GOVERNMENT USE OF AIRCRAFT

A TAXPAYER VALUE PERSPECTIVE

BUSINESS AVIATION USER STUDIES • PART III • SUMMER 2012

NEXA Advisors
A NEXA Capital Company

NBAA

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National Association of State Aviation Officials

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CONTENTS

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ABOUT NEXA ADVISORS

NEXA Advisors provides highly specialized transaction-focused advisory services to companies and management teams in the aerospace and transportation sectors in the U.S. and around the world. Committed to delivering enterprise value through innovation, NEXA Advisors collaborates with our clients to help them become high-performance businesses. The integration of our advisory, consulting, technology and alliance services with our affiliates, investors and partners provides us with a fundamental advantage in delivering value.

This Report is Part III in a series of NEXA Advisors studies on business aviation in the United States:

Part I: Business Aviation: An Enterprise Value Perspective (2009)
S&P 500 Companies 2003-2009

Part II: Business Aviation: An Enterprise Value Perspective (2010)
S&P Small Cap 600 Companies from 2003-2010
Small and Medium Enterprises

Part III: Government Use of Aircraft: A Taxpayer Value Perspective (2012)

Part IV Business Aviation: Users' Performance through the Great Recession (2012)
S&P 500 Companies 2007-2009; 2009-2011

INTRODUCTION

NEXA Advisors is pleased to present this report on the use of aircraft by U.S. local, state, and federal governments. The analysis uses a taxpayer value perspective to present its findings.

In Parts I and II of this Business Aircraft Users Series, NEXA studied the contribution to shareholder value of business aviation to Standard & Poor's Large 500 and Smallcap 600 companies, respectively, from 2003 to 2010. Results showed that companies of all sizes that used business aviation had three times or more the total shareholder return on growth, share price growth, and EBITDA growth (earnings before interest, taxes, depreciation, and amortization) when compared to similar companies that did not use business aircraft.

Similar to business use of aircraft, government agencies operate and charter aircraft to provide safe, reliable, cost-effective on-demand air transportation. Government agencies use passenger aircraft to transport government officials; move project teams with cargo, parts and materials; respond to accidents, including search and rescue operations; law enforcement, and to conduct emergency evacuations. This report carries a powerful message: The aircraft provide taxpayer value by providing public safety and security, more effective government, protecting public health and welfare, facilitating economic growth, improving tax dollar efficiency, promoting good government relations, and improving compliance. Simply stated, it is another tool in the toolbox for government agencies to utilize.

State aircraft are essential in states with limited or no intra-state scheduled transportation. For instance, the state of Utah was named by *Forbes* magazine in 2012 as the number one "Best State for Business and Careers" for the second year in a row.[1] Pat Morley, Director of Aeronautics for the state, credits the state's use of King Air aircraft for Utah's government transportation needs as a significant contributing factor to Utah's positive economic climate.

Federal government use of aircraft by the executive branch is essential to the business of national government. The president, vice president and cabinet members need government aircraft to provide secure travel to implement public policy at home and around the world. Government aircraft support federal programs that protect the public safety and security of American citizens. Although outside the scope of this study, aircraft are essential to the U.S. military and provide a vital role in defending our country.

"Federally-owned aircraft are one of the nation's most valuable assets."

General Services Administration[2]

"A Performance Audit of the state aircraft fleet by the State Auditor of Public Accounts in Kentucky found that the Kentucky state aircraft are an essential tool for many government agencies' day-to-day business."

Commissioner, Department of Aviation, Kentucky

1 Fiscally Fit: The King Air Assists Utah's Positive Economic Climate. *King Air Magazine* March/April 2012. p. 4.

2 GSA Annual Federal Aircraft Report (2010)

EXECUTIVE SUMMARY

"The majority of our state airports are not served by commercial aviation. In addition to those airports which are served by commercial aviation, there are none which fly between in-State cities. Passengers would have to commute to Denver to catch a flight. This is a very time intensive endeavor."

An official of a western state Department of Transportation

The more than 2,000 aircraft in government operations provide significant taxpayer value through cost-effective transportation of civil servants to do their jobs providing public safety, security, and law enforcement. Surveys and interviews with government officials provided numerous examples of the effectiveness of aircraft in delivering taxpayer value. Our analysis using the Utilization, Benefits, and Taxpayer Value framework developed for this study found both financial and non-financial contributions to taxpayer value through the use of government aircraft.

Government Operators		
Operators		Aircraft
12	Federal	1,337
43	State	263
82	County	213
59	City & Local	189
Total: 196		**Total: 2,002**

Source: JETNET Dec 2011. GSA 2010.
Note: Includes jets, turboprops, helicopters, and large piston aircraft. Does not include small-single engine aircraft.

Based on the analysis in this study, it can be concluded that government aircraft drive taxpayer value in many ways on the federal, state and local levels of government. Government aircraft can materially provide taxpayer value over a broad range of uses. Thus, if the goal is to maximize taxpayer value, the important questions are:

How do governments and their agencies use aircraft?

What are the benefits provided by these aircraft?

Can government use of aircraft improve taxpayer value?

This study will present our methodology and provide a discussion of the Utilization, Benefits, and Taxpayer Value framework. Specific utilization strategies that were uncovered in our surveys and interviews with government officials are discussed The study then discusses the benefits to taxpayers that aircraft operated by government agencies provide. Next, the study provides a framework for identifying the key accelerators to taxpayer value, including enablers, value levers, and the key taxpayer value drivers. The findings and conclusions provide a final summation of the data analysis, literature review, and interviews with government operators of aircraft. Throughout the study direct quotes are provided as specific examples of the taxpayer benefits.

