Federally Owned Aircraft

Briefing to Committee on Oversight and Government Reform

House of Representatives

Overview

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Objective

- What recent information is available on the composition and characteristics of federally owned civilian aircraft?

Scope and Methodology

- The General Services Administration (GSA) operates a key repository of data on federal aircraft: the Federal Aviation Interactive Reporting System (FAIRS). FAIRS collects data from agencies on certain costs and the amount of aircraft use.
- We reviewed and analyzed both published and unpublished data that agencies reported to FAIRS.
  - GSA publishes an annual report that aggregates data by agency. To provide historical perspective on aircraft costs and inventory, we reviewed and summarized data published by GSA in FAIRS reports from FY2011, FY2014 and FY2015.
  - To provide more detailed and recent information, we analyzed unpublished FAIRS data on individual aircraft that were in agencies' reported inventories as of July 2016.

Scope and Methodology

- When analyzing unpublished FAIRS data from July 2016, we limited our analysis to specific aircraft.
  - We defined “owned” as “owned by and used by the same agency.”* Thus, aircraft owned by a federal agency but loaned/leased/provided to another entity are excluded.
  - We did not analyze nor do we report data that intelligence agencies reported to FAIRS.
  - Aircraft on intra-agency loan were excluded from our population.
- We assessed the data reported to FAIRS and determined that it was sufficiently reliable for the purpose of this report, and have noted caveats where appropriate.

*Aircraft are owned by the federal government, and the title or rights of title are vested in an agency.

Scope and Methodology

- There are some considerations when analyzing and interpreting data from FAIRS, including:
  - Most executive agencies that own, lease or charter aircraft are required by Federal Management Regulations to report quarterly data to FAIRS. However, the Department of Defense, Coast Guard and intelligence agencies are not required to report data to FAIRS.
  - Agencies can revise the information they previously reported to FAIRS. As a result, published data in GSA's annual reports, the July 2016 data included in this report, and the most recently updated information in the FAIRS database may differ.
  - Data on unmanned aircraft systems (i.e., drones) are reported to FAIRS only if they meet certain standards, such as an expected useful life of at least 2 years.

Scope and Methodology

- In addition to examining FAIRS reports and data, we also reviewed agencies' Inspectors General (IG) reports from FY2011 to July 2016.
  - While most IG reports we reviewed focused on other aspects of aviation, in 2016, the Department of Justice IG found the Drug Enforcement Administration's Aviation Operations had acquired an aircraft in FY2008 for nearly $8.6M that was never used.
- We examined relevant regulations and guidance on the acquisition of civilian federal aircraft.
- We requested information on aircraft missions from all 11 of the civilian agencies that own aircraft.
- We conducted our work from May 2016 to October 2016 in accordance with all sections of GAO's Quality Assurance Framework that are relevant to our objective.

Aircraft Acquisition Requirements and Directives

- OMB Circular A-126
  - Prescribes policies for acquiring and managing aircraft, among other things.
- OMB Circular A-11
  - Instructs agencies to complete an Aviation Business Case before purchasing an aircraft, which includes an analysis of the costs and alternatives.
  - GSA developed a Capital Asset Planning (CAP) Tool to streamline the documentation process required by A-11.
- Per Federal Management Regulations, agencies can acquire aircraft through more than a dozen methods, such as purchase, lease, exchange, or transfer.

Overview of Historical Inventory in FAIRS Reports

- According to the FAIRS report published by GSA, 11 federal agencies reported owning 1,209 operational aircraft in FY2015.* This reported inventory has decreased since FY2011.
- According to GSA, the decrease can be attributed to agencies disposing of aging aircraft and improving reporting accuracy.

