Annual Aviation
Inventory and Funding Plan

Fiscal Years (FY) 2017-2046

March 2016

Preparation of this study/report cost the Department of Defense (DoD) a total of Approximately $1,135,159 in Fiscal Year 2016.

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Part I – Executive Summary

Introduction

Section 231a of title 10, United States Code, as amended by section 1069 of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, Public Law 112-81, requires the Secretary of Defense to submit an annual, long-term aviation plan for fixed wing and rotary wing aircraft, to include unmanned systems, for all Services and for combatant commanders that have aircraft assigned to them. This report responds to that requirement.

Summary of the Annual Plan and Certification

This plan was developed based on the FY 2017 President's Budget (PB-17) submission and is consistent with the June 2015 National Military Strategy and the three strategic pillars of the 2014 Quadrennial Defense Review (QDR). It represents the Department's commitment to provide a balanced force able to meet the needs of current conflicts, as well as respond to a broad spectrum of future challenges, in a changing fiscal environment. It meets the national security strategy of the United States.

The Department's FY 2017 budget request and the associated FY 2017-2021 FYDP provide the requisite funding to implement the aviation investment plan through FY 2021 for all programs of record.

Annual Aviation Inventory and Funding Plan

Part II – FY 2016 Report

The report presents:

- A current year (2016) description of the aviation force structure, including active mission, training, and test aircraft.
- A detailed aviation plan for the Departments of the Air Force, Navy, Army, and United States Special Operations Command for both fixed wing and rotary wing assets necessary to meet the national military strategy of the United States. The plan includes legacy aircraft, aircraft in procurement or development, and aircraft projected to begin development in the next few years.
- The total funding estimates for each inventory category includes the annual research and development (RDT&E), procurement, operation and maintenance (O&M), military personnel (MILPERS), and military construction (MILCON) funding necessary to achieve the planned aviation inventory and to operate, maintain, sustain, and support this aviation inventory.

Force Structure Requirements

The Department's FY 2017-2046 aviation plan provides the mix of capability and capacity to meet the broad range of security challenges facing the nation. The plan represents the Department's ongoing commitment to support the Joint Force in dynamic operational environments, with diverse mission requirements from current operations in Afghanistan, Syria and Iraq, to humanitarian relief efforts at home and abroad, to preparations for military action against possible adversary nations and non-state actors. Accordingly, the aviation plan provides the aircraft needed to cover the full complement of operations that U.S. military forces could undertake in the decades ahead, and it will evolve as security needs change.

Consistent with this vision, the FY 2017-2046 aviation plan provides the capabilities needed to meet current and projected national security objectives, while prudently balancing security risks over time and against fiscal realities. These efforts will ensure the Department procures the right aircraft at the right time to manage risk against existing and emerging anti-access-area denial (A2/AD) threats. In planning for an uncertain future, the United States must possess the aviation capability and capacity to protect the homeland, build security globally, and project power and to win decisively.

Aircraft Investment Plan

Force-Wide Perspective. The Department's aviation inventory, broken out by category, is shown in the table below for each fiscal year through FY 2026. Quantified Long-term projections for aviation are considerably less accurate in the later years. Acknowledging this limitation, the report provides quantified estimates through only FY 2026 and then provides broad trends in narrative form for FY 2027-2046 for each of the aircraft categories. Inventory levels are subject to change in response to operational needs, industrial base considerations, and fiscal constraints.

Aviation Inventory
FY 2017-2026

Inventory	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26
Fighter / Attack	3479	3453	3452	3403	3340	3249	3182	3123	3052	2981
Attack Helicopter	749	743	759	804	828	888	891	896	895	905
Airlift / Cargo / Utility	4517	4549	4563	4532	4575	4567	4546	4473	4472	4449
Combat Search and Rescue	142	152	159	161	153	149	149	149	149	149
Air Refueling	552	558	560	558	558	558	557	554	557	564
Long Range Strike	158	158	157	157	157	156	155	157	157	157
Anti-Surface/Submarine Warfare	681	707	691	674	683	684	668	667	664	658
Trainers	2148	2192	2113	2014	2004	2002	1992	1964	1934	1916
ISR / Scout / C4	1109	960	954	978	980	949	952	954	909	920
Special Operations Forces	470	470	474	476	470	468	472	476	477	410
Total	**14005**	**13942**	**13882**	**13757**	**13748**	**13670**	**13564**	**13413**	**13266**	**13109**

Fighter/Attack Aircraft

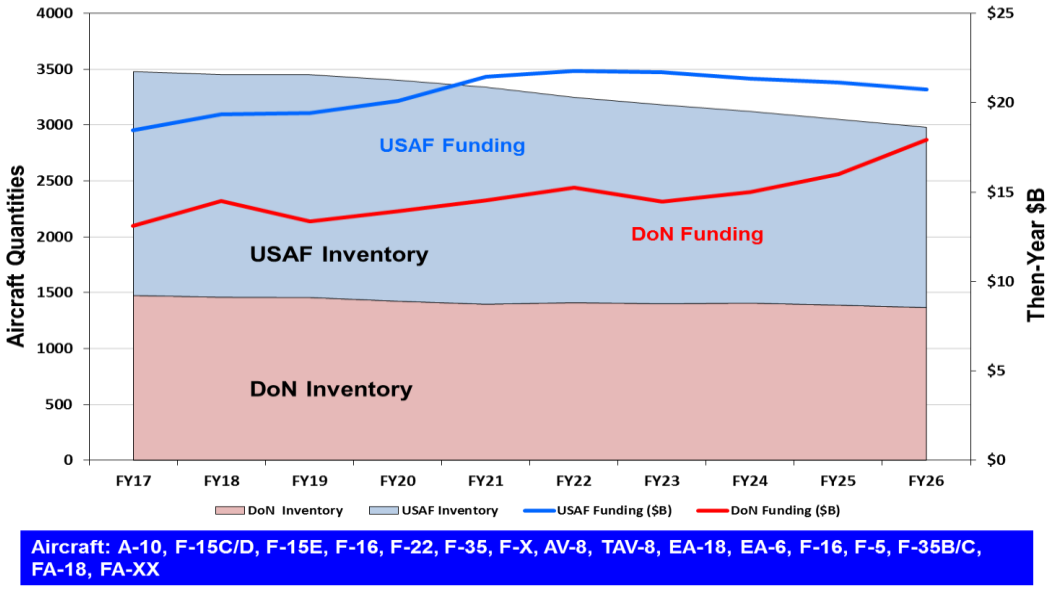
The following tables show Fighter/Attack aviation assets and the FY 2016 inventory by category for all active aircraft consistently tracked by the Department.

Fighter/Attack	Air Force	DoN
	A-10, F-15C/D, F-15E, F-16, F-22, F-35A, F-X	AV-8, EA-18, EA-6B, F-16, F-5, F-35B/C, FA-18, FA-XX

2016 Fighter/Attack Aircraft Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	1971	0	1401
Mission	1141	0	735
Training	436	0	338
RDT&E	122	0	72
Backup, Attrition Reserve and Other Primary Aircraft	272	0	256
Active Component	1280	0	1352
Reserve Component	691	0	49

Fighter/Attack Inventories & Funding FY 2017-2026



Aircraft: A-10, F-15C/D, F-15E, F-16, F-22, F-35, F-X, AV-8, TAV-8, EA-18, EA-6, F-16, F-5, F-35B/C, FA-18, FA-XX

The above chart depicts annual fighter/attack inventory and total funding projections over FY 2017-2026 broken out by military department. Details on the USAF and DoN Fighter/Attack aircraft are outlined in the following paragraphs.

Department of the Air Force. The Air Force has insufficient resources to maintain the FY 2016 NDAA mandated number of fighter aircraft (1900) beyond the 2017-2021 FYDP. At the current resource levels, projected aircraft service life divestiture outpaces procurement. This will substantially drop the total number of combat coded fighters and fighter squadrons through the 2022-2026 FYDP. The inventory drop will continue until it reaches its lowest level in 2031. In the next ten years, the Air Force will continue to modernize the F-22 to address advances in threat systems and technologies to ensure the F-22 remains fully effective against the most challenging air-to-air and surface-to-air threats. The Air Force plans to procure 243 F-35As from FY 2017 to FY 2021. Current plans include A-10 divestiture between FY 2018 and FY 2022, but are subject to change. Additionally the Air Force will be required to upgrade and extend the service life of the F-15 and F-16 in order to meet capacity demands while continuing to modernize with 5th generation aircraft procurement. Future research and development efforts beyond the 2017-2021 FYDP will focus on improvements to 5th generation aircraft and initial RDT&E for an advanced air superiority capability (Next Generation Air Dominance, NGAD).

Department of the Navy. Due to fiscal constraints, the F-35C FYDP production ramp was reduced below levels assumed in the 2014 QDR over the last few years; however, the FY 2017 President's Budget addition of 31 F-35C aircraft brings the DoN much closer to stated inventory goals. The Department will continue to actively pursue F-35 affordability initiatives via USD(AT&L)/PEO(JSF) Will-Cost/Should-Cost strategies and other efforts to reduce procurement unit costs. Naval strike fighter inventory management risk increases with PB-17 while the DoN pursues strike fighter management initiatives through supply and service-life management programs to extend the life of its F/A-18 aircraft, including F/A-18 A-D Service Life Extension Program (SLEP) and F/A-18 E/F Service Life Assessment Program (SLAP). F/A-18 E/F SLAP efforts are underway to understand and mitigate the risk associated with extending Super Hornet service life to meet strike/fighter capacity requirements.

