffective. NASA lacks the systems or procedures to accumulate and use agencywide usage and cost data needed to provide the transparency and accountability necessary to effectively support day-to-day management of its passenger aircraft service operations. Specifically, NASA did not

- Maintain agencywide records on the purposes for which its passenger aircraft are used and their costs. Such data are critical to (1) determining whether usage is consistent with OMB guidance limiting aircraft ownership to those agencies with mission requirement needs, and (2) maintaining visibility and accountability for the full costs associated with its passenger aircraft operations. Lacking such full cost visibility and passenger accountability, NASA's passenger aircraft services are sometimes viewed as a "free" resource by NASA project and program officials.

[20]NASA Inspector General Report, IG-99-057 and NASA Inspector General Report, LA-95-001.

- Correctly justify the cost effectiveness of individual flights. These justifications were flawed in that they relied on (1) inaccurate cost data and (2) other unsupported factors used in the cost-justification calculation.

- Have processes in place to obtain reimbursements from nonofficial passengers flying on NASA-owned or -chartered aircraft. This may include NASA employee spouses and relatives, contractors, or other federal agency personnel.

Flawed Procedures for Accumulating and Using Passenger Aircraft Usage and Cost Data

NASA systems or procedures in place to accumulate detailed usage and cost data related to its passenger aircraft services were flawed. Other than data compiled once a year to meet external reporting requirements, neither NASA management nor congressional oversight officials had agencywide aircraft usage and cost data needed to provide the transparency and accountability needed to make informed decisions on continued ownership of passenger aircraft.

Costs associated with ownership and operation of NASA's passenger aircraft services were usually included in center overhead accounts that were allocated to programs based on the number of personnel assigned to programs without regard to the extent to which program personnel actually used NASA passenger aircraft services. Therefore, it is not surprising that some NASA personnel expressed the view that use of NASA-owned or -chartered aircraft is a "free" resource to them in that they did not have visibility or accountability over associated costs as part of their program or project budget execution reporting.

Because NASA lacked a system for routinely collecting agencywide usage and cost data, it could not provide us with the complete and accurate agencywide information on aircraft usage and cost that we requested as part of this audit. Although each center that possesses and manages passenger aircraft is required to maintain a flight justification and manifest for each trip, the flight usage data contained in these documents are not compiled or analyzed on an agencywide basis to support decisions related to mission-required needs. Specifically, NASA data on the purposes and costs of its passenger aircraft services during fiscal years 2003 and 2004 were contained in paper flight justifications and manifests maintained at six different locations. We created a database of descriptive cost and usage data for approximately 1,200 flights using NASA-owned or -chartered aircraft for which sufficiently complete data were available. Although, as

mentioned previously, we obtained evidence that NASA also utilized at least two additional program support aircraft to meet its passenger air transportation needs, the limited data on use and costs associated with flights using these aircraft did not allow us to include data on these flights in our database. Further, data on passenger aircraft services for about 200 flights at one center was missing most of the data elements on the flight request justification forms, including flight purpose and cost-justification calculations. Without agencywide data on flight purposes and costs related to its passenger aircraft services, NASA managers and Congress lack critical information they need to make key aircraft ownership decisions.

In addition to the limited agencywide usage and cost data, we also found that the data provided by NASA, although certified by NASA management as complete and accurate, were not always complete or accurate. Our comparison of NASA-supplied data on flights taken in fiscal years 2003 and 2004 with FAA data showed that (1) data on 97 passenger flights were not included in the aircraft usage data NASA certified as complete; and (2) as discussed in a subsequent section, NASA-supplied data did not always include all legs of trips taken using NASA passenger aircraft. After our identification of the flights, while not complete in all cases, NASA was able to provide some form of supporting documentation showing these flights occurred, including proof of authorization, approval, or a determination of cost effectiveness. Examples of some of the flights not included in the data NASA officials certified as complete are summarized in table 3.