STUDY METHODOLOGY

In assessing the potential taxpayer benefits, we identified federal, state, and local agency aircraft users and identified the key drivers of government use of aircraft. We then added real life perspectives to the analysis through interviews with government users and operators of these aircraft.

NEXA conducted a literature review using multiple electronic research databases, including ABI/Inform and LexisNexis. The results were supplemented by industry studies, including studies by the General Services Administration (GSA) and Federal Aviation Administration (FAA).

To gain an understanding of how state governments use aircraft, NEXA worked with NASAO and conducted a survey of state government agencies. The members provided strong support for this study, and the results have been incorporated in the analysis and references provided.

JETNET, LLC provided the data on the aircraft operated by government agencies. We analyzed the government fleet data for yearend 2007 and 2011 and included jet, turboprop, helicopter, and some, but not all, piston engine aircraft. The JETNET, LLC data was supplemented with the GSA Aviation Resource Management Survey data for FY 2010. Military aircraft were not included in this data analysis.

We adapted the proven Utilization Benefit Value methodology employed in Part I and Part II of the Business Aviation Users series to government use of aircraft to create the Utilization Benefit Taxpayer Value framework. This new framework was used to analyze the results of the surveys, interviews, literature review, industry reports, and fleet data. The next section provides a discussion of how the new framework was developed.

"In one day I can meet with as many as four airports using the state aircraft. If I went by road or commercial airlines the same number of airport visits would take days."

An official from the Maryland Aviation Administration

"Recession and public attention have actually enhanced the use of aircraft in Texas because budget cutbacks make government aircraft use more cost effective transportation. We have increased our fleet to meet the increased demand for our services."

An official at the Texas Department of Transportation

THE "UBTV" FRAMEWORK

NEXA Advisors started this analysis by developing a definition of taxpayer value (we present this definition later in the report) and sought to find parallels to the underlying value equation used to link the use of business aircraft to the fundamental drivers of taxpayer, long-term value creation.

Fundamentally, the NEXA framework to understand value is, "Utilization yields Benefits that yield Value." The Utilization, Benefit, Value ("UBV") methodology that linked the use of business aircraft to the drivers of a company's long-term shareholder value creation can also be adapted to the use of aircraft by governments in the U.S. Fundamental to the analysis of government use of aircraft is a value framework which considers government aircraft utilization strategies, the range of benefits to society, and the resulting value to taxpayers derived from government use of aircraft. In short, the construct recognizes that the "uses," or more formally, "utilization strategies," yield benefits that impact taxpayer value. Abbreviated, this reduces to "Utilization yields Benefits which drive Taxpayer Value," or "UBTV."

With the new UBTV framework in place, we then established a series of key assumptions that predicates the following:

- There are no ready substitutes for government aircraft for federal government officials without a diminishment of public safety or security.
- There are no ready substitutes for state aircraft for states without intrastate commercial airline services without impacting travel times, expenses, and outreach to rural communities.

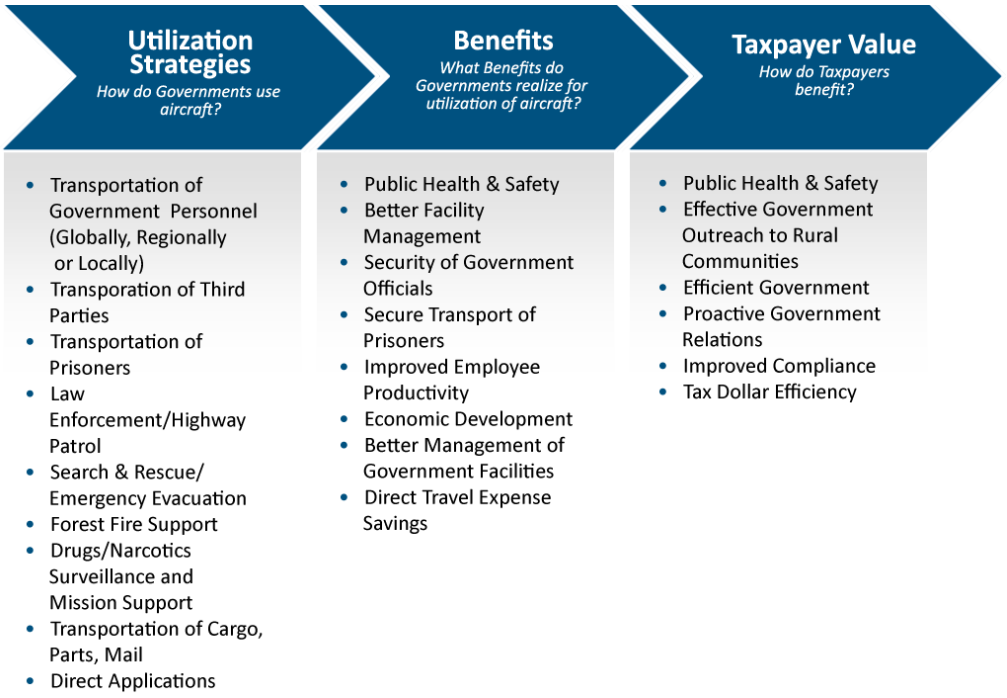
"The governor's trips are essential to state government. By using the state aircraft, the governor can save time and money. On a typical trip to the capitol the governor generally travels with five people, bringing the cost to less than $.54 per seat mile."

A western state aviation program manager

Idaho has the most creative use of state aircraft. The Department of Aviation has created a website where any government agency can book a seat on state aircraft for intrastate travel, a service promoted as "Carpool in the Sky." The site also has cost comparisons for travel on state aircraft versus driving or other modes of transportation.

Idaho Department of Aviation Website

- There is a visible, positive correlation between government use of aircraft and taxpayer value, including public safety, health, and security; constituency satisfaction; tax dollar efficiency; economic growth; and government employee motivation and productivity.