The Department of the Navy remains challenged with end of life planning for F/A-18A-D aircraft that reach the end of their service lives before replacement aircraft can be delivered into service. Strike Fighter Inventory Management (SFIM) risk remains high. The Navy is addressing F-35 procurement delays with SFIM initiatives that add service life to F/A-18A-D through SLEP of approximately 150 aircraft (to 10,000 hours) and accelerating the transition of the seven remaining USN F/A-18C squadrons to F/A-18 E/F Super Hornets, utilizing Attrition Reserve (AR) aircraft. The Service Life Management Program remains committed to reducing F/A-18 E/F utilization rates and to 100% funding of F/A-18 E/F SLAP/SLEP. The most recent Naval Synchronous Tool (NST) 15-01 inventory model projects a shortfall of 135 F/A-18 E/F aircraft in 2024, increasing to 193 in 2026, and increasing again in 2030 as F/A-18E/F reach the end of their service lives. NST 15-01 projects an overall increase in shortfall versus PB16; however, PB-17 funds an additional 16 F/A-18E/F (2 with OCO funding), restored F/A-18A-F depot funding and added funds to increase depot capacity. NST 15-02 will be informed by PB-17 (Feb 2016) and the anticipation is the strike fighter inventory forecast will improve. The DoN

will continue to carefully monitor the strike fighter inventory requirements and projected availability.

The EA-18G Growler will soon be the DoD's only tactical airborne electronic attack (AEA) platform. Planned procurement of the EA-18G Growler completed in FY 2016. FY 2018 deliveries will complete the Navy requirement for the proposed force structure of nine CVW squadrons, four expeditionary squadrons, and one reserve squadron. PB-17 funds warfighting improvement investments that will increase Growler capability in complex emitter detection and identification as well as passive precision targeting. Future integration of the Next Generation Jammer will improve all electronic attack capabilities to outpace future threats. The Navy's analysis directorate completed a study identifying Joint AEA capacity requirements in the spring of 2015. The Navy's analysis indicated that the joint warfighter demand signal exceeds current proposed force structure capacity. This risk can be mitigated with an additional procurement of 6 EA-18Gs. However, given that the Navy has sufficient inventory to support Navy only missions and other Navy priorities, the additional procurement of EA-18Gs to meet joint warfighter demand was not submitted as part of the PB-17 budget.

In the far term, the Navy will need to replace its F/A-18E/F and EA-18G fleet starting in the 2030 timeframe. The Navy is conducting analyses to inform a decision to include consideration for a family of systems consisting of mixes of manned and unmanned aircraft with advanced propulsion technologies, with varying stealth characteristics, advanced standoff weapons, sensors, and networks. Additionally, the Navy is participating in an AEA analysis with the Air Force to define future electronic attack capabilities required.

A Capability Based Assessment has been completed to inform the process of identifying a replacement for the Department of the Navy Adversary aircraft, the F-5F/N Tiger II and the F-16A/B Fighting Falcon. An analysis is underway to explore various operating concepts that include live, virtual, and constructive material solutions to recapitalize the capabilities inherent in the current platforms. This work is designed to set a capability requirement for threat representation, which is irrespective of any particular platform, system, or system of systems. The effort will describe air combat training requirements for Naval Aviators so that they can achieve operational goals, given training requirements of more capable and integrated blue force systems, expected tactical situations and assessed threats.

Attack Helicopter

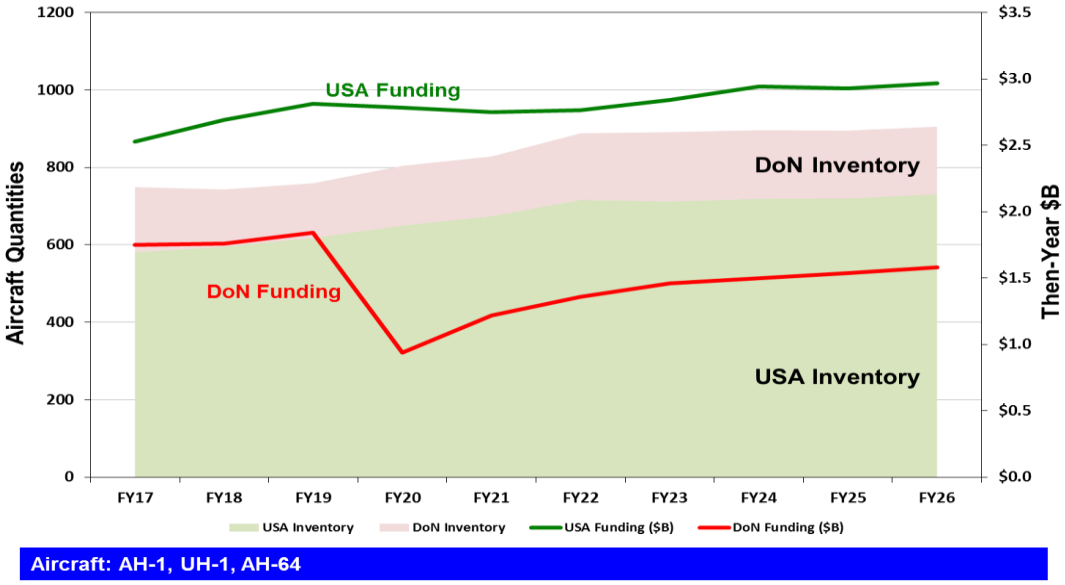
The following tables show the DoD Attack Helicopter aviation assets and the 2016 current inventory by category for all active aircraft consistently tracked by the Department.

Attack Helicopter	Army	DoN
	AH-64	AH-1, UH-1, HH-1

2016 Attack Helicopter Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	0	592	166
Mission	0	490	118
Training	0	89	24
RDT&E	0	13	7
Backup, Attrition Reserve and Other Primary Aircraft	0	0	17
Active Component	0	507	166
Reserve Component	0	85	0

Attack Helicopter Inventories & Funding
FY 2017-2026



The above chart depicts annual attack helicopter inventory and total funding projections over FY 2017-2026 broken out by military department. Details on the Army and DoN attack helicopter aircraft are outlined in the following paragraphs.

Department of the Army. The objective AH-64 fleet will consist of 690 AH-64E Apache helicopters. To meet this objective fleet, the Army will continue to procure and field the AH-64E which is a modernized variant of the AH-64D, Longbow Apache. The AH-64E will sustain the fleet for 20 or more additional years by providing aircraft with new airframes and updated technologies and performance enhancements that will increase the aircraft's overall capabilities. AH-64E's first multi-year contract is planned for FY 2017-2021. Based on recommendations from the National Commission on the Future of the Army (NCFA), an Aviation Restructure Initiative (ARI) excursion will add un-programmed Apache force structure to the Army. If

accepted, the NCFA's recommendations would grow the Apache fleets to 767 and would lead to lower remanufacture and higher new build procurement rates in the AH-64E program. The Army's objective was to replace all AH-64D aircraft with modernized AH-64E aircraft and field them to units by the end of FY 2026. Adopting the ARI excursion recommended by the NCFA of 72 AH-64Es would delay the fleet buyout to 2028. During this transition period, the Apache will be teamed with the RQ-7B Shadow and MQ-1C Gray Eagle Unmanned Aerial Systems (UAS) via Manned Unmanned Teaming (MUMT) and will replace the aging fleet of OH-58Ds in the Army's Attack Reconnaissance Squadrons (ARS). The Army continues to modernize the current Apache fleet incrementally. Ongoing investments into the next generation of rotary wing capabilities will inform future decisions about the introduction of a future attack aircraft into the inventory.

Department of the Navy. The H-1 program includes both the Marine Corps attack and utility helicopters (the AH-1Z and UH-1Y respectively). Eighty-five percent of the major components are identical, enhancing deployability and maintainability while reducing training requirements and logistical footprint. The FY 2016 budget funded the last lot of UH-1Y aircraft required to reach the inventory objective. AH-1Z production has transitioned from remanufacturing AH-1W helicopters to building them new. This cost effective change to the manufacturing strategy prevents a significant attack helicopter shortfall. The final lot of AH-1Z aircraft is planned for procurement in FY 2019, which accounts for the decrease in total DoN funding in the chart above.

Intertheater Lift/Intratheater Lift/Operational Support/Executive Lift/Utility

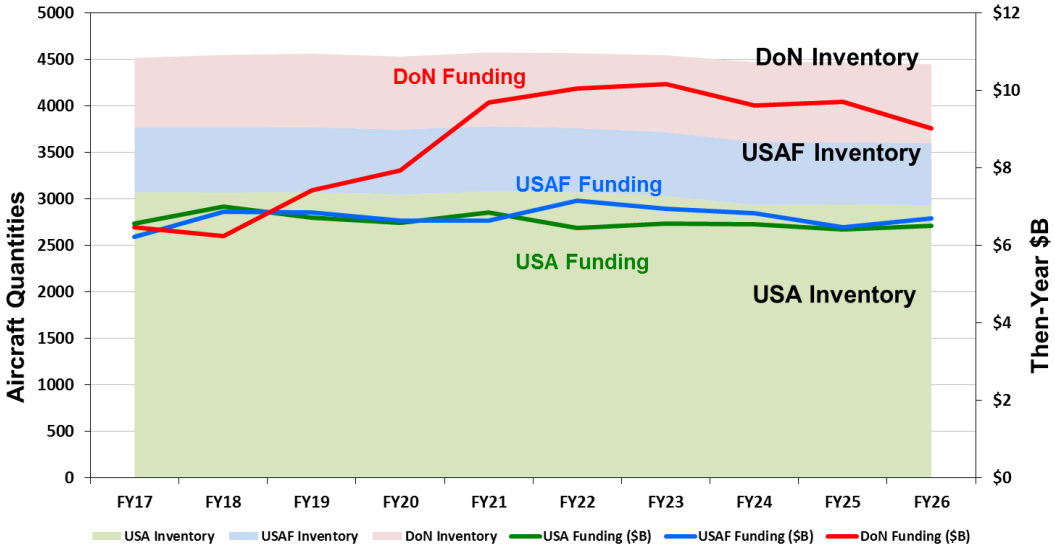
The following tables show DoD Intertheater Lift/Intratheater Lift/Operational Support/Executive Lift/Utility aviation assets and the 2016 current inventory by category for all active aircraft consistently tracked by the Departments. This category includes operational support airlift, tilt rotor assets, helicopters, and fixed wing airlift to include intra-theater and inter-theater airlift.