Type of aircraft	Fiscal years		
	2011	2014	2015
Airplanes	Not available	704	688
Helicopters	Not available	503	506
Unmanned Aircraft Systems	Not available	15	14
Gliders	Not available	1	1
Total	**1,384**	**1,223**	**1,209**

Source: GAO analysis of GSA Federal Aviation Interactive Reporting System (FAIRS) reports from fiscal years 2011, 2014, and 2015. | GAO-17-73R

* Note: While GSA collects data in FAIRS on aircraft that agencies designate as non-operational (i.e, aircraft that are incapable of being economically returned to service); it does not currently include this information in published inventory totals.

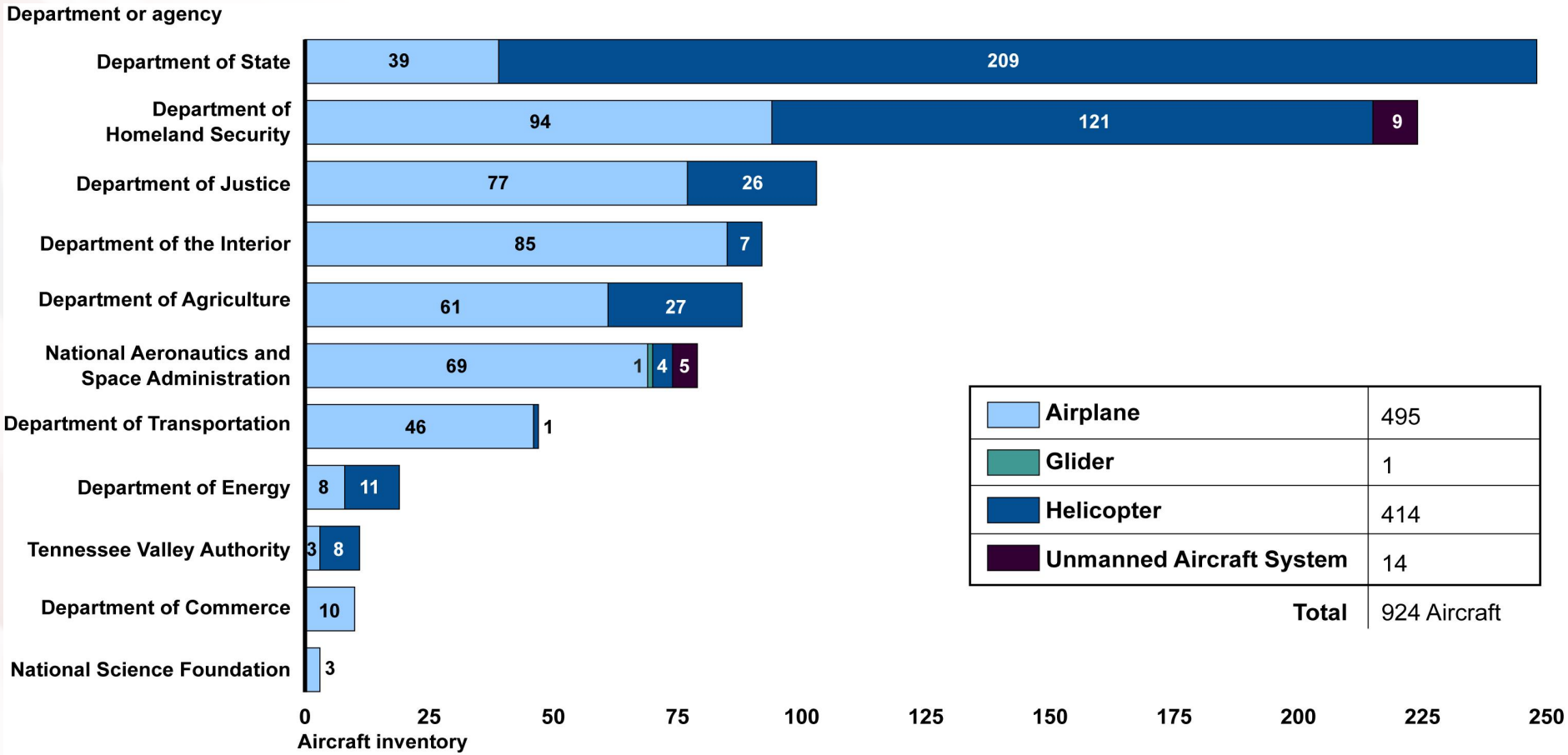
Costs Reported in the FY2015 FAIRS Report