GOVERNMENT AIRCRAFT UTILIZATION STRATEGIES

Utilization strategies supporting the core missions of governments are the starting point for this study. This section discusses 10 utilization strategies that were identified by respondents to the survey of state governments and through the literature review.

Transporting of government personnel globally, regionally, or locally. The most common use of aircraft by government is the transportation of government employees, including the president of the United States, secretary of state, speaker of the House of Representatives, secretary of Homeland Security, Secretary of State, governors, and state employees on special missions. On the federal level, government aircraft allow for domestic and international travel with enhanced efficiency and productivity, especially when commercial airline travel does not provide ready access or the level of security required. On the state and local levels, government use of aircraft allows government employees to travel within states where there is no commercial airline service or the commercial airline service is limited, i.e., travel to a hub outside of the state to connect between intrastate cities.

Transporting third parties. Government aircraft also transport non-government personnel, including foreign dignitaries, crisis response teams, patients with injuries, economic development teams, doctors, and scientists.

Transporting prisoners. Governments use aircraft to securely transport prisoners to facilities within the federal and state penitentiary systems. On the federal level, this includes the U.S. Marshals Service. On the state level, a variety of corrections agencies, such as the Texas Department of Criminal Justice, use aircraft for prisoner transportation. The U.S. Marshals' Justice Prisoner and Alien Transportation System, sometimes called "Con Air," moves prisoners between judicial districts, correctional institutions and foreign countries. Con Air operates a fleet of aircraft that moves prisoners over long distances more economically and with higher security than commercial airlines can offer. U.S. Marshals transported 356,603 federal prisoners in 2010, of which 60 percent were transported by air.

Supporting law enforcement/highway patrol. Both the federal government and the states use aircraft extensively for law enforcement and highway patrol.

Supporting emergency preparedness. Aircraft are powerful tools in governments' emergency preparedness including public search and rescue operations. There are vivid images of the role aircraft played in search and rescue and the emergency evacuation following hurricane Katrina.

Fighting forest fires. Aircraft are essential in fighting forest fires. The California Department of Forestry and Fire Prevention has had a Cal Fire Program since 1905. Today, the Cal Fire program has an air fleet of air tankers, helicopters and air tactical planes to support its ground forces. From 13 air attack and nine helitack bases located statewide, aircraft can reach most fires within 20 minutes.

Supporting drugs/narcotics/border patrol. Aircraft are essential tools to patrol for drugs, narcotics, illegal firearms and illegal immigration.

Supporting surveillance and counterterrorism. Aircraft are used for surveillance of strategic facilities and mission support, including counter terrorism.

Transporting cargo, parts and mail. Governments use aircraft to position materials for government projects. Depending on the volume and the nature of the shipment, this can reduce the cost of shipments to remote locations and is the most effective method to ship highly sensitive materials.

Supporting a host of other applications. Government aircraft are used as platforms for photographic mapping, insect and rodent control, training, flight inspection calibration, scientific experimentation, research and development.

This categorization allows us to link the utilization strategies to the benefits that would accrue at national and local government levels.

"The state photo plane is valuable for better management of contractors on highway construction projects. Satellite images are too expensive and not accurate enough."

An official at a Midwest State Division of Aeronautics

POLICIES GOVERNING FEDERAL USE OF AIRCRAFT

A federal government aircraft is defined by the GSA as an aircraft that is operated for the exclusive use of an executive agency and is either a federal aircraft, which an executive agency owns, or a commercial aircraft, which an executive agency leases, charters, rents, or hires as part of a full service contract, or within an inter-service support agreement. Aircraft used by the military are not included in the GSA definition.

GSA maintains a single coordinating office for federal aircraft management as directed by the Office of Management and Budget in Circular A-126, Improving the Management and Use of Government Aircraft. (http://www.whitehouse.gov/omb/circulars_a126.) The responsibilities of this office include improving the management and use of government aircraft resources through the development of effective policies and guidance for the acquisition, operation, safety, and disposal of civilian agency aircraft. The circular covers all government owned, leased, chartered and rented aircraft operated by the federal government, except for aircraft operated by the president. GSA does not manage or coordinate aircraft used by the military.

To carry out these responsibilities, the Interagency Committee for Aviation Policy (ICAP) was established and plays a vital role in coordinating the development of aircraft policies. ICAP also provides advice on emerging issues, trends, and information that affect the management and use of federal aircraft.

ICAP consists of an executive committee, with representation from each executive agency that owns or leases aircraft. Through ICAP, GSA and federal agencies work together to identify and coordinate the policy views of the federal aviation community to foster the safest, most efficient and effective federal aviation operations. GSA chairs and facilitates ICAP, provides programs and tools to support aviation activities; and operates a management information system to collect and report data related to federal aviation management.

The GSA-sponsored Aviation Resource Management Survey (ARMS) program helps federal agencies manage aviation assets. ARMS survey teams assess an aviation program's safety, operations, training, maintenance, and facilities to

"Military and civilian law enforcement agencies use aircraft to shuttle their prisoners between different jurisdictions at a fraction of what commercial sources would charge."

U.S. Department of Homeland Security, Federal Marshal Service (2012)

achieve the highest industry standards. The ARMS program is crucial in preventing accidents and helping agencies comply with federal standards. Under this program, an agency may request an ARMS assessment from ICAP. ICAP will organize a team of experts to do a comprehensive review of the aviation program and ultimately delivers detailed observations and recommendations to the requesting agency.

In FY 2010, the GSA reported that 12 federal agencies owned or leased a total of 1,337 operational aircraft, including small piston aircraft not included in NEXA's analysis, to accomplish a wide variety of missions. This total does not include 265 aircraft owned by the United States Department of Agriculture that are loaned to the states for firefighting through the USDA Federal Excess Property Program.