	Air Force	Army	DoN
Airlift / Cargo / Utility	UH-1, TH-1, C-130, C-17, C-5, WC-130, C-12, C-20, C-21, C-32, C-37, C-40, VC-25	CH-47, UH-60, LUH-72, C-12, C-23, C-26, C-31, C-37, C-20, CE-182, C-20B, 0-2A, T-34, TG-14, U-21, UV-18, UV-20, UC-35, T-6	CH/MH-53, CH-46, C-130, C-20, C-26, C-2, C-37, C-40, C-9, UC-12, UC-35, MV-22, VH-3, TH/VH-3,TH/VH-60, VXX, C-2RPL

2016 Airlift / Cargo / Utility Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	793	3005	760
Mission	554	2552	622
Training	71	267	69
RDT&E	7	48	27
Backup, Attrition Reserve and Other Primary Aircraft	161	186	42
Active Component	470	1397	753
Reserve Component	323	1608	7

Airlift / Cargo / Utility Inventories & Funding FY 2017-2026



Aircraft: UH-1, C-130, C-17, C-5, WC-130, C-12, C-20, C-21, C-32, C-37, C-38, C-40, VC-25, CH-47, UH-60, LUH-72, C-12, C-23, C-26, C-31, C-37, C-20, CE-182, C-20B, 0-2A, T-34, TG-14, U-21, UV-18, UV-20, UC-35, T-6, Ch-46, CH/MH-53, CH-46, C-130, C-20, C-26, C-2, C-37, C-40, C-9, UC-12, UC-35, MV-22, NVH-3, TH/VH-3,TH/VH-60, VH-XX, C-2RPL

The above chart depicts annual Intertheater Lift/Intratheater Lift/Operational Support/Executive Lift/Utility aviation inventory and total funding projections over FY 2017 –2026 broken out by military department. Details on the Army, Air Force and DoN Airlift/Cargo/Utility aviation plans are outlined in the following paragraphs.

Department of the Air Force. Through FY 2016, the Air Force will retain a fleet of 320 C-130 aircraft with a target of 300 in FY 2019. In the near term, the Air Force will continue procurement of the versatile C-130J Hercules, which is capable of performing intra-theater lift

missions in austere locations. The C-130 fleet is fully capable of meeting time-sensitive, mission-critical direct airlift support and Homeland Defense requirements. Additionally, to ensure compatibility with worldwide Communication, Navigation, Surveillance (CNS)/Air Traffic Management (ATM) standards and to maintain global access, the Air Force plans to update the legacy C-130H fleet to ensure continued compliance with international airspace mandates.

Air Force inter-theater airlift, whether transporting humanitarian-relief supplies or wartime materiel, is unrivaled in its ability to project American forces and power around the world. In combination with commercial aircraft available for airlift missions, the Air Force's inter-theater airlift aircraft—the C-17 Globemaster III and C-5 Galaxy—form the foundation of the Nation's strategic mobility and global sustainment capabilities. The Air Force will retain a fleet of 275 strategic airlifters in accordance with the FY 2013 NDAA, while the Department reviews its future airlift requirements. Fleet upgrades remain the most cost-effective means of sustaining these capabilities through FY 2040.

For the time being, the Air Force will continue to fly the UH-1N, with the majority of the fleet focused on critical national security missions: nuclear asset security for Air Force Global Strike Command and National Capital Region mission support. The FY 2017 PB reflects the AF commitment to fund a UH-1N Replacement Program, resolving existing capability gaps by replacing the legacy UH-1N fleet with a non-developmental helicopter solution that meets operational needs and can be fielded quickly.

Finally, Operational Support Airlift/Executive Airlift (OSA/EA) delivers highly responsive and reliable executive airlift to senior US civil and military officials and foreign dignitaries as well as high-priority cargo with time, place or mission sensitive requirements. Special communications equipment allows these passengers to conduct highly sensitive business en route, even globally, without compromising their efficiency or effectiveness. Furthermore, consolidation of type aircraft will increase efficiencies in maintenance yielding cost savings across the 2017-2021 FYDP. To maintain support of the President into the future, the Air Force plans to begin recapitalizing the VC-25A with a modified commercial aircraft. Current plans support a procurement schedule that would allow modification to begin in FY 2019 and an initial operational capability in FY 2024.

Department of the Army. The bulk of Army Aviation assets reside in the Army's utility and cargo aviation fleets. The Army is fielding modernized variants of existing utility and cargo aircraft (UH-60M and CH-47F) that will sustain the fleet by introducing new or remanufactured airframes while increasing the aircraft's overall capabilities. These new and remanufactured aircraft should be viable for 20 or more additional years of service. Additionally, the Army will continue recapitalizing H-60 aircraft into the modernized UH-60V to provide 10 or more years of additional service. Through these modernization efforts, the Army will divest legacy aircraft (CH-47D and UH-60A variants), which have reached the end of their economic useful lives. The Army will deliver a portion of the legacy airframes to industry for remanufacture as a measure to offset new airframe costs. Additionally, the Army is fielding a limited number of fixed wing support aircraft and is developing plans to replace the C-12 with a fixed wing utility aircraft beginning in FY 2017 as the C-12 is nearing the end of its economic useful life.

The Army's current modernization efforts are focused on sustaining and improving the current generation of aircraft through FY 2022 and beyond. Included in the Army's utility fleet modernization efforts is the development of the Improved Turbine Engine that is being designed to increase power, improve fuel efficiency and streamline maintenance operations. The objective is to begin installing the improved turbine engines in UH-60 aircraft in FY 2026.

In FY 2014, the Army began divesting its oldest UH-60A aircraft that safely exceeded their economic useful life and are not viable candidates for recapitalization into more capable variants. The lifespan of these aircraft has been further accelerated by high operational tempo over the past 13 years in combat and continuation of the ongoing overseas contingency operations. As a result, the Army foresees the following:

• UH/HH-60: The objective UH/HH-60 fleet will consist of 1,375 UH/HH-60M and 760 UH-60V Blackhawk helicopters, with all legacy UH-60A models divested. To meet this objective fleet, the Army will continue procuring new UH/HH-60M aircraft at or above the minimum economic order quantity. Beginning in FY 2018 and continuing through 2033, the Army will extend the life and modernize the analog H-60L aircraft into the digital H-60V aircraft. The V model conversion will address network interoperability, cockpit management/situational awareness, and obsolescence issues with the UH-60L. In FY 2026, the Army plans to begin replacing current engines with the improved turbine engine (ITEP). The Army plans to maintain the objective fleet beyond FY 2050 via a M-model RECAP program starting in FY 2032, as the 25 year life approaches. Investments into future rotary wing technologies will help inform the Army's plan for a future replacement rotary wing utility aircraft. The NCFA also recommends changes to the UH-60 fleets. If the NCFA recommendations are accepted, UH-60L/M procurement and UH-60A divestment could be slowed to accommodate increased AH-64 requirements

• CH-47: The objective H-47F/G fleet will consist of 473 CH-47F and 69 MH-47G Chinook helicopters. CH-47F procurement completion is planned for FY 2018. With no follow on Future Vertical Lift/Joint Multi-Role-Heavy variant in the Army's Aviation Modernization Plan, the Army is planning an Original Equipment Manufacturer (OEM)/depot H-47F/G Block II upgrade/REMAN recapitalization program, for FY 2018 and beyond, to extend the CH-47F's service life beyond FY 2040.

• Utility/OSA Fixed Wing: Utility Fixed Wing consists of all Army Operational Support Airlift (OSA) aircraft as well as the Army's training fleet, research and development fleet and special mission aircraft. This fleet consists of older C-12 aircraft that require replacement between FY 2025-2027. The OSA fleet will downsize from 170 aircraft to 128 by FY 2018. The special mission aircraft and Research and Development fleet of aircraft will be validated and replaced on a one-for-one basis starting in FY 2022.

• UH-72A: The objective UH-72A fleet will consist of 427 UH-72A helicopters. This is the newest fleet and will be fully fielded by FY 2018. A replacement or upgraded capability may be procured beyond FY 2027 should operational or sustainability requirements dictate a necessity for airframe sustainment and improvement.

Department of the Navy. C-130T and C-40 lift aircraft provide Navy unique intra-theater logistics support. These aircraft respond to immediate demands for movement of essential fleet personnel and cargo to mobile sea-based forces worldwide. The Navy plans to procure 25 KC-130J aircraft to replace the C-130T. The KC-130J is a multi-role platform capable of serving as an airlift asset. In this report, all KC-130J inventory numbers are included in the aerial refueling category.

The Navy divested its last remaining C-9 aircraft, replaced by C-40A, in 2014. The US Marine Corps continues to operate the C-9 with plans to transition to the C-40 aircraft in the future.

The C-2A fleet, which provides long-range logistical support to carrier strike groups, will reach the end of its service life in the mid-2020s with continued sustainment investment. The Navy is planning to recapitalize the Carrier Onboard Delivery (COD) capability with an extended range variant of the V-22. PB-2017 investments support an affordable COD recapitalization plan that procures a version of the V-22 Osprey under the existing Program of Record (POR).
A Navy variant of V-22 has been a component of the POR since program inception. This transition strategy allows the Navy to recapitalize the aging C-2 COD capability in an affordable manner and evolve the Aerial Logistics Concept of Operations from the CVN centric "Hub and Spoke" model to a flexible Sea Base support concept.