Table 3: Examples of Passenger Flights Not Included in Submissions NASA Certified as Complete

Stated flight purpose	Destination	Number of passengers	NASA's estimated commercial costs	Estimated NASA flight cost
Hurricane evacuation for select Kennedy Space Center personnel and their families and parents, and aircraft pilots and maintenance personnel and their families	Two trips from Kennedy Space Center, FL to Washington, DC and return	9	$3,000	$29,000
Presentation of a plaque to the city of Shreveport, LA in appreciation for help during the Columbia disaster	Kennedy Space Center, FL to Shreveport, LA and return	7	4,000	22,000
Two-day trip to Las Vegas to meet with a contractor for a "technical interchange"	Johnson Space Center, TX to Las Vegas, NV	11	8,000	22,000
Participation in Brookhaven National Laboratory ceremony dedicating a new NASA space radiation laboratory	Johnson Space Center, TX to Long Island, NY	10	15,000	27,000
University research and affairs at Texas A&M University	Johnson Space Center, TX to College Station, TX	11	3,000	4,000

Source: GAO analysis, based on NASA Aircraft Request forms and annual reporting.

Note: We used NASA aircraft request forms to identify estimated commercial ticket costs. We estimated NASA passenger aircraft costs by dividing NASA's total reported costs by NASA's reported flight hours for each aircraft. We then multiplied the result by the number of flight hours for the specific flight. We used NASA's 2003 and 2004 Aviation Financial Reports and Johnson Space Center's Budgeted Costs for Mission Management Aircraft Operations to identify NASA reported costs. NASA aircraft flight hour usage numbers reflect usage hours shown in NASA's 2003 and 2004 Annual Aircraft Performance Reports.

Further, we identified a breakdown in controls over flight data record integrity at one center. Specifically, when we inquired about provided documents that did not appear to be originals, NASA officials told us that flight requests and approvals related to a 1-year period covering parts of fiscal years 2003 and 2004 were lost and recreated after flights took place. NASA officials stated that the loss of these important aircraft usage data was apparently not discovered until after our initial request for documentation as part of this audit. NASA officials did not inform us that documents were recreated until after we questioned inconsistencies in the documentation.

Cost data compiled by NASA did not disclose all passenger aircraft cost as travel costs. First, the costs related to the operation of passenger aircraft were not directly assigned to users, but were allocated through center overhead accounts. These accounts, which include other expenses such as facilities maintenance and auditing services, are usually allocated to each NASA program based on the number of employees. This allocation, which

does not relate to use of aircraft and does not reduce program travel budgets, essentially provides a free resource to users, and does not encourage efficient use of the aircraft. In commenting on air travel using NASA-chartered aircraft, one NASA traveler stated,

"Although everything about the flight was very positive – convenience, shorter trip time, professional service, etc. – the cost was considerably more than flying a commercial airline. ... As much as I enjoyed the door to door service, if the travel costs had been coming out of my project I would have chosen to fly commercial."

This statement summarizes how NASA decision making on aircraft operations is distorted by the lack of complete data on the cost of using this resource. Second, NASA does not classify costs related to passenger aircraft services in its annual financial and budget reports to Congress as a cost of transportation of persons. In annual reports, one specific object expense class, object class 21, is designed to capture and disclose agencies' costs for transporting passengers. Instead, the cost of NASA passenger aircraft services are included in overhead cost accounts, which understates the true cost of transporting NASA passengers.

Weaknesses In Justification Process for Individual Passenger Aircraft Flights

As discussed previously, our analysis of available estimates of NASA's aggregate costs associated with its passenger aircraft services in comparison with commercial airline ticket costs showed that NASA's passenger aircraft services cost about $20 million more than commercial airlines. In addition, NASA's individual flight cost justification process for its passenger aircraft services was flawed. Our analysis of cost-comparison documentation supporting passenger aircraft flights taken during fiscal years 2003 and 2004 revealed critical flaws, including variable cost data that were 6 years out of date and unsupported cost factors. Available NASA documentation supporting NASA's individual flight justifications for flights taken during 2003 and 2004 showed a total estimated savings of $6 million over the 2-year period. However, if these justifications had included up-to-date NASA variable costs and excluded unsupported cost factors attributed to the additional time required to use commercial airline flights, most flights would not have been approved because they would have been more costly than commercial air travel.