The Department of State has the largest fleet of federal aircraft (27 percent, 364 aircraft), followed by the Department of Homeland Security (20 percent, 265 aircraft), and the Department of Justice (16 percent, 215 aircraft). Combined, these three agencies account for 63 percent (844 aircraft) of the federal aircraft fleet.

Interagency Committee for Aviation Policy

Departments of

- Agriculture
- Commerce
- Defense
- Energy
- Health and Human Services
- Homeland Security
- Justice
- State
- Interior
- Treasury
- Transportation
- Veterans Affairs

Other Agencies

- Environmental Protection Agency
- General Services Administration
- National Aeronautics and Space Administration
- National Science Foundation
- Office of Management and Budget
- Tennessee Valley Authority

Notes:
Totals above include only operational, non-disposed federal aircraft as of the close of each fiscal year shown.
Data source: GSA Annual Federal Aircraft Report (2010)

Federal Inventory by Agency

Agency	2006	2007	2008	2009	2010
Department of Commerce	12	13	13	14	13
Department of Energy	24	24	22	25	22
Department of Homeland Security	251	249	265	265	265
Department of Justice	216	211	214	221	215
Department of State	192	361	351	356	364
Department of Transportation	49	49	49	46	46
Department of the Interior	97	99	99	103	103
National Aeronautics and Space Administration	84	84	86	83	80
National Science Foundation	6	6	6	6	6
Non-Reporting Agency	1	2	1	1	1
Tennessee Valley Authority	7	7	7	5	5
US Department of Agriculture	190	209	210	206	217
Total:	**1,129**	**1,314**	**1,323**	**1,331**	**1,337**

Policy states that agencies can operate aircraft only for official purposes, defined to include transport of troops and/or equipment; training; evacuation; intelligence; drug, narcotics, and firearm enforcement; search and rescue; transport of prisoners; and aeronautical research and ground-based navigation equipment calibration. Specific policies are provided for approval of travel on government aircraft, documentation of the use, and reimbursement for any incidental private activities undertaken while on an official government mission.

STATE AND LOCAL GOVERNMENT USE OF AIRCRAFT

The individual states began taking aviation seriously almost immediately after the Wright Brothers flew in 1903. By the time that Lindbergh made his historic solo trans-Atlantic crossing in 1927, most states had already established state government aviation bureaus to serve the public interest in aviation while assisting and fostering the fledgling industry. Long before there was an FAA, the state aviation agencies knew that standardizing airport layouts and markings was necessary and began collaborating on aviation issues. Before the National Transportation Safety Board was formed, the states understood the importance of investigating accident causes and undertook such investigations themselves. More than three decades before there was a U.S. Department of Transportation, the states realized that there was a need for uniformity in aviation safety measures, standardization of airport construction, and a consistent set of rules and processes for aeronautical activities across the nation. Therefore, in 1931, they founded the National Association of State Aviation Officials (NASAO).

Over the past 80 years, both the states and NASAO have changed, but their charter remains *representing the public interest in aviation*. NASAO maintains a unique Memorandum Of Understanding with FAA, under which they jointly address issues of importance such as land use policy, FAA's Next Generation Air Transportation System (NextGen), runway incursions, and wildlife hazards. NASAO is an active participant in the NextGen Institute Management Council, the Airport Cooperative Research Program, and the Alliance for Aviation Across America. It works in partnership with organizations such as the National Business Aviation Association, the Aircraft Owners and Pilots Association, and the General Aviation Manufacturers Association to promote sound federal policy such as passage of FAA/AIP Reauthorization and to oppose inappropriate policy proposals such as general aviation user fees.

While each state is unique, they all share an interest in the best, safest and most efficient transportation system ever devised…aviation! Most develop and publish aeronautical charts and airport directories. They all produce systems plans and capital improvement plans for airports. They all invest in their airport systems and work closely with FAA and TSA to keep them safe, secure, and efficient. Some states own and operate major airports such as those at Anchorage, Honolulu, and Baltimore. Others, like Oregon, have many general aviation airports under their purview and a few, such as Alaska, Maryland, and Rhode Island, operate both large and small facilities. Many, but not all, states operate an aircraft or fleets which are used to transport state government employees and elected officials, where and when appropriate. Most states also sponsor a variety of aviation education programs ranging from local Aviation Career Education camps to participation in the international aviation art contest.

Together, state governments and the aviation industry have a proud heritage. Together they serve the public interest, and together they are investing in our nation's future.

To gain an understanding of how state governments use aircraft, NEXA worked with NASAO and conducted a survey of state government agencies. The members provided strong support for this study, and the results have been incorporated in the analysis with references provided.

"A primary function of the Department of Aviation is to provide safe and cost effective in-state and out-of-state transportations to all state employees."

An official at the Kentucky Department of Aviation

NEXA's analysis found that 43 states use aircraft similar to the aircraft used by business aviation that include jet, large turboprop, piston fixed wing, and helicopters. Seven states do not operate the aircraft analyzed in this study but may operate small single-engine piston aircraft, for which data was not available. NEXA estimates that roughly 200 small piston aircraft are operated by state and local agencies. California alone operates 20 of these aircraft that are not included in the analysis.

NEXA analyzed the JETFLEET database to identify county and local agency users of aircraft. We found 59 local agencies, which were predominantly city governments, and 82 county governments that use aircraft analyzed in this study. Local and county governments operate a combined fleet of more than 400 aircraft, 92 percent of which were helicopters.