The MV-22B Osprey provides the MAGTF Commander medium lift assault support. The tilt rotor capability provides an unparalleled advantage to warfighters through the increase in range and speed. This capability has been used in the joint world for enhanced casualty evacuation and as a preferred platform for the tactical recovery of aircraft and personnel. The speed and range of the aircraft enables combat commanders a larger sphere of influence, which was previously unachievable using rotary wing platforms.

The CH-53K will achieve initial operating capability for the USMC in FY 2019 and begin incrementally replacing the aging CH-53Es. The new CH-53K will have heavy-lift capabilities not possessed by any of today's DoD rotary wing platforms. Maintainability and reliability enhancements of the CH-53K will significantly decrease recurring operating costs and greatly improve aircraft efficiency and operational effectiveness.

The sundown of the MH-53E Mine Countermeasures (MCM) mission aircraft is dependent upon the Littoral Combat Ship MCM Mission Package reaching full operational capability (forecast to begin in 2024).

VH-92A aircraft currently under development will replace the 40-year old VH-3D and the 25-year old VH-60N helicopters. The Replacement Presidential Helicopter will provide a hardened, mobile command and control transportation capability necessary to meet current and future presidential transport mission requirements and also provide transport of foreign heads of state and other dignitaries. The VH-92A aircraft will begin operating in 2020.

Combat Search and Rescue

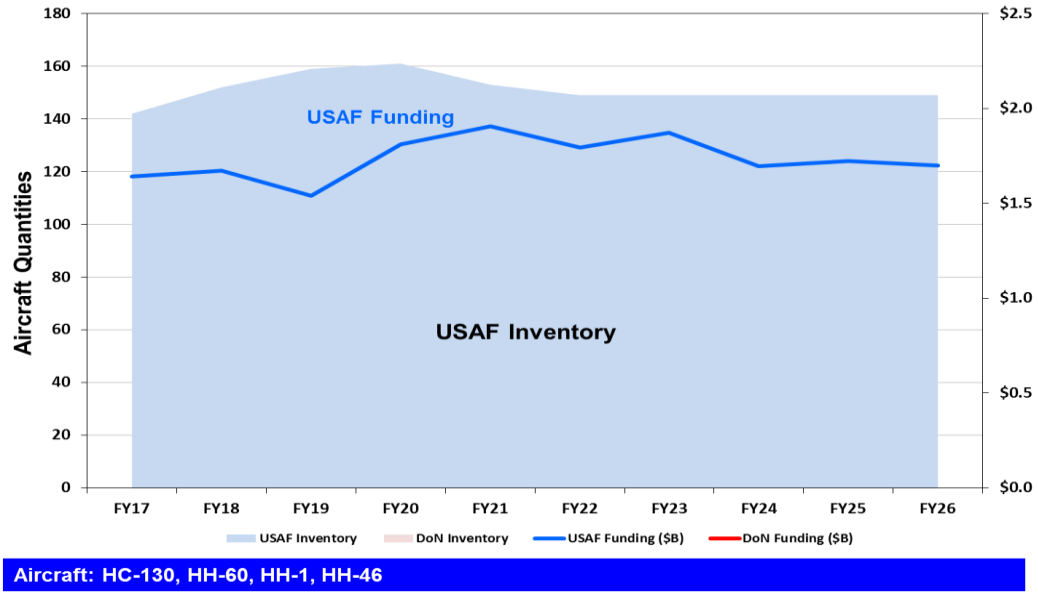
The following tables show the DoD combat search and rescue aviation assets and the 2016 current inventory by category for all active aircraft consistently tracked by the Military Departments.

Combat Search and Rescue	Air Force
	HC-130P/N/J, HH-60

2016 Combat Search and Rescue Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	139	0	0
Mission	97	0	0
Training	19	0	0
RDT&E	7	0	0
Backup, Attrition Reserve and Other Primary Aircraft	16	0	0
Active Component	92	0	0
Reserve Component	47	0	0

Combat Search and Rescue Inventories & Funding FY 2017-2026



The above chart depicts annual Combat Search and Rescue inventory and total expenditure funding projections over FY 2017 –2026 broken out by military department. Details on the Air Force Combat Search and Rescue plans are outlined in the following paragraphs.

Department of the Air Force. The Air Force continued its progress towards recapitalizing legacy HC-130P/N aircraft through the C-130J Multi-year Procurement program; HC-130 recapitalization is projected to complete by FY 2024.

In June 2014, the Air Force awarded the Combat Rescue Helicopter (CRH) contract to the Sikorsky Aircraft Company for the initial Engineering and Manufacturing Development phase of the CRH program. The total contract includes the procurement of 112 aircraft, training systems, and product support elements. The new helicopters will replace the service's aging HH-60G fleet by FY 2029.

The Air Force continues procurement for the Civil Air Patrol to maintain its fleet of 550 aircraft. The Civil Air Patrol conducts 90% of the continental U.S. inland search and rescue missions on behalf of the USAF to minimize stateside demands. This enables USAF CSAR forces to meet the Department of Defense Directive 5100.01 requirement to conduct global personnel recovery operations.

Air Refueling/Tanker Aircraft

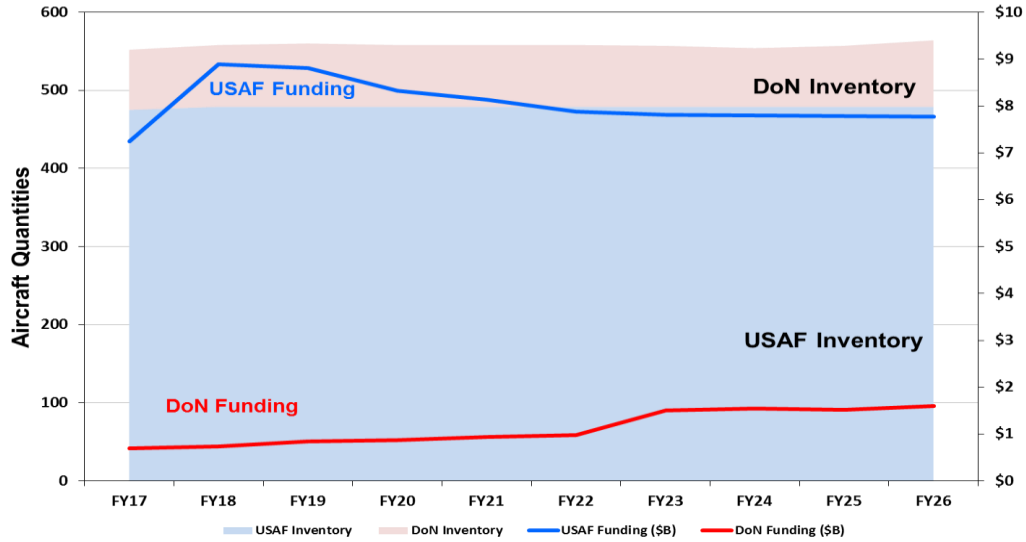
The following tables show the DoD Air Refueling aviation assets and the 2016 current inventory by category for all active aircraft consistently tracked by the Departments.

Air Refueling	Air Force	DoN
	KC-10, KC-135, KC-46	KC-130, CBARS

2016 Air Refueling Aviation Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	457	0	67
Mission	408	0	64
Training	18	0	0
RDT&E	2	0	1
Backup, Attrition Reserve and Other Primary Aircraft	29	0	2
Active Component	215	0	67
Reserve Component	242	0	0

Air Refueling Aviation Inventories & Funding
FY 2017-2026



Aircraft: KC-10, KC-135, KC-46, KC-130
F-18s also do refueling on a secondary basis. All F-18s are included in fighter/attack.

Air Refueling

The above chart depicts dedicated air refueling/tanker aviation inventory and total funding projections over FY 2017 – 2026 broken out by military department; almost all forces and funding reside in the Air Force. Details on the Air Force and DoN Air Refueling aviation plans are outlined in the following paragraphs.

Department of the Air Force. The Air Force remains committed to re-capitalizing its legacy tanker fleet of 457 aircraft. Current plans grow the fleet to 479 aircraft to meet projected requirements. The procurement of 179 KC-46s by 2027 is a major step towards that goal but additional acquisition plans to replace the fleet capability beyond FY 2027 are necessary. The KC-46 will provide greater capability and operational flexibility than the Eisenhower era KC-135. In addition to being capable of refueling both receptacle and probe-equipped receivers on the same sortie, the KC-46 can receive fuel from other tankers inflight, allowing for continuous and flexible fuel management over the battlespace. Despite these improvements, the USAF will need more than 179 tankers to replace the capability of the remaining KC-135s. Continued procurement of KC-46s beyond FY 2027 or the acquisition of a new tanker will be necessary beginning in FY 2028. While the recapitalization effort is underway, the USAF will continue to upgrade the KC-135s as needed to keep the fleet viable until replacements are procured.

Department of the Navy. The Marine Corps will continue procuring the KC-130J in order to fulfill the program of record of 79 aircraft in the active and reserve components. The enhancement of the Harvest HAWK (Hercules Airborne Weapons Kit) provides flexible and sustained ISR and air delivered munitions to the ground element. The KC-130 continues to be used for forward based tactical transport while also providing responsive global transport to

enable the rapid build of combat power, fuel or resupply. The KC-130J replaces the KC-130T aircraft.

Efforts are underway to develop a sea-based refueling capability in MV-22 for Marine Expeditionary Units. This capability will provide greater operational flexibility for our sea based aviation units when land basing issues preclude effective utilization of the KC-130J.

The Super Hornet fills the critical organic tanking missions for Carrier Air Wings. Although the F/A-18E/F performs this mission, it is categorized as a fighter aircraft and included in those inventory numbers. The Navy will incorporate carrier based organic tanking capability requirements into future aircraft studies to include the possibility of tanking capability with the recapitalization of C-2A, existing strike fighters, and future manned or unmanned aircraft.