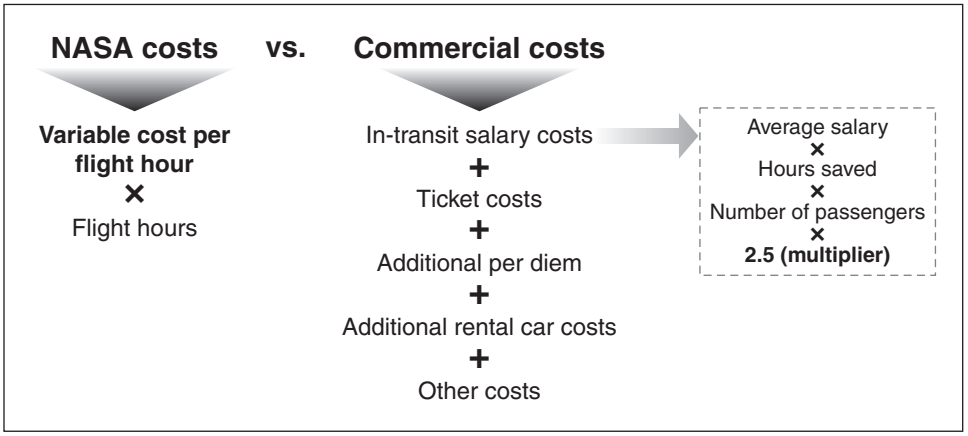
Policy guidance in OMB Circular A-126 provides an agency may use aircraft on a flight-by-flight approval basis for routine business purposes to the extent that a comparison between the agency's specified variable costs and the costs of commercial travel shows the proposed flight is cost effective.

Specifically, OMB Circular A-126, Attachment A, provides that costs of commercial travel must be compared with the variable costs of operating the agencies' passenger aircraft[21] and that proposed flights using agencies' passenger aircraft for routine business purposes should only be approved if they result in a cost savings to the government. Further, OMB guidance provides that variable cost estimates used in flight-by-flight cost justification calculations are to be updated annually. This policy on flight-by-flight variable cost justification does not replace the agencies' need to first establish a valid mission requirement for owning aircraft, and overall cost effectiveness. As discussed previously, our analysis of flight purposes showed that about seven of every eight flights were for routine business travel.

Consistent with OMB policy guidance, NASA regulations provide that individual cost justifications comparing estimated commercial airline travel costs with estimated variable costs associated with using NASA-owned or -chartered aircraft should be prepared prior to all passenger aircraft flights. Figure 4 provides an overview of the methodology NASA used to compare NASA and commercial costs for its flight-by-flight justifications.

[21]OMB Circular No. A-126, Attachment A, defines commercial cost to include estimates of commercial tickets, additional per diem and rental cars, and estimates of lost work time costs due to the extra time it takes to travel commercially. OMB Circular No. A-126, Attachment B, defines variable costs to the agency to include variable crew costs, maintenance costs, labor, parts, contracts, engine overhauls, fuel, and landing and tie down fees.

Figure 4: Overview of NASA Methodology for Comparing Its Flight-by-Flight Variable Costs with Commercial Flight Costs



Source: GAO analysis of NASA Aircraft Request Forms.

Several NASA centers had not updated the variable costs used in their flight-by-flight cost-comparison calculations for over 6 years. Such out-of-date variable costs significantly understated NASA's flight-by-flight costs. For example, at two centers, the $964 variable cost per flight hour used for flight-by-flight justifications during fiscal years 2003 and 2004 was over 6 years out of date. According to NASA aircraft management officials, this hourly rate was last adjusted in 1998. At one center, a recent recalculation, done in 2005 pursuant to our audit, increased the center's variable cost rate from $964 to $1828 an hour, almost a 90 percent increase. Further, even this 90 percent higher rate may understate NASA's actual variable costs. For example, the aircraft manufacturer for the aircraft in use at that center reported a direct cost per flight hour rate of approximately $3,000 a flight hour, including estimated fuel costs alone in excess of $1,300 an hour.

NASA variable costs were also understated at one center because the flight-by-flight justifications included only variable cost estimates for one round trip when the aircraft actually made two round trips to meet passengers' transportation requirements. Our analysis of FAA flight information and flight documentation obtained from the center showed that the flight request data we were provided included estimates related to only two of four flight legs flown to complete 14 flight requests over the 2-year period of our review. For example, on August 6, 2003, NASA's passenger aircraft transported passengers from Houston, Texas, to Pueblo, Colorado, and then returned without passengers to Houston the same day. Three days

later, pilots flew an empty aircraft to Pueblo to pick up passengers and return them to Houston. Center officials stated that additional round trips were necessary to return the flight crew to their home station where they could be more productive performing other duties. Center officials stated that they did not include the two extra flight legs in their calculations of the variable costs associated with NASA's passenger transportation because they classified these legs as crew training flights. Nonetheless, the costs incurred by these additional flights should be considered among the costs related to NASA's passenger air transportation services.