- According to the FY2015 FAIRS report, agencies reported spending approximately $662 million to use and maintain federally owned aircraft that year. However, the inventory of 1,209 owned, operational aircraft should not be directly compared with the $662 million cost.
  - The published inventories include aircraft that federal agencies own but lease to others paying the costs (e.g., states and universities). They also include aircraft from intelligence agencies for which costs and amount of use are not reported to FAIRS.
- In addition to owning aircraft, agencies can also lease, rent, or charter aircraft from the private sector. These are known as Commercial Aviation Services. Agencies reported spending $369 million on Commercial Aviation Services in FY2015.

Overview of Owned Aircraft Inventory Reported by Agencies as of July 2016

- We focused our analysis on aircraft in FAIRS that are owned by and used by the same agency.
- As of July 2016, 11 federal agencies reported owning 924 aircraft.
  - As of July 2016, agencies reported spending approximately $661 million to use and maintain these 924 aircraft in FY2015.
- Agencies reported using these aircraft for a dozen different mission categories reported in FAIRS, including: law enforcement, scientific research, search and rescue, firefighting, and passenger transport. See appendix I for more information on aircraft uses by agency.

Owned Aircraft Inventory as of July 2016



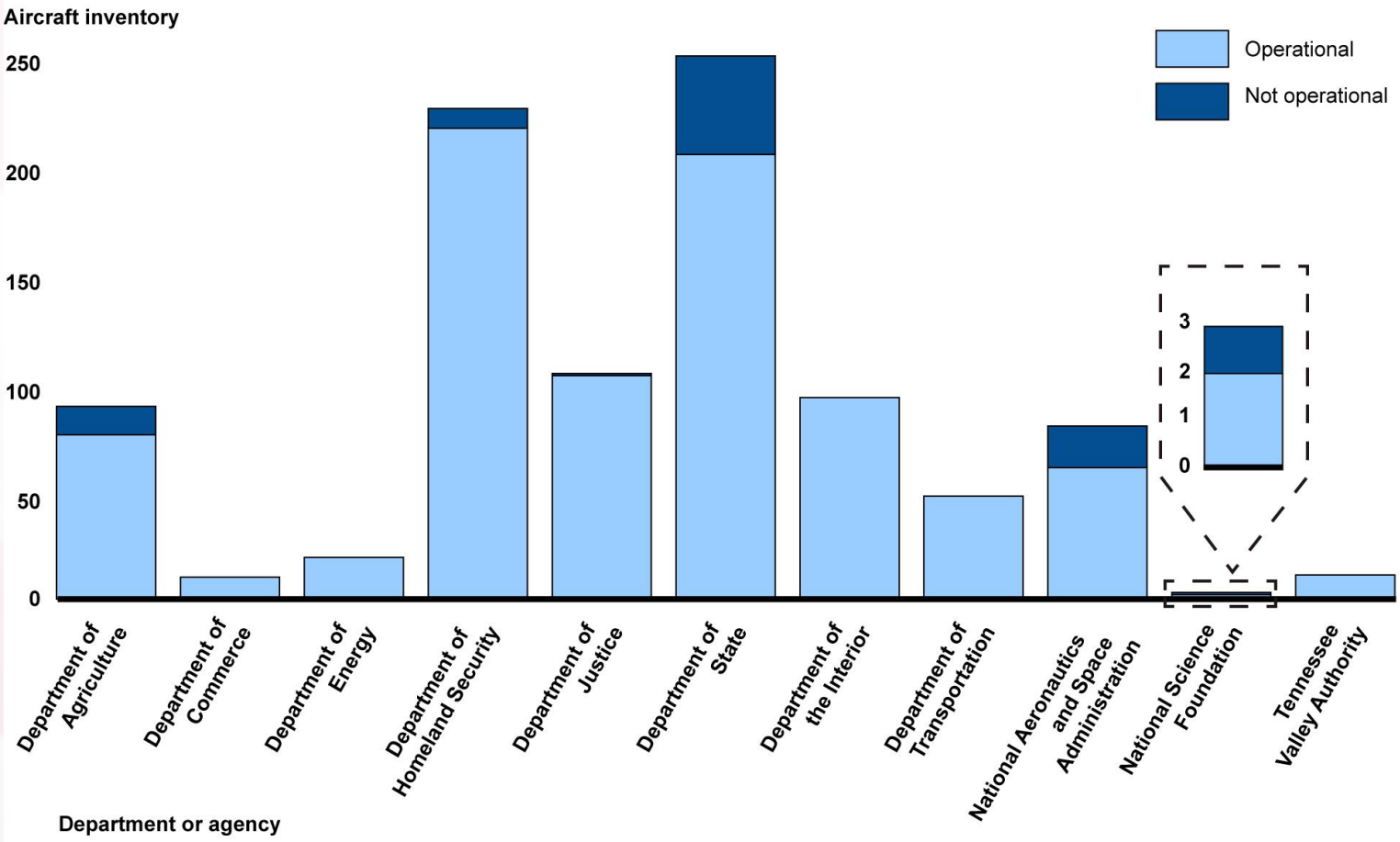
Source: GSA Federal Aviation Interactive Reporting System (FAIRS) data as of July 2016. | GAO-17-73R