In 2013, the unmanned X-47B successfully conducted an arrested landing aboard USS George H.W. Bush. Lessons from the successful landing demonstration will be integrated into the CBARS program which will provide persistent, organic Air Wing tanking to the Joint Force with an initial capability by 2025.

In the long term, the Department of the Navy will capitalize on unmanned demonstrations, initial Carrier Aerial Refueling System (CBARS) capability, and our analysis of future, sea-based unmanned systems in an effort to identify the appropriate mix of manned and unmanned assets in our future air-wing structure. The Navy is focused on, and fully committed to, developing and acquiring a truly "first of a kind" unmanned system. The CBARS system is envisioned to be an integral part of the future CVW; its robust organic refueling is essential to the CVW Multi-Mission concept of the future. CBARS significantly extends CVW mission effectiveness range, addresses the current Carrier Strike Group tanker gap, and preserves F/A-18E/F Fatigue Life Expectancy to help mitigate the naval Strike Fighter shortfall. As the first carrier-based, group 5 UAS, CBARS will pioneer the integration of manned and unmanned operations, mature complex sea-based C4I UAS technologies and pave the way for more multifaceted multi-mission UAS to pace emerging threats.

Long-Range Strike/Bomber Aircraft

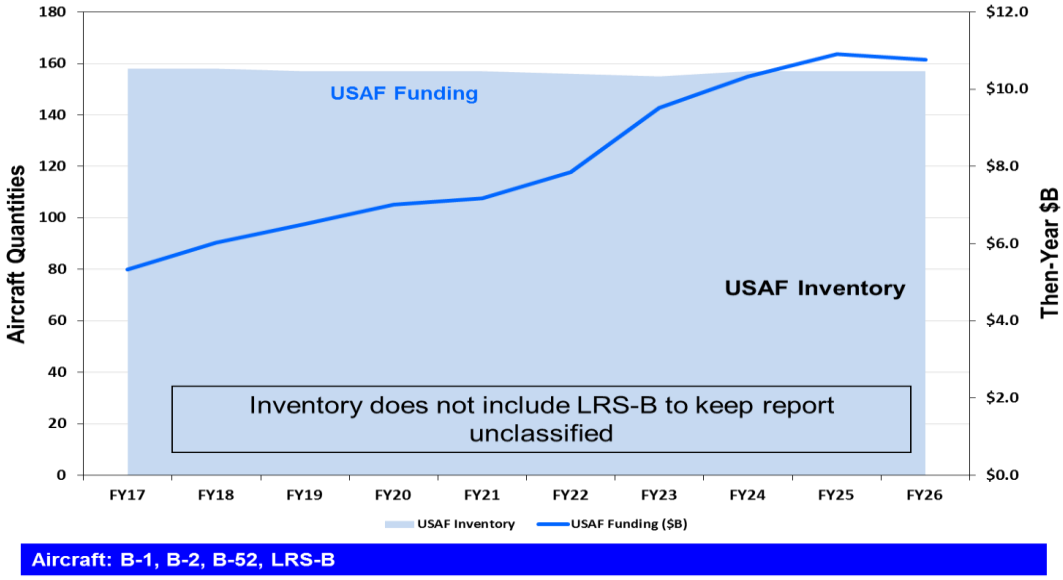
The following tables show the DoD Long-Range Strike/bomber aviation assets and the 2016 current inventory by category for all active aircraft consistently tracked by the Military Departments.

Long Range Strike	**Air Force**
	B-1, B-2, B-52, LRS-B

2016 Long Range Strike Aviation Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	158	0	0
Mission	96	0	0
Training	29	0	0
RDT&E	7	0	0
Backup, Attrition Reserve and Other Primary Aircraft	26	0	0
Active Component	140	0	0
Reserve Component	18	0	0

Long Range Strike Inventories & Funding
FY 2017-2026



The above chart depicts annual Long Range Strike/Bomber aviation inventory and total funding projections over FY 2017 – 2026. Details on the Air Force Long Range Strike/Bomber aviation plans are outlined in the following paragraphs.

Department of the Air Force. Long-range strike aircraft recapitalization will be achieved through the continued funding of the Long Range Strike-Bomber (LRS-B). The strategy to develop and field the LRS-B includes minimizing new development, reducing risk through use of mature technologies and existing systems, as well as making informed trades to meet the unit cost target. This cost target has informed the design effort and helps ensure sufficient production and a sustainable inventory over the long-term. Furthermore, the Air Force and DoD have streamlined requirements and acquisition oversight to ensure timely decisions are made in the fielding of this critically important new weapon system. For security classification reasons, this report includes estimated annual funding for LRS-B in the years beyond the FYDP.

To support a bomber force structure that will include both LRS-B and some mix of legacy aircraft, the Air Force will invest in sustainment and modernization of the B-2 (enhancing its weapons employment flexibility, survivability and connectivity) the B-52 (improving avionics processing capability, connectivity and weapons compatibility) and the B-1 fleet (maintaining combat-coded B-1 aircraft and ensuring the overall health and continued viability of the platform) until a time when retirement of certain legacy aircraft is directed.

Anti-Surface/Submarine Warfare

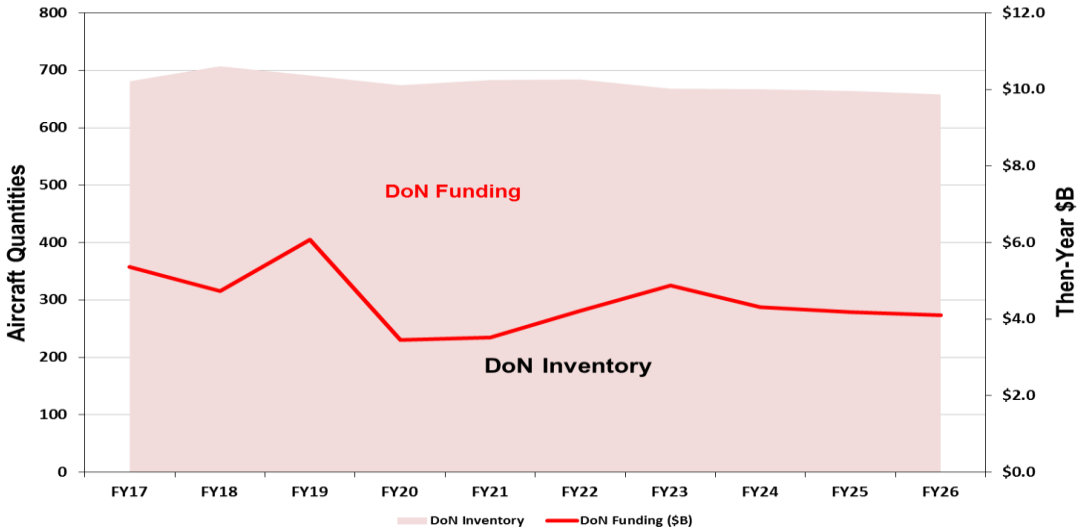
The following tables show the DoD Anti-Surface/Submarine Warfare aviation assets and the 2016 current inventory by category for all active aircraft consistently tracked by the Military Departments.

Anti-Surface/Submarine Warfare	DoN
	P-3, P-8, MH-60

2016 Anti-Surface/Submarine Warfare Aviation Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	0	0	598
Mission	0	0	436
Training	0	0	104
RDT&E	0	0	0
Backup, Attrition Reserve and Other Primary Aircraft	0	0	58
Active Component	0	0	598
Reserve Component	0	0	0

Anti-Surface/Submarine Warfare Aviation Inventories & Funding
FY 2017-2026



The above chart depicts annual Anti-Surface/Submarine Warfare aviation inventory and total funding projections over FY 2017 –2026. Details on the DoN Anti-Surface/Submarine Warfare aviation plans are outlined in the following paragraphs.

Department of the Navy. The P-8A Poseidon continues to replace the P-3C maritime patrol aircraft, first introduced in 1962. With its proven propulsion system and avionics, modern sensors and robust communication suite, the P-8A provides persistent Anti-submarine Warfare (ASW), Anti-surface warfare (ASUW), and ISR capabilities to keep pace with emerging threats. The P-8A features an open architecture sensor and communications suite built to facilitate the insertion of state-of-the-art ASW sensors, net-ready technologies, and the latest in anti-submarine and anti-surface joint weapons throughout its service life. P-8A tailors integration of its on-board mission suite with unmanned aerial vehicles and satellite based systems and sensors to assure maritime domain awareness. P-8A is based on an evolutionary acquisition approach with three increments. Increment 1 is being delivered today and replaces the aging P-3C fleet with a modern platform and similar ASW mission system capability. Increment 2, fielded as a series of three Engineering Change Proposals not later than FY 2017, provides enhanced broad area ASW and weapon capabilities. Increment 3 is expected to be fielded in FY 2023 and will deliver network enabled ASUW weapon capabilities, full compliance with the net-ready key performance parameter for architecture upgrades, ASW sensor and targeting enhancements and improved communications capabilities.

The MH-60R and MH-60S multi-mission combat helicopters are integral to Carrier Air Wings and individual surface combatants to meet offensive and defensive sea control requirements for both Carrier Strike Groups (CSG) and broader theater level support. Both helicopters are pillars of the Chief of Naval Operations approved Navy Helicopter Master Plan that provides enhanced capabilities in the conduct of Navy core competency missions. These two variants share 85 percent commonality to facilitate maintenance and logistics support. The MH-60S is a multi-mission aircraft that conducts anti-surface warfare, combat search and rescue, mine

countermeasures, and logistics support among many other missions. The MH-60R is the only organic air anti-submarine warfare asset within a CSG and is critical to ensuring access to the global commons through its anti-surface warfare and electronic warfare capabilities. The final MH-60S helicopters were procured in FY 2015 and the final MH-60R helicopters will be procured in FY 2016. MH-XX represents capabilities inherent to naval rotary-wing aircraft in the late 2030's. MH-XX will leverage Joint and US Army Future Vertical Lift rotorcraft development while meeting maritime mission requirements and operating constraints. MH-XX represents a total lifecycle management approach to future capability and capacity to include options such as service life management of existing MH-60R/S. Marine Corps participation in the Future Vertical Lift studies will inform the replacement for the AH-1Z, UH-1Y and the midlife upgrade of the MV-22B to the MV-22C.