In addition to understatements of NASA's variable costs, NASA's flight-by-flight cost comparisons were also flawed in that they increased the cost associated with flying commercially by using a largely unsupported multiplier of 2.5. NASA could not provide any specific NASA-related empirical evidence to validate use of the multiplier in its flight-by-flight justification process. NASA used this multiplier in addition to factors for time and salary costs accounted for in its cost-justification calculation. The use of a multiplier to increase the value of an employee's time beyond his or her salary and fringe benefits is not expressly provided as part of OMB's Circular No. A-126 guidance. Further, cognizant OMB officials told us that it was not their intent that agencies use any such multiplier (beyond the salary and fringe benefits associated with any time savings) in determining whether proposed flights were cost effective. They also stated they were not aware of any agencies using such a multiplier in their flight justification calculations. While NASA officials informed us that they had been using this multiplier for a number of years and that they believed it was a conservative factor, they did not provide any documentation demonstrating the appropriateness of the multiplier as it applies specifically to the experiences of NASA personnel who used these aircraft. Consequently, lacking such documentation, NASA's use of a 2.5 multiplier improperly overstates the costs of commercial alternatives.

The overall effect of understating NASA costs and overstating commercial costs in NASA's flight-by-flight justifications was that NASA incorrectly approved individual flights as cost effective. For example, NASA justified one round trip from Kennedy Space Center, FL to Burbank, CA as cost effective, calculating a savings of $4,800. NASA calculated a cost savings for the flight because it used a 1998-based variable cost factor for the NASA plane of $964 per hour and also multiplied the travelers' salary costs savings by the unsupported 2.5 multiplier. If the variable cost was updated to NASA's 2004 estimate of $2,528 per hour for that aircraft and the unsupported multiplier was removed, the estimated variable costs

associated with the proposed NASA passenger aircraft flight would have exceeded estimated commercial airline costs by $17,408. Further, even after incorporating NASA's unsupported estimate that employee fringe benefits increase employee direct salary costs by an additional 50 percent, the NASA aircraft variable costs for this flight would still have exceeded commercial costs by about $16,000.

NASA Procedures Not Effective in Consistently Identifying and Collecting Reimbursements from Nonofficial Travelers

NASA lacks procedures to consistently and effectively identify and recover the applicable costs of operating government aircraft when nonofficial passengers fly on NASA-owned or -chartered aircraft. As a result, nonofficial travelers were provided free transportation using NASA's passenger aircraft services. However, because of the lack of procedures and documentation in place concerning the determination of the official status of travelers, we could not determine, and more importantly NASA could not determine, if any of the travelers should have, but did not, reimburse the government for the cost of their transportation.

According to OMB Circular No. A-126, travelers flying on a space-available basis on government aircraft for a purpose other than the conduct of official agency business generally must reimburse the government for the full coach fare.[22] Reimbursement for travel at the government rate for the cost of coach tickets would have covered about one fifth of NASA's reported costs associated with the use of NASA's passenger aircraft services.

However, NASA has not implemented agencywide policies and procedures to ensure that such travelers reimburse the government for the corresponding coach cost. Processes in place at each of the six centers to obtain reimbursements ranged from none at all to ad hoc procedures that essentially relied on individual travelers to identify and submit payments. For example, at one center, NASA's procedures consisted of notifying NASA travelers of the need to obtain reimbursement from nonofficial travelers flying on the aircraft, but did not provide for any follow-up to monitor and collect the requisite amount from non-NASA travelers.

For example, between September 2, 2004, and September 6, 2004, several Kennedy Space Center employees and their families and contractors and

[22]Exceptions to required reimbursements are listed in section 9,c.

their families used the center's Gulfstream II aircraft to fly to Washington, D.C. in advance of Hurricane Francis. According to center officials, the center was required to evacuate the aircraft from the path of the approaching hurricane, and a decision was made to transport the contractor pilots, mechanics, and their families over 800 miles north to Washington. After flying the contractors and their families out of the area, the aircraft then returned to pick up other center management personnel, personnel associated with the aircraft management, and their families and flew them to Washington. A NASA official stated that at least one of the passengers on these flights should have reimbursed the government for a portion of the cost of their transportation. However, the official did not know if such reimbursement was obtained.