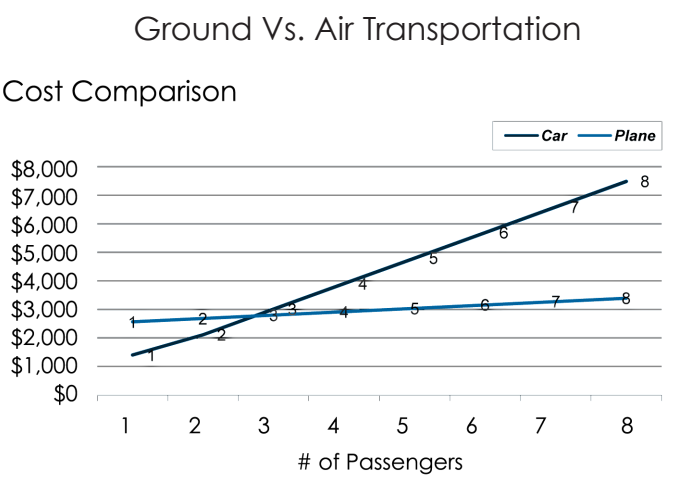
The state, county, and local aircraft fleets are predominately turboprops, small single-engine piston aircraft, and helicopters, with the vast majority used for highway patrol, police activities, and by parks and wildlife agencies.

Many states have policies for the use of the state aircraft similar to the OMB policy for federal use of government aircraft. These policies generally state who can use the aircraft and for what missions. Tennessee Department of Transportation has well developed guidelines posted on its website (http://www.tdot.state.tn.us/mediaroom/docs/plane_usage_guide.pdf) for the use of the state aircraft which addresses:

- Justification for use
- Accountability
- Scheduling
- Billing
- Shared flights
- Charters
- Overnight trips

Having a use policy in place clarifies to the public and government oversight agencies the exact conditions under which the aircraft are used.

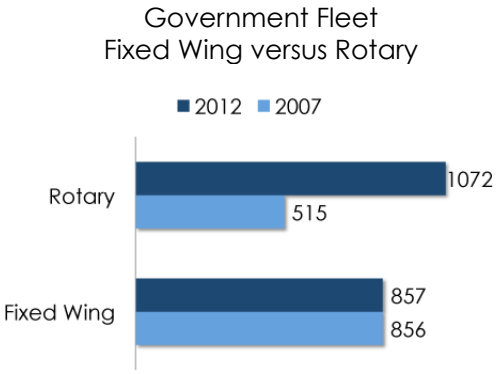
States have developed cost comparisons to other modes of transportation to justify the aircraft. The Idaho website has a direct cost comparison of traveling on the state aircraft to enable travelers to develop their own cost comparison with other modes.



Source: http://itd.idaho.gov/aero/flight_ops/docs/Ground_vs_air.pdf

HELICOPTER USAGE

The growth in the helicopter fleet has doubled over the past five years.



Source: JETNET Dec 2011

Helicopters are unique in their operational capabilities, providing:

- Close-in access to thousands of heliports and impromptu landing facilities in addition to public and private use airports
- Unique surveillance, assessment, and surveying opportunities due to their ability to hover over a fixed point
- Unparalleled point-to-point flexibility

For these reasons, helicopters are often used in congested or isolated areas where fixed-wing aircraft cannot take off or land, making them the tool of choice for tasks that were previously not possible with any aircraft. Today, helicopters provide a variety of uses, including transportation of passengers for business, law enforcement, air ambulance, construction, firefighting, search and rescue, and military functions, among others.

Public safety – Unmatched in speed of deployment, helicopters are natural vehicles for first responders. Medevac and air ambulance services provide minimized reaction delays and reduced time to treatment. Highway patrol departments make use of helicopters to police and enforce laws across highway and surface transportation systems. They provide superlative surveillance for search and rescue operations, in addition to law enforcement, border security, and drug interdiction.

Disaster relief – The success of helicopters in military situations has accelerated government use. Transportation into and out of problem areas has saved thousands of lives by delivering much needed supplies or rescuing those stranded by natural disasters, according to the U.S. Forest Service. Helicopters have proven superior to fixed-wing aircraft in their ability to hover and maintain visibility around obstacles, especially in mountainous terrain.

Wildlife and forest management – The availability of deployment options makes helicopters crucial tools for transportation to and from remote locations and over rough terrain. Insertion capability enables tracking and population control for low-level wildlife work, in addition to surveillance of wide-area forestry initiatives.

Surveillance / mapping – Helicopters yield low airspeed flight handling unmatched by other aircraft. Observation and surveillance can be focused on specific marks using stabilized hovering and obstacle avoidance, offering the potential to map or inspect surface-level targets at controlled speeds and multiple passes. Utilities and surveyors can follow preconceived grid patterns to track environmental variation over time or geography. These applications can also extend into border protection and crime prevention, as well as aerial photography.

Transportation – Time-sensitive travel over inhospitable terrain with little or no airfield service creates a vital niche for vertical takeoffs and landings. Hovering and low airspeed capabilities also create opportunities to carry out operations at low altitudes, offering an additional dimensional perspective for observation or insertion. Helicopters can provide the added synergy of addressing the inherent gap in geographic coverage of fixed-wing aircraft. This incremental benefit can provide aerial operational and transportation access to any location.

BENEFITS DERIVED FROM GOVERNMENT AIRCRAFT USE

"Our aircraft are critical for public safety. We have found no substitute."

Flight department manager in a mid-Atlantic state

"We use our aircraft to calibrate the ground-based navigation equipment for our General Aviation airports. This calibration cannot be accomplished without a dedicated aircraft."

A southwestern state aviation department

However governments utilize aircraft, the actual mission can be tied to benefits delivered for taxpayers. Understanding the benefits of aircraft used by government agencies is important to eventually understanding taxpayer value. We found that most of these benefits are easy to identify, but at times difficult to quantify. That said, the list below provides several examples illustrating how aircraft benefit governments and, in turn, benefit taxpayers. The most significant benefits are discussed below.