Trainers

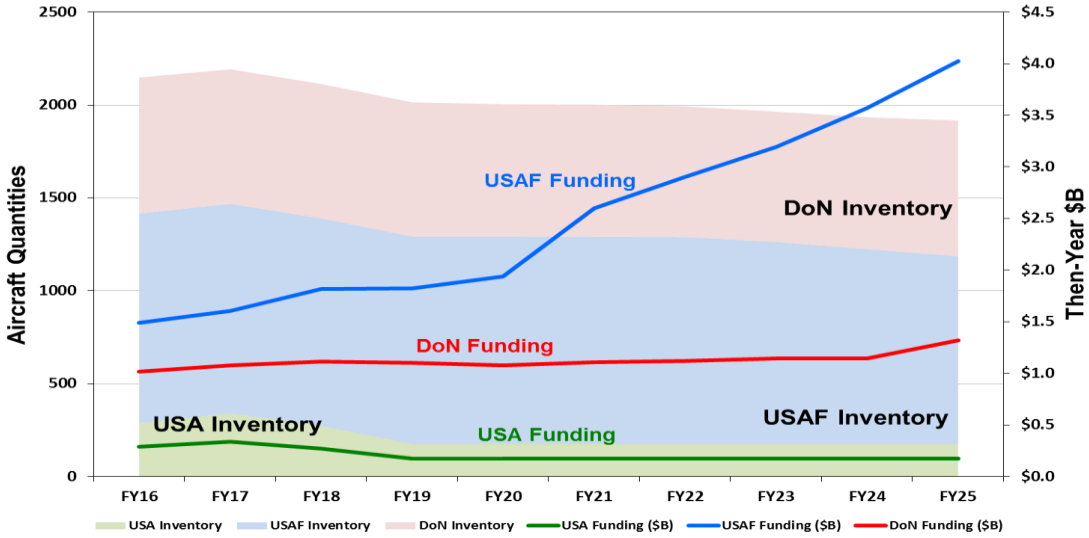
The following tables show the DoD Trainer aviation assets and the 2016 current inventory by category for all active aircraft consistently tracked by the Military Departments.

	Air Force	Army	DoN
Trainers	T-1, T-38, T-6, T-X	TH-67, OH-58A/C	TE-2,T-34, T-38, T-39, T-44, T-45, T-6, TAV-8B, TH-57, TC-12, U-6, X-26, OH-58, UH-60, UH-72

2016 Trainers Aviation Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	1128	268	668
Mission	890	194	630
Training	0	69	0
RDT&E	15	5	6
Backup, Attrition Reserve and Other Primary Aircraft	223	0	32
Active Component	1128	268	668
Reserve Component	0	0	0

Trainer Aviation Inventories & Funding
FY 2017-2026



The above chart depicts annual trainer aircraft inventory and funding projections over FY 2017 – 2026 broken out by military departments. Details on the Army, Air Force and DoN Trainer aviation plans are outlined in the following paragraphs.

Department of the Air Force. Currently, the T-6 forms the backbone of the Air Force primary flight training program and will remain so through the 2040 timeframe. Additionally, the T-1A fleet provides advanced flight training for multi-engine/multi-crew tankers and mobility aircraft. The TH-1H fleet trains all Air Force rotor wing pilots and is stable through the 2017-2021 FYDP. The T-38C is a proven, but aging, advanced combat trainer aircraft originally developed as a trainer for second generation fighters. The T-38C faces increasing sustainment costs and is limited in its ability to fulfill training requirements for fifth generation fighters such as the F-22 and F-35. To bridge these capability gaps the Air Force has defined requirements for a replacement program, the T-X, and contract award is scheduled for early FY 2018. Initial capability for the T-X is planned for FY 2024, with a total procurement of 350 aircraft through the mid 2030s.

Department of the Army. As a major effort of the Aviation Restructure Initiative, the Army is replacing its current training helicopter fleet (TH-67 and OH-58A/C) with the Light Utility Helicopter, UH-72A. Consequently, newly assessed aviators will begin training on dual engine aircraft. This will facilitate a more effective transition to training in an advanced aircraft upon a student's graduation from initial rotary wing training. Based on NCFA recommendations for 72 AH-64s and the manning of an 11th Combat Aviation Brigade, additional UH-72As for the training base are currently being assessed and considered to effectively support the larger force structure. Any addition to the training helicopter fleet requirement would delay the FY 2018 full fielding date.

Department of the Navy. The Navy transition to the T-6B Texan II Joint Primary Trainer is complete. The T-45C Goshawk has become the single advanced strike trainer for carrier based pilots and naval flight officers. The T-45C is undergoing a SLAP/SLEP program to extend the airframe and aircraft systems through 2035. The T-45C replacement will need to be identified in the 2020s to meet the projected retirement of the T-45C. The T-44A/C Pegasus and TC-12B Huron serve as the multiengine trainers for the DoN. The TC-12 will be retired by 2017 and a T-44 replacement will need to be identified in order to begin service in the mid to late 2020s. The TH-57B/C continues to be used as a training aircraft for both the rotary-wing and tilt-rotor pipelines. A replacement for the training contributions of the TH-57B/C will need to be identified in the near future as rising maintenance costs make the TH-57B/C more expensive to operate. A Capability Based Assessment for future DoN training needs has been completed and efforts are underway to determine the future of USN's Rotary Wing training aircraft.

ISR / Scout / C4

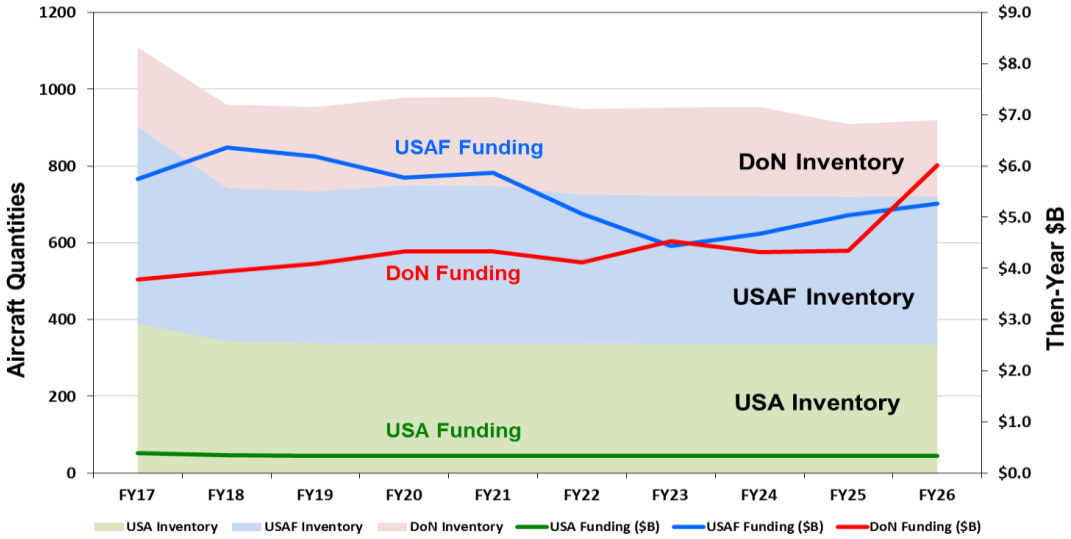
The following tables list DoD ISR / Scout / C4 aviation assets and the 2016 current inventory by category for all active manned and remotely piloted aircraft (RPA) consistently tracked by the Military Departments.

	Air Force	Army	DoN
ISR / Scout / C4	OC-135, E-3, E-4, E-8, EC-130, MQ-1, MQ-9, RC-135, RC-26, RQ-4, U-2, TU-2 WC-135	OH-58, RC-12, RC-7, B-300, C-12, MQ-1	E-2, E-6, EP-3, MQ-4, MQ-8

2016 ISR / Scout / C4 Aviation Inventory

Category	Inventory		
	Air Force	Army	DoN
Total Aircraft	559	317	269
Mission	426	283	155
Training	60	17	15
RDT&E	40	5	15
Backup, Attrition Reserve and Other Primary Aircraft	33	12	84
Active Component	478	290	269
Reserve Component	81	27	0

ISR / Scout / C4 Inventories & Funding
FY 2017-2026



Aircraft: OC-135, E-3, E-4, E-8, EC-130, MC-12, MQ-1, MQ-9, RC-135, RC-26, RQ-4, U-2, WC-135, OH-58, RC-12, RC-7, B-300, E-2, E-6, EP-3, TE-2, RC-12, MQ-4, MQ-8, RQ-21, RQ-7, UCLASS, GRP 4 UAS, MQ-XX, UCAV

The above chart depicts annual ISR / Scout / C4 aircraft inventory and funding projections over FY 2017 – 2026 broken out by Military Department. Details on the Army, Air Force and DoN ISR / Scout / C4 aviation plans are outlined in the following paragraphs.

Department of the Air Force. The Air Force continues to balance capability and capacity to support joint demand for intelligence, surveillance, and reconnaissance (ISR). The RQ-4 Global Hawk Block 30 and U-2 provide high altitude ISR to the warfighter during peacetime, contingencies, and war. FY 2017 PB also provides funding to enhance RQ-4 Block 30 capabilities and improve operations. The Air Force will divest the U-2 beginning in FY19 and complete by FY 2020.