NASA officials at two other centers stated that they have not obtained reimbursements or they had no documentation showing the extent to which reimbursements from nonofficial passengers on NASA flights were identified and obtained. In addition, we identified over 100 other travelers that NASA classified as dependents flying on NASA passenger aircraft that may have been nonofficial travelers. These passengers may have been required to reimburse NASA for a portion of the costs of their transportation.

Conclusions

As NASA strives to carry out its new vision for the future of the agency, using its resources as efficiently as possible will be a growing fiscal challenge. Operating what is essentially its own small passenger airline service, while potentially providing certain benefits to the agency and its employees, costs an estimated five times more than if commercial airlines were used to provide these services. Further, NASA's ownership of aircraft to support essentially routine business operations is in direct conflict with OMB's policy prohibition on such uses and passenger interviews which showed that in almost all cases, the travel could have been accomplished using commercial airlines.

NASA management has disagreed with, and taken only limited action with respect to similar prior audit recommendations in this area and insufficient management attention and agencywide oversight has allowed NASA to continue this costly program for decades. The cumulative effect has been failures in effectively justifying the extent to which such passenger aircraft services are needed to address critical, time-sensitive mission requirements, as well as effectively determining the extent to which these services could be accomplished without incurring the substantial, fixed

operation and maintenance costs associated with aircraft ownership. Immediate actions to dispose of all aircraft not needed to address mission requirements and adoption of more flexible, less costly alternatives to satisfy future mission requirements would best position NASA to meet its stewardship responsibilities for taxpayer funds it receives, and better enable it to meet its current fiscal challenges.

Matters for Congressional Consideration

Congress should consider whether legislation is necessary to ensure that (1) NASA disposes of all of its passenger aircraft not used in accordance with OMB's explicit policy prohibition against owning aircraft to support travel to routine site visits, meetings, speeches, and conferences; and (2) funding for future NASA passenger aircraft purchases and operations is restricted to those necessary to meet mission requirements consistent with OMB guidance.

Recommendations

To the extent that Congress determines that NASA should continue to retain aircraft or passenger aircraft charter services to provide passenger transportation, we recommend that the Administrator of NASA take the following six actions:

- Establish policies and procedures for accumulating and reporting on its passenger aircraft services to provide complete and accurate agencywide cost and utilization data to support oversight and decision making on operating and retaining such aircraft services.

- Clarify policies and procedures applicable to aircraft acquisition and retention to limit the number and type of aircraft owned and chartered for passenger transportation to those necessary to meet the "mission-required" criteria in OMB guidance.

- Periodically assess the extent to which NASA has a continuing need to own aircraft to provide passenger transportation in support of mission requirements in accordance with OMB guidance.

- Maximize the use of flexible, cost-effective arrangements to meet mission-required passenger air transportation service needs in lieu of aircraft ownership.

- Revise existing policies and procedures used to determine if individual flights are justified to include use of up-to-date variable costs and limit commercial cost estimates to include airfare, in-transit salaries and fringe benefits, and other costs directly related to reasonable estimates of delays incurred in meeting commercial airline flight schedules in accordance with OMB and GSA guidance.

- Establish agencywide policies and procedures for identifying and recovering applicable costs associated with nonofficial personnel traveling using NASA passenger aircraft services on a reimbursable basis.

Agency Comments and Our Evaluation

In its written comments, the NASA Administrator concurred with our recommendations and set out several actions to address identified deficiencies. Specifically, he said NASA would review its policies and procedures related to aircraft management to ensure they are aligned with OMB requirements and conduct a comprehensive study of the agency's passenger aircraft operations to be completed by October 31, 2005. These actions are consistent with the intent of our recommendations to NASA and if carried out fully and effectively will help address the deficiencies we found.

If NASA's study referred to above is carried out effectively and fully considers the various matters discussed in this report, it should provide the Congress valuable information for deciding whether legislation may be needed on this matter. NASA's comments on a draft of this report are reprinted in appendix II.