Note: These inventories include both operational and non-operational aircraft. These inventories exclude aircraft from agencies exempt from FAIRS reporting, such as Coast Guard and the Federal Bureau of Investigation.

Approximately 10 Percent of Owned Aircraft Were Non-Operational in July 2016

- Eighty-eight of 924 owned aircraft were not operational in the July 2016 inventory (9.5%).
- Non-operational aircraft are those that cannot be economically returned to airworthiness. This includes those used for parts, lost/destroyed, on display, etc. This designation does not include aircraft that are temporarily grounded, such as those undergoing repairs.
- Seventy-seven of these 88 non-operational aircraft were owned by three agencies: NASA, State Department and USDA.
- Five of the 11 agencies reported zero non-operational owned aircraft.

Non-Operational vs. Operational Owned Inventory, July 2016



Source: GAO analysis of GSA Federal Aviation Interactive Reporting System (FAIRS) data as of July 2016. | GAO-17-73R

Quantity and Acquisition Cost of Non-Operational Owned Aircraft in July 2016

- Overall, the 88 non-operational aircraft in the July 2016 inventory included:
  - 43 aircraft used for parts
  - 5 lost/destroyed aircraft
  - 4 aircraft awaiting disposal
  - 2 aircraft used for display
  - 34 non-operational aircraft that did not fall into the other categories
- Of these non-operational aircraft, 29 were acquired during or after FY2011. In some cases, the aircraft were acquired from other federal agencies.
  - The reported acquisition value of these 29 aircraft was $53 million, which agencies can report as a purchase price or a fair market value estimate, among other options. We did not determine the price paid by the agencies.

Utilization for Operational, Owned Aircraft in the July 2016 Inventory

- Agencies reported that owned, operational aircraft in their July 2016 inventories:*
  - Averaged 275 flight hours in FY2015 and
  - Flew a maximum of 1,279 hours in FY2015, though not all aircraft flew.
- Flight hours was the most common metric for aircraft use, but some agencies also reported hours aircraft used for research and development and on alert status.