Supporting public health and safety. The primary benefit of government aircraft is the essential function of providing the levels of public health and safety American society expects. Government aircraft are essential to law enforcement, highway patrol, search/rescue missions, emergency evacuation in natural disasters, and other types of emergencies. Aircraft are also used in managing epidemics by controlling insects and rodents. In many states, aircraft bring health care to small rural communities that do not have easy access to health care facilities.

Enhancing government employee productivity. Government employee time has intrinsic value. The ability to complete essential missions more quickly, thereby allowing government employees to more efficiently and effectively manage time, is a clear benefit to government operation of aircraft. For federal employees traveling globally, or state employees traveling within their state, government aircraft lessen fatigue by providing a more efficient travel schedule, decreasing the need for overnight stays or "red eye" flights.

Supporting better management of government facilities. Aircraft allow government officials to provide administrative and other services to government facilities, and also to monitor activities. For example, FAA and many state aviation agencies use government aircraft for flight inspection and calibration and for inspection of airports. Aircraft are also used to support forestry and wild game programs.

Ensuring security of government employees and property. At the highest levels of government, aircraft are used to provide the utmost security for government officials, in part because having absolute control over aircraft crew and maintenance significantly reduces the risks to these government officials.

Boosting economic development. Governments use aircraft to increase economic activity. A good example comes from a state where the use of state aircraft was a decisive factor in persuading a new car manufacturer to build a facility. There were numerous trips back and forth to work out details between the Governor's office, the Economic Development Council, and the car manufacturer that could not have occurred otherwise.

Providing direct travel expense savings. NEXA found numerous examples of the direct savings to governments by the use of aircraft. For example, one state aviation official found that staffing costs were reduced by cutting travel time by 70 percent.

DRIVERS OF TAXPAYER VALUE

The primary directive for this study was to trace the relationship between the benefits of government use of aircraft and how these could drive taxpayer value.

There is no universally accepted definition or concept for "taxpayer value." That idea would presumably require that a price can be put on government's output and then be compared to the costs in taxes. This comparison is hard to do since most government functions occur outside of the marketplace. Another analysis is cost-benefit analysis, where prices are put on the outputs by finding close analogues in private markets where goods do bear prices. The cost of a public project, such as a dam on a river, can then be compared with the benefits produced. But cost/benefit is only possible if it can be monetized. There is also cost-effectiveness analysis, where the costs of different ways of producing services or benefits are compared, but without monetizing the benefits and comparing them to the costs.

"Staff hour costs are reduced by cutting travel time by 70 percent when using aircraft."

An airport inspector from a southern state

Short of this, one can get gross measures of efficiency by comparing how much governments in different places spend to produce roughly the same services. Relative judgments are easier than absolute ones.

The dominant view is that there is no strict way to compare taxes with what government produces. Even so, one can get gross measures of efficiency by comparing how much governments in different places spend to provide roughly the same services. A seminal early article on the subject, "A Pure Theory of Local Public Expenditures," published in the *Journal of Political Economy* (October 1956), established the underlying premise for future research that localities compete for residents/voters by offering different levels of taxation and services. People then move to the localities that have the level they want, as in a market.

NEXA based its analysis on the definition of taxpayer value as:

> *"Giving a fair return in services and goods, including public safety, effective government, public health, and economic growth to any person who pays taxes or is subject to taxation."*

KEY DRIVERS

NEXA developed the taxpayer value framework through the hierarchy of taxpayer value creation where both financial and non-financial drivers hold the key to

"The airplane and vast majority of our budget is from aviation-related sources, so the taxpayers are our fellow aviators. They want to see state representatives at their airport and experiencing first-hand the issues that they face."

An official from the North Dakota Aeronautics Commission

providing taxpayer value. Underlying the drivers are value enablers and levers that governments use daily to provide effective public services. We identified key underlying value enablers and levers.

VALUE ENABLERS

The creation of taxpayer value starts with the key value enablers of public policy strategy which is implemented through public programs and services and the operation of government facilities.

- Public policy strategy
- Public programs and services
- Government facilities

VALUE LEVERS

Public policy, programs, services, and government facilities create taxpayer value through value levers. NEXA has found several primary value levers:

- Emergency response
- Safety and security
- Constituency involvement
- Public policy development and implementation
- Program and project implementation

FINANCIAL AND ECONOMIC TAXPAYER VALUES

There are a number of financial values that can be measured and quantified.

These include:

- Budget savings for travel
- Tax dollar efficiency
- Economic development
- Productivity gains
- Reduced turnover
- Facility management and compliance

The most recurring taxpayer value measure, but far from the largest in aggregate, is the budget savings for travel, given that aircraft use often leads to far fewer hotel stays, lower cost for car rentals, fewer restaurant meals, and reductions in related business travel expenses. Tax dollar efficiency is a measure of how effectively the public budget is managed and the ability to maximize the value of each dollar spent. Government aircraft have been cited as key contributors to economic development, for example, bringing project developers together with key policy makers to locations where the economic development initiative will form. The use of aircraft to improve government facility management and compliance is also a measurable benefit.

NON-FINANCIAL TAXPAYER VALUES

There are many intangible, nonfinancial contributions to taxpayer values realized by the operation of government aircraft.

- Public safety
- Public health
- Public security
- Constituency satisfaction

- Outreach to rural communities
- Government employee motivation and satisfaction

The top three non-financial contributors include public safety, public health, and public security. Government aircraft contribute to better constituency satisfaction and outreach to rural communities. Government employees are better motivated and have overall better job satisfaction through the use of government aircraft.