As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the report date. At that time, we will send copies of the report to interested congressional committees. We will also send copies of this report to the Office of Management and Budget and the General Services Administration. We will make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at http://www.gao.gov. If you or your staffs have any questions regarding this report, please contact me at (202) 512-7455 or kutzg@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be

found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Gregory D. Kutz
Managing Director, Forensic Audits and Special Investigations

Scope and Methodology

To assess reasonableness of costs, use, and agency oversight and management of the National Aeronautics and Space Administration's (NASA) passenger aircraft services, we met with officials of NASA's Office of Infrastructure and Administration Aircraft Management Office and appropriate officials at the Johnson Space Center, Houston, Texas; Marshall Space Flight Center, Huntsville, Alabama; Kennedy Space Center, Cape Canaveral, Florida; Wallops Flight Facility, Wallops Island, Virginia; and Dryden Flight Research Center, Edwards, California. We reviewed aircraft utilization and management reports prepared by NASA and its contractor and aircraft operations budget/cost information, including annual Aviation Financial Reports for fiscal years 2003 and 2004, Annual Aviation Report: Aircraft Performance for fiscal years 2003 and 2004, and NASA's 2004 Mission Management Aircraft Fleet Plan. At each center, we observed and assessed the process for managing passenger aircraft services and scheduling and justifying costs for individual flights. We also reviewed available documentation supporting the various cost-justification factors and multipliers NASA used to estimate the variable costs of using its passenger aircraft as well as the alternative costs of using commercial airline transportation.

As part of our effort, we collected and compiled available flight-by-flight NASA passenger aircraft cost and usage data from NASA mission management aircraft request forms. These forms provided such descriptive data as dates and purpose for travel, itinerary, passengers, levels of approval, and cost justification for aircraft use. We asked for all documentation maintained at NASA centers for flights flown using NASA's passenger aircraft services during fiscal years 2003 and 2004. We selected the most recently completed 2-year period because NASA's regulations specify retaining source documents related to passenger aircraft usage for at least 2 years. While incomplete, we ultimately obtained some type of documentation indicating that NASA passenger aircraft services during this 2-year period included about 1,500 flights. However, because of the limited amount of supporting documentation available for several hundred flights, we included only 1,188 flights in our analysis. For example, we could not use any of the approximate 200 flights from the Dryden Flight Research Center in our analysis because few of the requested documents included all the required usage and cost data necessary for such an analysis. To independently verify the reliability and completeness of individual flight source documentation maintained at NASA centers, we compared the NASA-provided flight information with information on NASA aircraft flights maintained by the Federal Aviation Administration's (FAA) Enhanced Traffic Management System and reconciled differences. Further,

while not included in our analysis, we obtained documentation showing that 2 of NASA's aircraft classified as program support aircraft were also used to provide passenger transportation, we did not attempt to determine if any of NASA's other program support or research aircraft may have also been used to provide passenger transportation as part of this audit. Also, we did not review the effectiveness of safety or maintenance programs related to NASA's passenger aircraft services.

To analyze the relative costs of NASA's passenger aircraft services compared to commercial airline costs, we relied primarily on available NASA cost data from NASA Aviation Financial Reports. We validated this data wherever feasible with comparable independent data sources including industry data. For example, we contacted the manufacturers of both types of passenger aircraft used by NASA to validate that the cost estimates used in our analysis were similar to the manufacturers' cost metrics for operating those aircraft. We used fiscal year 2003 and 2004 cost data in annual Aviation Financial Reports reported by each center that operated one or more of NASA's passenger aircraft and the costs NASA incurred for chartering passenger aircraft from other government agencies or contractors. At one center where reported cost data for passenger aircraft in the Aviation Financial Report were combined with data for other agency aircraft, we used annual budget data that were limited to passenger aircraft operations. At NASA headquarters, we used annual cost data provided by NASA because their annual Aviation Financial Reports did not contain costs associated with NASA's use of Federal Aviation Administration aircraft. Finally, costs from NASA's Report on the Fractional Aircraft Demonstration Program were used to determine the total cost of Flexjet flights. We used NASA Mission Management Aircraft Request forms to determine the estimated cost for flights taken on Department of Defense (DOD) aircraft. We then compared reported costs of NASA aircraft operations and aircraft charter costs with our estimates of travel costs that NASA would have incurred had the passengers who flew on NASA's aircraft during our 2-year test period used commercial airline transportation instead. To estimate the commercial transportation costs of NASA employees who traveled using NASA's passenger aircraft, we used the average commercial airline round-trip fare of $426 for all flights flown by NASA employees during this same time period as reported in a database of travel card transactions for NASA provided by NASA's contractor, Bank

of America.[1] This average commercial round-trip air fare estimate is intended to approximate NASA's passenger transportation costs if it had used commercial airline services instead of its own services. As such, it may reflect amounts that in some cases would exceed NASA's actual commercial costs. For example, to the extent to which unofficial travelers were included in estimates of passengers, commercial costs would be overstated. Conversely, in other cases our estimate may have underestimated NASA's costs. For example, costs may have been understated to the extent that such travel involved passenger aircraft services to remote locations or locations with limited commercial air service.