Type of aircraft	Least flight hours	Average flight hours	Most flight hours
Airplanes	0	261	1,279
Helicopters	0	288	959
Unmanned Aircraft Systems	0	479	1,156
Overall	**0**	**275**	**1,279**

Source: GAO analysis of GSA Federal Aviation Interactive Reporting System (FAIRS) data as of July 2016. | GAO-17-73R

* Note: These calculations exclude aircraft acquired during or after FY2015.

Agencies Reported 66 Owned, Operational Aircraft Were Not Used During FY2015

- 66 operational aircraft-- including19 airplanes, 45 helicopters, and 2 unmanned aircraft systems-- in the July 2016 inventory had no reported hours of use in FY2015 (flight, research and development, or alert hours).* According to agency officials, operational aircraft may be idle due to repairs, a change in mission, budgetary constraints, and extensive modification, among other reasons. Agencies reported using approximately 1/3 of these 66 aircraft during the first two quarters of FY2016.
- 12 of these aircraft had zero reported hours of use after FY2011.**
  - 10 of these 12 aircraft are owned by the Department of State. State officials said that most of these aircraft were undergoing extended repairs/upgrades. One was stored for contingency purposes and sold in August 2016. In two cases, the reported data were incorrect, which the agency is addressing based on our inquiry.

*Note: This calculation excludes aircraft acquired during or after FY2015. **Note: This calculation excludes aircraft acquired after FY2011.

Costs to Use and Maintain Owned, Operational Aircraft from the July 2016 Inventory in FY2015

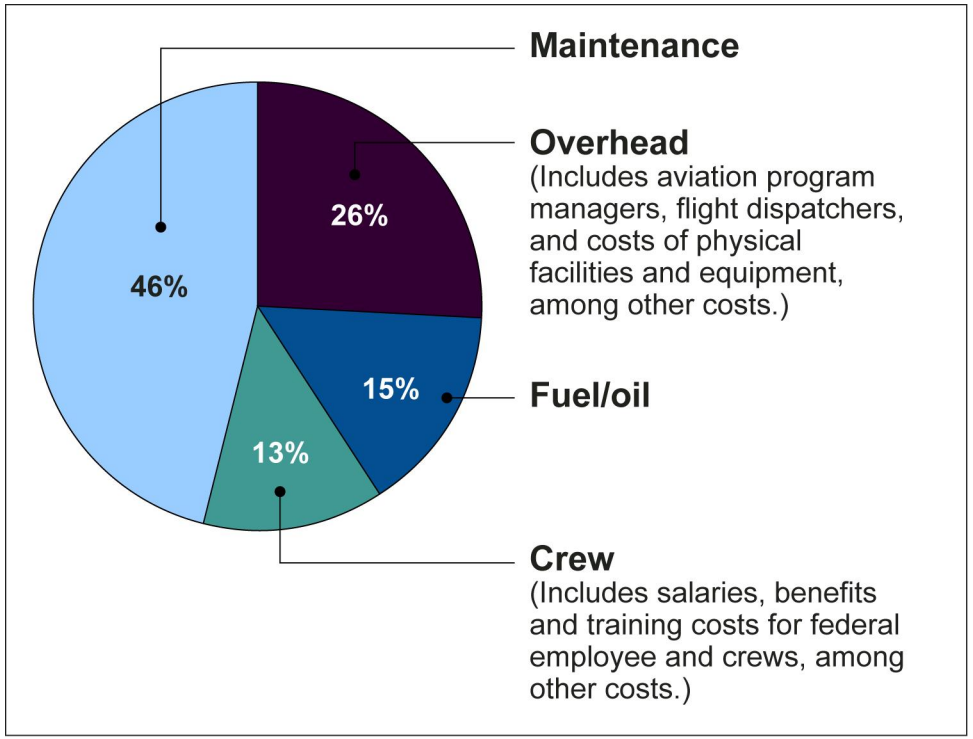
Department or Agency	FY2015 Reported Costs
Department of Agriculture	$11.9 M
Department of Commerce	$10.8 M
Department of Energy	$22.0 M
Department of Homeland Security	$92.9 M
Department of Justice	$62.3 M
Department of State	$235.1 M
Department of the Interior	$10.3 M
Department of Transportation	$67.2 M
National Aeronautics and Space Administration	$128.8 M
National Science Foundation	$3.1 M
Tennessee Valley Authority	$7.5 M
TOTAL	**$651.9 M**