Although there is wide consensus that government aircraft can be a remarkable tool and creates taxpayer value in many situations, government aircraft often complement scheduled commercial air transportation or provide connections to the commercial air transportation network. In this context, there are many times where the airlines should be, and are, utilized.

"Without our state aircraft, operational visits to construction sites would be delayed, and as a consequence the project completion would be delayed as well as costing taxpayers money."

A western state aviation official

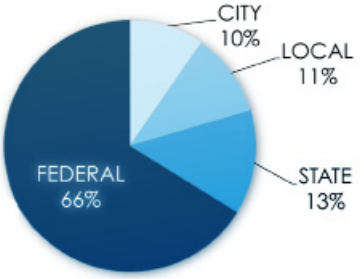
GOVERNMENT FLEET

NEXA studied aircraft used by the U.S. federal government, state and local governments and inventoried the government aircraft fleet. The inventory analyzed included jets, turboprops, helicopters, and some but not all small piston aircraft operated by government. The military aircraft fleet was not studied.

Governments in the U.S. operate more than 2,000 aircraft. The Federal government has the largest fleet with more than 1,300 aircraft, representing two-thirds of the government fleet. State governments account for 13 percent of the government fleet, with 20 percent being operated by city and local governmental agencies.

While the government fleet of aircraft grew by 40 percent from 2007 to 2011 with an additional 558 aircraft being added over this period, the growth was driven largely by the increase in helicopter fleets.

Government Fleet by Jurisdiction



Source: JETNET Dec 2011
Note: Includes jets, turboprops, helicopters, and large piston aircraft. Does not include small single-engine aircraft.

Government Fleet by Jurisdiction

		Federal Agencies		State Governments		County Agencies		City & Local Entities	
		Number Aircraft	Share of Fleet	Number Aircraft	Share of Fleet	Number Aircraft	Share of Fleet	Number Aircraft	Share of Fleet
Fixed Wing	Commercial turbo-jet	20	2%	0	0%	0	0%	0	0%
	Business turbo-jet	296	23%	8	3%	4	2%	0	0%
	Turboprop	407	32%	83	32%	20	9%	5	3%
	Piston	1	0%	8	3%	1	0%	4	2%
Rotary	Piston	5	0%	6	2%	4	2%	15	8%
	Turbine	535	42%	158	60%	184	86%	165	87%
Total		1,264	100%	263	100%	213	100%	189	100%

Government Fleet 2011 versus 2007					
		2011		2007	
Fixed Wing	Commercial turbo-jet	20	1%	22	2%
	Business turbo-jet	308	16%	325	24%
	Turboprop	515	27%	492	36%
	Piston	14	1%	17	1%
Rotary	Piston	30	2%	28	2%
	Turbine	1042	54%	487	36%
Total		1,929	100%	1,371	100%

Source: JETNET Dec 2011
Note: Does not include small engine aircraft.

"The Utah Health Department performs clinics at many of Utah's rural communities. One of those communities is Blanding, UT. If a team of physicians and staff were to drive, it would require three days: The Health Department conducts at least ten clinics per year, so use of an airplane makes it possible to save over twenty days of non-productive driving each year. That's a full month's worth of work!"

- An official from the Utah Department of Transportation

FINDINGS

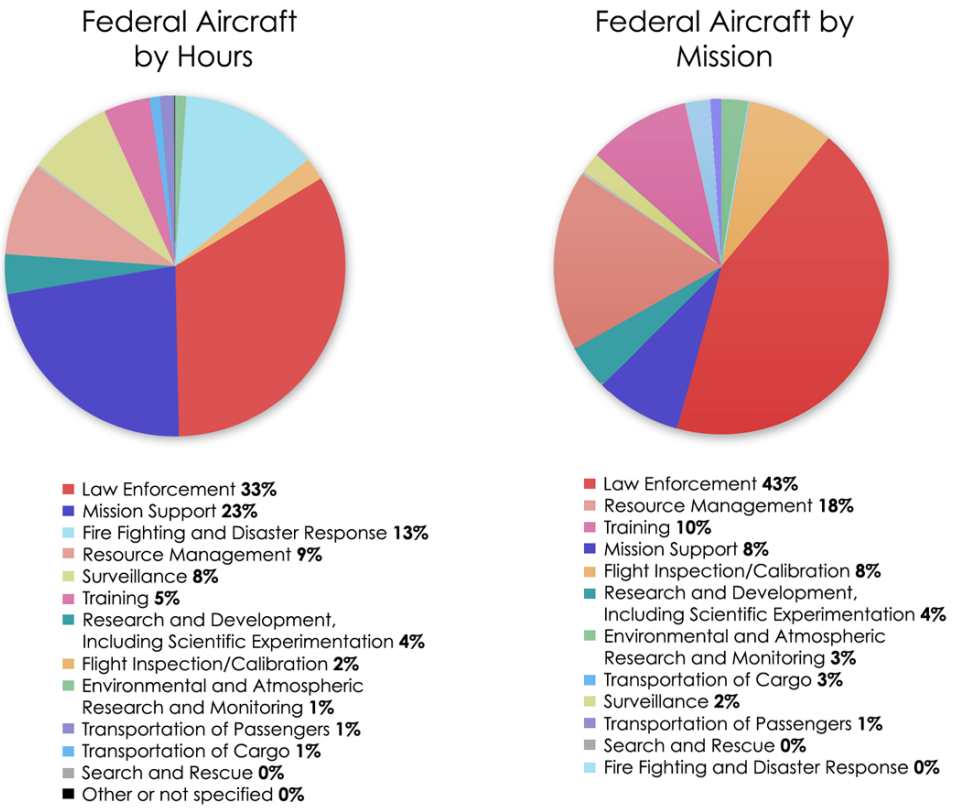
The survey and interviews with government agencies found overwhelming commitment to the use of aircraft in the business of government. On the federal, state and local levels there are missions where there is no substitute for a government aircraft, and a state's geography often determines how effectively it uses and benefits from the state aircraft. Aircraft provide cost-efficient transportation for government employees to do their jobs. The transportation of government personnel, including senior government officials, government teams for projects, shuttling government employees, and moving personnel globally, regionally or locally ranked the highest in the survey of state government users of aircraft with a score of 4.7 out of 5.0. The second highest rank utilization was management of government property, especially airport inspections and calibrations, game and wild life, and parks and recreation. Of lesser importance to the state respondents to the survey were law enforcement and emergency response. We found in interviews that law enforcement and emergency response were primarily the responsibilities of county and local governments, hence the low ranking for state governments.