To determine the number of travelers who flew on NASA-owned and -chartered aircraft during the 2-year period, we used the number of passengers identified on individual hard-copy flight manifest documentation NASA provided to us. During the course of our review, we became aware of additional flights flown at some centers for which we were not provided flight manifest documentation. However, we were unable to obtain and analyze documentation for these additional flights in time to complete our analysis. To the extent that the number of passengers on flights for which individual flight documentation was not provided to us, the estimate of commercial airfare costs is understated. At the Dryden Flight Research Center, where individual hard-copy flight documentation did not contain complete information, we used the number of passengers the center reported to NASA headquarters for inclusion in annual aircraft performance reports.

We did not use the numbers of passengers reported for all centers because the centers reported their passenger counts inconsistently and we were unable to validate them. Although the number of passengers reported on individual flight manifests often included passengers who flew only one way or on one or more legs of the trip, we counted these partial-trip

[1] To compute an average commercial round-trip air ticket cost, we used Bank of America's Travel Card Air Transactions database for NASA to develop a population of round-trip commercial nonpremium class airline ticket purchases (debit transactions) during the period covering October 1, 2002, through September 30, 2004. In total, the nonpremium class airline ticket population consisted of 116,865 tickets, totaling approximately $49,775,733. Using this amount, we computed the average cost of a commercial, round-trip, nonpremium class airline ticket to be approximately $426 per ticket. We validated the Bank's transaction database with comparable data reported by publicly available GSA travel card information and found the data, both in numbers of transactions and value, to be sufficiently reliable.

passengers as having flown round-trip for purposes of estimating the commercial costs of passengers flown on NASA's aircraft. Consequently, in this respect, our estimated savings are likely to be understated in that including these partial-trip passengers in the total number of passengers overstated our estimate of airfare costs that NASA would have incurred had the passengers traveled on commercial airlines. Conversely, our estimated savings may be overstated because our estimated commercial travel costs did not include additional lodging and other incidental costs that travelers would periodically incur and salary costs for additional lost work time.

To estimate the lost work time associated with commercial airline travel, including salary and benefit costs, per diem, rental cars, commercial tickets, and other costs, we utilized cost estimates included in NASA individual flight request forms. For the 1,188 flights for which we received data, we used NASA's estimates for salary costs multiplied by lost work hours, number of travelers, and NASA's benefit factor of .5. Because accounting for fringe benefit costs was recognized in OMB guidance, while unsupported, we used NASA's estimated fringe benefits factor of .5 to increase passengers' salary costs. In addition to salary costs, we also included available NASA estimates for additional per diem, commercial tickets, rental cars, and other travel costs associated with lost work time from using commercial airline services. For one aircraft, we did not receive any flight justification cost estimates. Instead, the location operating the aircraft had developed standard calculations for the average commercial cost for their two common flight patterns. We averaged the estimated commercial cost for the two flight patterns to determine the average cost savings per traveler for the aircraft. We then multiplied the commercial cost by the number of travelers NASA reported for the aircraft during fiscal years 2003 and 2004 to determine the total commercial cost of transportation for travelers on the aircraft.

To assess whether NASA aircraft were operated and retained in accordance with applicable governmentwide guidance, we primarily reviewed the Office of Management and Budget (OMB) Circular No. A-126, *Improving the Management and Use of Government Aircraft*; and Circular No. A-76 (Revised), *Performance of Commercial Activities*. We also reviewed applicable governmentwide guidance in OMB Circular No. A-11, *Preparation, Submission and Execution of the Budget Part 7: Planning, Budgeting, Acquisition and Management of Capital Assets (Revised June 2005)*; General Services Administration's (GSA) Federal Property Management Regulations, 41 C.F.R. Subtitle C; and Federal Travel

Regulations, 41 C.F.R. Subtitle F. We also reviewed NASA's implementing publications, NASA Policy Directive (NPD) 7900.4B, *NASA Aircraft Operations Management* (April 2004); NASA Policy Regulation (NPR) 7900.3A, *Aircraft Operations Management* (April 1999); and center-specific implementing instructions. We held discussions regarding these policies and procedures with officials of OMB's Office of Federal Procurement Policy, Transportation/GSA Branch, and Science and Space Branch; GSA's Office of Government-wide Policy; and NASA's Office of General Counsel and NASA Center and program managers.