- Of the approximately $661 million agencies spent to use and maintain owned aircraft in FY 2015, almost $652 million was on owned, ***operational*** aircraft.
- According to agency officials, a variety of factors can influence cost, including the type of aircraft missions, sophistication of the aircraft, age of the aircraft, and operating environment, among others.

Agencies Must Report Four Cost Categories in FAIRS

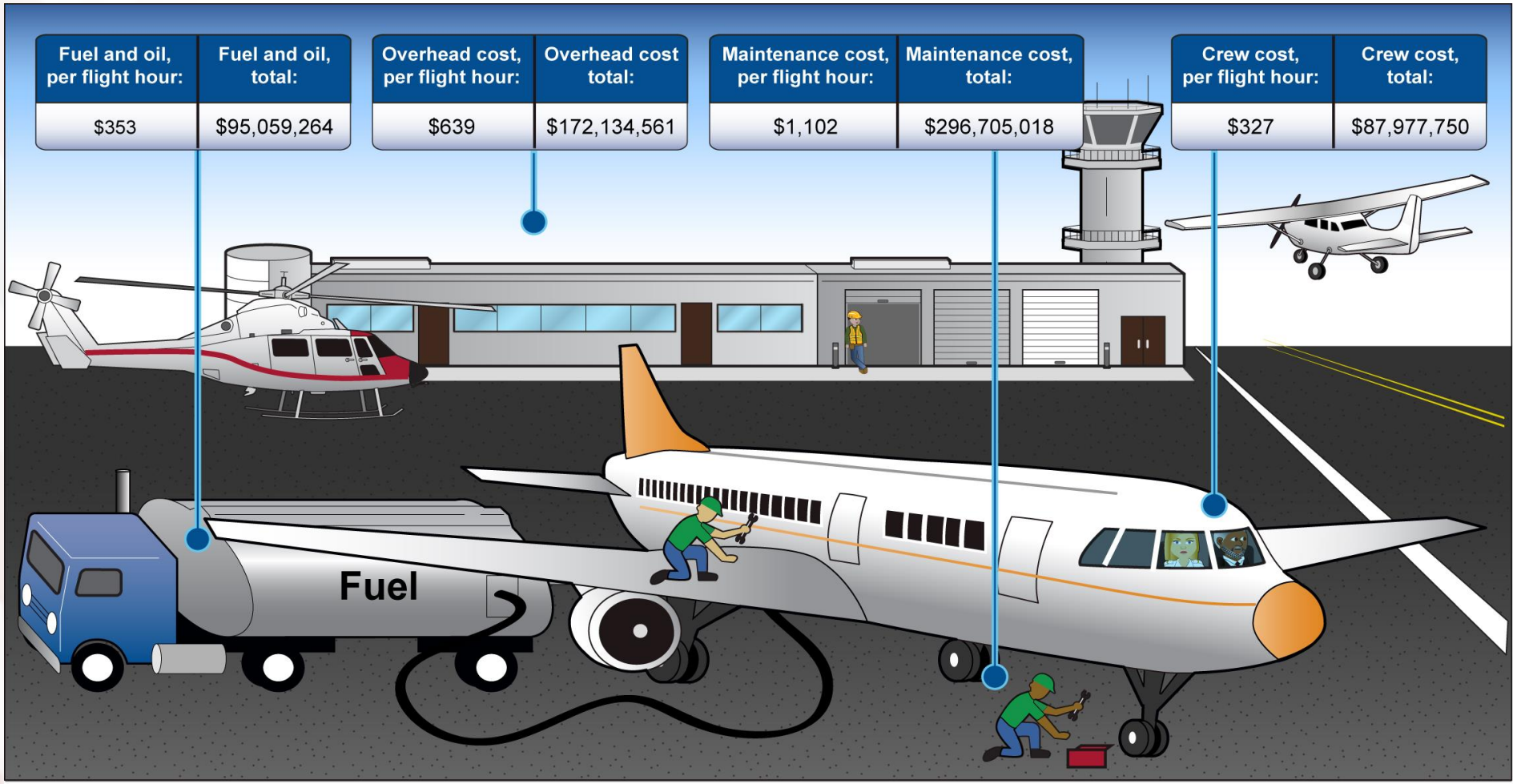
- The approximately $652 million agencies reported spending in FY2015 to use and maintain owned, operational aircraft reflects four cost categories:
  - Maintenance
  - Overhead
  - Fuel/oil
  - Crew
- According to GSA, agencies must provide an entry in these cost categories when reporting quarterly data, even if the entry is $0.