The Air Force continues to develop and manage its remotely piloted aircraft (RPA) crews and fleet to balance capability and capacity to support CCMD demands now and into the future. The Air Force will divest the MQ-1 in FY 2018 as part of a transition to an all MQ-9 medium altitude RPA fleet. FY 2017 PB maintains sufficient inventory to support 60 sorties/combat lines per day of MQ-1/9 capacity. The Air Force continues to pursue modernization of legacy ISR and C4 capabilities. In the near-term the Air Force funds modernization of the E-3B/C Airborne Warning and Control System (AWACS) to the E-3G configuration with advanced mission computing and avionics to ensure the mid-term viability of joint airborne tactical command and control. Simultaneously the Air Force began early Joint Capabilities Integration and Development work to develop an Analysis of Alternatives for Airborne Battle Management Systems, a follow-on capability in the AWACS mission area. The Air Force intends to examine alternatives as part of the FY 2021 planning and programming processes. The Air Force will complete projects to address obsolescence issues with prime mission equipment onboard the E-8C Joint Surveillance Target Attack Radar System (JSTARS); the E-8C fleet will begin reaching

the end of its service life as early as FY 2017. The Air Force continues recapitalization of the legacy E-8C fleet with projected IOC in FY 2024. The Air Force will continue to maintain the RC-135 RIVET JOINT, COMBAT SENT and COBRA BALL configured aircraft and systems through a baseline or incremental upgrade acquisition strategy to ensure the platforms are technologically relevant across the full spectrum of the ever changing threat and rapidly evolving electromagnetic combat environment. The Air Force also begins funding modernization of mission communications on the E-4 National Airborne Operations Center. This year's aviation plan reflects EC-130 Compass Call recapitalization investment in the near and mid term.

Department of the Army. As part of the Army Aviation Restructure Initiative, the Army began divesting the aged fleet of OH-58D Scout helicopters in FY 2014 and is beginning to replace them with Manned/Unmanned teams of AH-64E and RQ-7 Shadow Unmanned Aircraft Systems (UAS). Adopting the AH-64E and RQ-7 team as the Army's aerial scout capability leverages existing systems and provides a solution to the Army's requirement for an aerial scout platform. The Army has a UAS fleet that is comprised of small (Raven and Puma), medium (Shadow), and large (Gray Eagle) aircraft. All UAS's are existing programs of record and are under active acquisition programs to meet fleet size objectives over the next five years. The Gray Eagle UAS is being fielded to divisions and the National Training Center to provide direct support capabilities to deployed divisions and the National Training Center. Three Gray Eagle UAS companies will be assigned to Intelligence and Security Command (INSCOM). One Gray Eagle company will also be fielded to support Army Special Operations Command (USASOC). The Army will procure all 167 aircraft and associated ground support equipment. Gray Eagle fielding will be complete by the end of FY 2018. Long-term, the following changes are planned for the Army's reconnaissance aviation fleet:

- Manned Military Intelligence (MI) Fixed Wing: The manned MI Fixed Wing fleet consists of the RC-12 Guardrail Common Sensor (GRCS), the RC-7/EO-5C Airborne Reconnaissance Low (ARL), Enhanced Medium Altitude Reconnaissance Surveillance System (EMARSS) programs of record, and multiple different Quick Reaction Capabilities (QRCs) deployed in support of contingency operations. The Army's Aerial Intelligence, Surveillance, and Reconnaissance (AISR) strategy is to retain 14 modernized RC-12X GRCS and transition specific QRCs to the ARL-E and EMARSS programs of record. The Army is divesting 28 legacy GRCS systems and all QRCs not identified for retention. Once fully executed, the Army's Intelligence, Surveillance, and Reconnaissance Manned Fixed Wing fleet will consist of 52 aircraft (14 RC-12X GRCS, 9 ARL-E, 24 EMARSS and 5 training aircraft). The Army's long range objective is to replace the three manned AISR systems with one, multi-intelligence platform.

- MQ-1C (Gray Eagle): The Army will procure 167 MQ-1C Gray Eagle aircraft and associated ground support equipment. Gray Eagle is a dedicated, assured, multi-mission UAS fielded to all 10 Army divisions to support the commander's combat operations. The USASOC Gray Eagle unit and INSCOM Aerial Exploitation Battalions (AEBs) Gray Eagle units are self-contained Intelligence, Surveillance and Reconnaissance (ISR) capabilities that are globally deployable and contribute to the Department of Defense global ISR mission. USASOC and AEB units will field the Improved Gray Eagle which provides increased range, payload, and station time. AEB Gray Eagle units are teamed with organic Processing, Exploitation and Dissemination.

Department of the Navy. Although the CBARS system may eventually address the Carrier Strike Group organic ISR shortfall, it is categorized as an air refueling platform and included in those category numbers.

Leveraging Global Hawk technology, the Navy will procure the MQ-4C Triton to provide persistent maritime ISR to the fleet and Combatant Commanders to enhance situational awareness and shorten the sensor-to-shooter kill chain, providing intelligence preparation of the environment and a persistent source of information to maintain the common operational and tactical picture of the maritime battle space. MQ-4C Triton remains integral to the Navy's maritime ISR and targeting (MISR&T) transition plan, required to maintain compliance with the FY11 National Defense Authorization Act. It will receive upgraded electronics intelligence capabilities and add communications intelligence capabilities for fielding in 2020.

The MQ-8 program went through a Nunn-McCurdy Breach due to the expanded capabilities and reduced quantities required by the MQ-8C endurance upgrade air vehicle. The program was certified as essential to national security and radar and weapons capabilities were included in the program of record. MQ-8C will support LCS and suitably equipped air-capable ships.

The Marine Corps plans to replace its existing RQ-7B Shadow UAS by eventually fielding a multirole, Group 4 or Group 5 UAS. This expeditionary platform will provide the Marine Air Ground Task (MAGTF) with a multi-mission role UAS. Future programs will be capable of responding to rapidly changing threats with modular, scalable sensors and payloads for a range of sea and shore-based manned and unmanned platforms with a goal of fielding in FY2024. However, due to current fiscal constraints, this will be part of a future budget submission. During this transition to Group 4 or Group 5, the Marine Corps will rely on the RQ-21A for enhanced ISR, cyber/electronic warfare, and a limited strike capability.

The E-2D Advanced Hawkeye achieved initial operational capability in October 2014 and will replace the E-2C with the last squadron transition by 2025. Incorporating advanced Space Time Adaptive Processing radar and other enhanced systems, the E-2D will improve open-ocean surveillance capability, provide littoral surveillance, and integrated air and missile defense capabilities against emerging air and cruise missile threats in high clutter environments. Congressional action in FY 2014 approved an E-2D 32-aircraft multiyear procurement during FY 2014-2018, but extreme fiscal pressures necessitated a deferral of six aircraft from that procurement.

The E-6B Mercury derived from the Boeing 707 aircraft supports a flexible nuclear deterrent posture. Programmed mission system upgrades ensure the fleet remains on the cutting edge of full-spectrum communications supporting Nuclear Command, Control and Communications. The E-6B aircraft are expected to reach their 45,000 hours end of life January 2040. A replacement aircraft will be identified to meet anticipated requirements within the 30 years encompassed by this report. Final inventory objective is projected to be 17 aircraft.
CNO and the Commandant of the Marine Corps have established guiding principles for ISR that focus on payloads, every platform being a networked sensor, and to the development of unmanned platforms which includes electronic warfare capabilities. The Navy is developing a System of Systems construct to recapitalize the Airborne ISR&T capabilities currently resident

in the EP-3 and SPA by the end of the decade. The focus is on developing common, scalable sensor payloads that can be delivered by a wide range of manned and unmanned programs including MQ-4C Triton Multi-INT, MQ-8, RAQ-25 CBARS, E-2C/D, H-60 and P-8. Level of effort and capacity required for each program will be determined by adversary threat posture and Fleet/COCOM requirements. All these programs of record will be able to leverage common sensor developments to avoid expensive "one-off" solutions thereby reducing the Department of Navy's integration and interoperability costs. In order to facilitate a smooth transition, the squadron operators and NAVAIR acquisition team members in the EP-3 and SPA communities with Multi-INT expertise will be leveraged to continue sensor development and operational employment of these capabilities.

Special Operations Forces

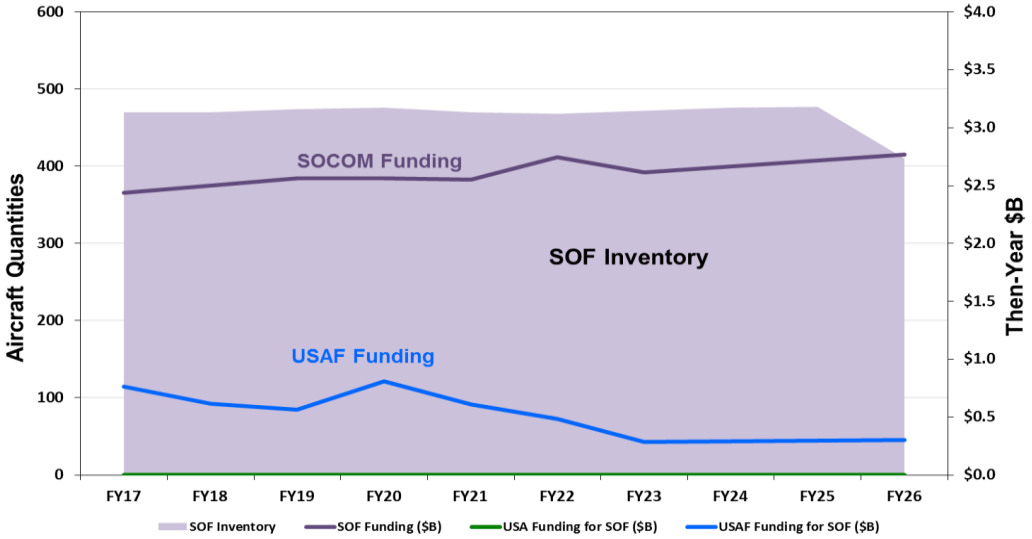
The following tables list DoD Special Operations Forces aviation assets and the 2016 current inventory by category for all active aircraft consistently tracked by the Departments.