At each center, while we observed the process for managing aircraft operations and scheduling and justifying individual flights, we interviewed managers and program officials to discuss the importance to which they assessed the need and justification for owning/leasing passenger aircraft. We analyzed the purpose cited by NASA for individual flights flown during our 2-year test period to determine whether NASA's stated purpose complied with criteria established in OMB and GSA guidance. We interviewed agency personnel who requested, approved, and/or were passengers on approximately 80 flights during our 2-year test period to ensure that we understood the purpose for the flights and the basis for utilizing NASA's aircraft. We did not assess the adequacy of safety or maintenance programs related to NASA's passenger aircraft. Further, we did not attempt to determine the validity or appropriateness of travel using NASA's passenger aircraft, nor did we assess if the type and number of personnel on the NASA passenger aircraft were appropriate given the stated flight purposes.

To assess the effectiveness of NASA's oversight and management of its passenger aircraft operations, we held discussions with appropriate aircraft management officials at NASA headquarters and centers operating passenger aircraft. We also identified and assessed (1) NASA's implementing policies and procedures with respect to OMB and GSA policy guidance, (2) the process used to approve and document passenger aircraft utilization, (3) associated aircraft management reports, (4) other recent assessments and studies done with respect to NASA passenger aircraft services, and (5) the extent to which accurate, current agencywide data were available to agency managers for day-to-day decision making on passenger aircraft usage and costs.

We briefed NASA officials on the details of our audit, including findings and their implications. On June 28, 2005, we requested comments on a draft on this report. We received comments on July 28, 2005, and have summarized

those comments in the Agency Comments and Our Evaluation section of this report. NASA's comments are reprinted in appendix II. We conducted our work from November 2004 through June 2005 in accordance with U.S. generally accepted government auditing standards and quality standards for investigations as set forth by the President's Council on Integrity and Efficiency.

Comments from the National Aeronautics and Space Administration

National Aeronautics and
Space Administration
Office of the Administrator
Washington, DC 20546-0001

July 28, 2005

Mr. Gregory D. Kutz
Managing Director
Forensic Audits and Special Investigations
Government Accountability Office
Washington, DC 20548

Dear Mr. Kutz:

Thank you for giving NASA an opportunity to review and comment on your draft report on the effectiveness of our Aircraft Management Program (GAO-05-818). I concur with the recommendations directed to the National Aeronautics and Space Administration (NASA) in the draft report.

Since 1958, NASA has used aircraft to support national aeronautical and space research. Our goal is to fully comply with Federalwide aircraft management policy. We will revisit our policies and procedures and improve them where necessary to ensure our program is aligned with the requirements of the Office of Management and Budget. For example, I have directed that NASA use a new methodology to cost-justify the use of Government aircraft that does not use a multiplier to calculate lost productivity. I have also ordered a comprehensive study of NASA's Mission Management Aircraft Program. The review will include a baseline analysis of NASA's mission requirement needs, recommend the number and size of assets needed to fulfill those requirements, and consider alternatives to aircraft ownership. It will also review our program management, oversight, reporting, and cost-accounting processes. The review will be conducted by NASA's Office of Program Analysis and Evaluation, in coordination with the Office of the Chief Financial Officer, and will be completed by October 31, 2005.

If you have any questions or would like additional information about our Aircraft Management Program, please contact Jeffrey E. Sutton, Assistant Administrator for Infrastructure and Administration, at (202) 358-2800.

Sincerely,

Michael D. Griffin
Administrator

GAO Contact and Staff Acknowledgments

GAO Contact

Gregory D. Kutz

Acknowledgments

In addition to the contact named above, Mario L. Artesiano, James D. Berry, Fannie M. Bivins, Latasha L. Brown, Matthew S. Brown, Harold J. Brumm, Carey L. Downs, Richard T. Cambosos, Francine M. Delvechio, Francis L. Dymond, Dennis B. Fauber, Geoffrey B. Frank, Diane G. Handley, Alison A. Heafitz, Christine A. Hodakievic, Jason M. Kelly, Jonathan T. Meyer, George J. Ogilvie, James W. Pittrizzi, Kristen M. Plungas, John J. Ryan, Sidney H. Schwartz, Joan K. Vogel, and Leonard E. Zapata also made key contributions.

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