Figure 1: Reported Costs for Owned Operational Aircraft in the July 2016 Inventory, FY2015



Source: GAO analysis of GSA Federal Aviation Interactive Reporting System (FAIRS) data as of July 2016. | GAO-17-73R

Average Cost to Use Owned, Operational Aircraft from the July 2016 Inventory in FY2015



Source: GAO analysis of GSA Federal Aviation Interactive Reporting System (FAIRS) data as of July 2016. | GAO-17-73R

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FY2015 Maintenance Costs for Owned, Operational Aircraft in the July 2016 Inventory

- The largest cost to use and maintain federal aircraft is maintenance.
- Excluding aircraft acquired during or after FY2015, maintenance costs for owned, operational aircraft averaged approximately $366,000 per aircraft during FY2015.
  - Reported maintenance costs during FY2015 ranged from $0 to approximately $7 million.
  - The highest maintenance cost was for a highly modified Boeing 747 owned by NASA. According to NASA, this aircraft is equipped with a 17 ton telescope, and the maintenance cost reflects its unusual configuration and mission. It flew 596 hours in FY2015.
- The median age for owned, operational aircraft in the July 2016 inventory is 28 years. Aircraft 28 years and older accounted for approximately 63 percent of the maintenance in FY2015.

Cost Data Have Limitations

- As stated earlier, agencies reported spending approximately $652 million in FY2015 to use and maintain aircraft that were owned and operational as of July 2016. However:
  - Three agency officials told us that reported data are not always complete or accurate due to reporting lags and contractor errors, among other things. We did not assess how this affects total costs.
  - Agencies can leave uncommon cost fields blank if they did not incur them in a given quarter (e.g., litigation costs). We did not include these uncommon costs in the $652 million.
  - FAIRS does not have a mechanism for agencies to report depreciation.

Appendix I: Missions of Agencies' Aircraft

Agency	Description of Agency Aircraft Missions
Department of Agriculture (USDA)	
Agricultural Research Service (ARS)	ARS uses its aircraft for research and development of new aerial applications of agricultural materials for safe, efficient, and sustainable crop production and protection. ARS also uses its aircraft for high-altitude, high-speed aerial imaging in support of agricultural research studies in rangeland, soils, water quality, and other natural resources.
Animal and Plant Health Inspection Service (APHIS)	APHIS uses aircraft to conduct aerial resource and surveillance surveys; aerial application tests; equipment demonstration and testing; and to control destructive plant pests and wildlife damage to agricultural products, among other uses.
Forest Services (FS)	FS uses aircraft to support natural resource management and wildland firefighting. Firefighting aircraft deliver firefighters and equipment to fires, drop water or chemical fire retardants on fires, manage incident airspace and aircraft, detect fires, and use sensors and cameras to provide intelligence information and map fires. Forest Service aviation also supports law enforcement, land and timber surveys, forest health and numerous other activities to support the management and protection of more than 192 million acres of public land.
Department of Commerce (DOC)	DOC operates a variety of aircraft through the National Oceanic and Atmospheric Administration (NOAA). NOAA's aircraft are modified and instrumented to perform diverse missions such as atmospheric research, air chemistry, aeronautical charting, coastal mapping, snow surveys, fishery surveys, hurricane research, marine mammal research, nautical charting, and logistical support to scientific parties.
Department of Homeland Security (DHS)	Although the Coast Guard owns aircraft, it is exempt from reporting to FAIRS; hence, its mission is neither reflected below nor in this report.
Customs and Border Protection (CBP)	CBP uses aircraft chiefly to support law enforcement operations, including investigative support and drug enforcement.