State Aircraft Use Survey Results		
Level of importance (*1 not important; 5 essential*) **Average Score Presented**	**Primary Utilization Strategy**	**Example Utilization Strategies**
4.7	Government Official and Staff Transportation	Move senior government officials
		Move government teams for projects
		Shuttling government employees
		Move personnel globally, regionally or locally
4.6	Government Property Management	Airports
		Game and wild life
		Parks and recreation
		Other government facilities
2.9	Law Enforcement	Highway patrol
		Drug interdiction
		Border patrol
		Criminal transport
2.9	Emergency Services	Search and rescue
		Respond to accidents and incidents
		Conduct emergency evacuation/disaster relief
		Insect management
2.0	Moving Cargo, Parts, Materials, Mail	Move priority cargo for government projects
		Move critical inventory
		Transport government mail
1.3	Transportation for Humanitarian Projects	Provide air transport to support humanitarian missions

"Flying reduces the cost of overtime/comp time, overnight lodging and per diem. Also, hours of driving time for state employees is time wasted."

An official at the Kentucky Department of Aviation

The GSA reported that federal government agencies' usage in terms of both hours flown and missions.



In contrast to the state aircraft utilization strategies, law enforcement is the top use for federal aircraft, followed by resource management, which includes government facilities and game and wildlife programs. Transportation of government officials accounted for only one percent of the missions and total hours flown. Firefighting accounts for 13 percent of the missions but very few hours since the flights quickly dump firefighting materials and then leave the scene. Most firefighting is the responsibility of state, county and local agencies.

The more than 2,000 aircraft in public use contribute directly and indirectly to the creation of taxpayer value. Government agencies continually balance resources to requirements to make the case to the public that the use of government aircraft provides taxpayer value. Based on primary research through surveys and interviews and secondary research through literature review and fleet data analysis analyzed through the UBTV framework, this study finds that government aircraft provide significant taxpayer value. First and foremost, government aircraft contribute to the primary mission of government to ensure public health and safety through programs such as outreach health care programs in rural areas and law enforcement on the highways. Secondly, government aircraft provide fiscal contributions to government budgets through savings on travel expenses due to fewer hotel nights and time on the road and often are key contributors to economic development.

CONCLUSIONS

This report carries a powerful message to the public and government policy makers that government aircraft are important tools in creating taxpayer value. As stated at the beginning, we designed this study to answer three important questions:

- How do governments use aircraft? *Numerous uses were identified that clearly prove that government aircraft are the best tool for the job.*
- What are the benefits provided by government aircraft? *There are financial and nonfinancial benefits provided by government aircraft.*
- Can government use of aircraft improve taxpayer value? *Government use of aircraft clearly improves taxpayer value.*

As further testimony to the value of aircraft to state and local governments, 38 governors have issued proclamations in support of business aviation. These proclamations can be found on the No Plane No Gain website (www.no-planenogain.org) and the NASAO website (www.nasao.org). These Governors proclaim the vital role aircraft and aviation play in the lives of citizens, as well as in the operation of businesses within the state, and to the vitality of business aviation as important to the daily functioning of American society. To quote the Kansas Governor's Proclamation, "In our nation's history, aviation innovation, exploration, and manufacture has and continues to exemplify the American spirit, a willingness to look beyond the possible and break the barriers while forging a new path for generations to follow."

States Issuing Proclamations in Support of Business Aviation (as of May 19, 2012)		
Alaska	Maine	Ohio
Arkansas	Maryland	Pennsylvania
Colorado	Massachusetts	South Carolina
Delaware	Minnesota	South Dakota
Florida	Mississippi	Tennessee
Georgia	Missouri	Texas
Idaho	Montana	Vermont
Illinois	Nebraska	Virginia
Indiana	New Hampshire	Washington
Iowa	New Jersey	West Virginia
Kansas	New Mexico	Wisconsin
Kentucky	North Carolina	Wyoming
Louisiana	North Dakota	

NEXA REPORT AUTHORS AND FURTHER INFORMATION

The research team was specially selected to bring broad expertise to this study. Tulinda Larsen, Principal, NEXA Advisors, private pilot, former president Small Community Air Service Coalition, former vice president Regional Airline Association, and former president Alaska Air Carriers Association, lead the study team. Other team members included Michael J. Dyment, Managing Partner of NEXA Advisors, James P. Hughey, Senior Vice President, and Eleanor Herman, Managing Editor.

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JETNET LLC provided the fleet data to support all the analysis in this study. NEXA thanks Paul Cardarelli for his efforts to provide the government aircraft fleet data detail.

The information in this white paper is correct to the best of our knowledge and belief at the time of publication. We recommend that professional advice be sought before any action is taken. For more information about business aviation in today's economy, or the enterprise value tools at our disposal, please contact:

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Further Information

NEXA's vision is to be your partner for success. We help our clients and our people fulfill their enterprise value aspirations. We work with top management teams to develop innovative solutions which help dynamic people and organizations create and realize value.

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