Source: Agency-provided and GSA information

Agency	Description of Agency Aircraft Missions
Department of Energy (DOE)	DOE uses aircraft to support transportation of general cargo, sensitive nuclear materials, and other hazardous materials. Aircraft are also used for power line patrol, installation security, multispectral photography, and passenger transportation. Most aircraft in DOE's fleet are intensively modified to perform their specialized missions. Additionally, DOE uses special aircraft--primarily unmanned aircraft systems (i.e., drones) -- in atmospheric and energy research.
Department of Justice (DOJ)	Although the FBI owns aircraft, it is not required to report information to FAIRS because it is an intelligence agency; hence, its mission is neither reflected below nor in this report.
Drug Enforcement Administration (DEA)	DEA aircraft support air to ground surveillance, maritime surveillance, electronic surveillance, photographic reconnaissance, undercover operations, marijuana eradication, prisoner transport and other investigative needs for DEA's global enforcement operations.
United States Marshals Service (USMS)	USMS uses aircraft to transport detainees and prisoners, and for law enforcement purposes including investigative support.
Department of the Interior (DOI)	DOI's eight resource management bureaus (including the U.S. Geological Survey, the National Park Service, the Bureau of Land Management, and the U.S. Fish and Wildlife Service) use aviation services to support natural resource missions. Aircraft are used for law enforcement, wildlife management (animal capture and tracking), wildland firefighting, scientific research, and other uses. Aircraft ensure access to remote areas that are not easily accessible by vehicles.
Department of State (State)	The State Department operates helicopters and airplanes in Afghanistan, Colombia, Iraq, Pakistan, Peru, Panama, Cyprus, and other locations as required. Missions of the aircraft vary by program and location, but the aircraft primarily support counter-narcotics, law enforcement, border security, or general Embassy transportation missions. Aircraft are primarily operated by contractors and/or foreign host government personnel.

Source: Agency-provided and GSA information

Agency	Description of Agency Aircraft Missions
Department of Transportation (DOT)	DOT operates aircraft through the Federal Aviation Administration (FAA) to accomplish activities such as flight inspection, training, and research and development.
National Aeronautics and Space Administration (NASA)	NASA operates a fleet of aircraft for research and development, program support, and mission management. NASA's fleet includes highly modified, one-of-a-kind, and leading-edge technology airframes, such as aircraft that operate at altitudes where space suits are required. NASA's aircraft carry out specific projects (including those in remote and extreme climates), transport personnel, and train astronauts to prepare them for space.
National Science Foundation (NSF)	NSF uses aircraft to support science research and education. Aircraft perform missions such as long-range observations over remote tropical and oceanic regions for studies of the global climate; studies of the troposphere; studies of atmospheric chemistry; and cloud physics.
Tennessee Valley Authority (TVA)	Helicopter purposes may include aerial transmission line inspections, emergency line patrols, executive transport, right-of-way inspections, infrared data collection, lidar data collection, economic development, and various construction type missions. Airplanes accommodate the business travel and emergency transportation needs of TVA in support of Congressionally mandated programs.

Source: Agency-provided and GSA information

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