	SOCOM
Special Operations Forces	AC-130, EC/C-130, C-32, C-146, C-145, MC-130, PC-12, U-28, MC-12, C-12, C-27, CV-22, A/MH-6, MH-47, M/UH-60, MQ-1, MQ-9

2016 Special Operations Forces Aviation Inventory

Category	Inventory
	SOCOM
Total Aircraft	452
Mission	345
Training	63
RDT&E	1
Backup, Attrition Reserve, and Other Primary aircraft	43
Active Component	438
Reserve Component	14

Special Operations Inventories & Funding
FY 2017-2026



Aircraft: AC-130, EC/C-130, C-32, C-145, C-146, MC-130, PC-12, U-28, MC-12, C-12, C-27, CV-22, A/MH-6, MH-47, M/UH-60, MQ-1, MQ-9

The above chart depicts annual Special Operations Forces Aviation inventory and funding projections over FY 2017 – 2026, to include Army and Air Force contributions. Details on the Special Operations Forces aviation plans are outlined in the following paragraphs.

Department of the Air Force. Air Force Special Operations is on track to replace the legacy AC-130 gunship fleet with 37 AC-130Js anticipating completion by FY 2025. The Air Force also continues MC-130J acquisition to recapitalize the legacy MC-130 with 42 MC-130J aircraft by FY 2022. Air Force Special Operations will retain 15 MC-130H aircraft until 2025 to meet the requirement for 57 total MC-130 aircraft. These aircraft will all be modified, with USSOCOM funds, to a penetrating tanker common configuration. This combination satisfies the USSOCOM requirement of 94 C-130 aircraft.

The Air Force's SOF vertical lift capability expansion remains on track for an eventual fleet of 51 CV-22 aircraft. The last of the 4 remaining in-production aircraft will be delivered in FY 2017. Congress added one attrition reserve aircraft in FY 2016, and this final aircraft will be delivered in FY 2020.

Air Force Special Operations will grow its fleet of Non-Standard Aviation platforms to 20 C-146 aircraft by FY 2019. Additionally, SOF will retain 5 C-145 aircraft for Foreign Internal Defense aircrew currency and proficiency training.

Air Force Special Operations manned ISR will maintain 28 U-28A by FY 2018 which will complement MQ-1/MQ-9 RPA combat lines to provide persistent special operations coverage. Additionally, 13 MC-12s will be flown, based and maintained by members of the Oklahoma Air National Guard.

Department of the Army: The inventory of SOF rotary wing aircraft will remain constant throughout this reporting period. SOF rotary wing aviation platforms include the MH-47G, MH-60M and A/MH-6M. Modernization efforts will be focused on countering obsolescence, and improving survivability and sustainability. The MH-47G fleet of aircraft is on average over 44 years old and requires the start of a renewal/replacement program to maintain this capability. This program is supported by the Army and is integrated with the Army's CH-47 recapitalization plan to gain commonality and efficiencies where able. This MH-47 G RENEW program will replace 61 legacy model aircraft by FY 2027. The A/MH-6 aircraft will continue a block upgrade to aircraft systems and components, to be complete by 2022.

Department of the Navy. The Navy is divesting of the HH-60H with retirement of the aircraft by 2020 and will transition the mission to the MH-60S.

Budget Certification

This report certifies that both the budget for fiscal year 2017 and the future-years defense program (FYDP) for fiscal years 2017-2021 provide a sufficient level of funding needed to implement the aviation investment plan through FY 2020 for all programs of record.

Sufficiency of Forces Assessment

The FY 2017-2046 aviation plan meets the national security strategy and the national military strategy of the United States.

Joint Chiefs of Staff

The budget for fiscal year 2017 and the FYDP for fiscal years 2017-2021 support the Department's plan to mitigate the risks identified as significant in the Risk Assessment Report submitted by the Chairman, Joint Chiefs of Staff, in executing the current defense strategy. This includes funding for recapitalization programs such as the F-35 and KC-46, and resourcing the Services' highest priority readiness goals.

Appendix I – Inactive Aircraft

Data for inactive aircraft is available for the Army and Air Force as indicated below. The Army and the Air Force do not have available data to further break-down the number of inactive aircraft into the categories listed in the statute. The Navy does not track aircraft once they are stricken from the active inventory.

USAF Inactive Aviation Inventory

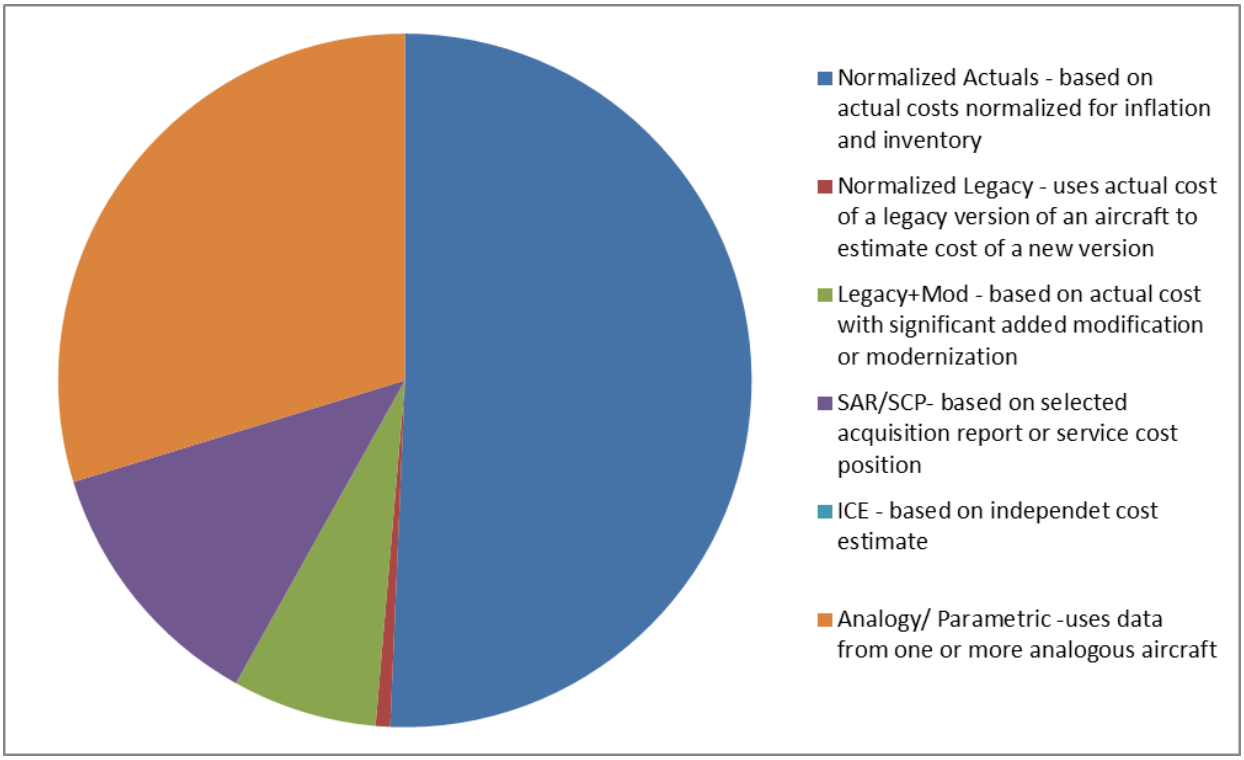
Inactive USAF Inventory	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26
Fighter / Attack	879	928	977	1041	1137	1259	1354	1451	1547	1640
Airlift / Cargo / Utility	161	171	177	177	177	218	221	242	261	271
Air Refueling	172	188	203	218	233	248	263	278	293	308
Trainers	142	142	153	153	153	158	158	196	244	298
Total	**1354**	**1429**	**1510**	**1589**	**1700**	**1883**	**1996**	**2167**	**2345**	**2517**

Army Inactive Aviation Inventory

Inactive Army Inventory	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26
Attack Helicopter	67	54	37	31	36	17	65	49	54	32
Airlift / Cargo / Utility	67	38	60	77	34	41	42	42	42	50
ISR Scout	138	91	6	2	1	0	2	0	0	0
Trainers	110	85	72	103	0	0	0	0	0	0
Total	**382**	**268**	**175**	**213**	**71**	**58**	**109**	**91**	**96**	**82**

Appendix II – Sources of Cost/Funding Information

The budget certification above is based on a number of cost sources, including SAR data when applicable, identified in the chart below. Most of the aircraft types dealt with in this report have entered service, and many types are out of production. For these types of aircraft, the funding data is based on actual experience with procuring and operating the aircraft. For types of aircraft that are in development or low-rate initial production, the funding information comes from a CAPE Independent Cost Estimate (ICE) or the Service Cost Position (SCP). Because each aircraft category contains multiple aircraft, it is not possible to accurately articulate whether when the data comes from the SCP, the ICE, or both. For programs that do not yet have an ICE or SCP, the funding information is based on historical analogy with similar programs (e.g., future fighters with F-22 and F-35, future bombers with the B-2).



CAPE prepares an ICE for aviation programs at major milestones, in response to Nunn-McCurdy breaches, and when requested to do so by the Under Secretary of Defense for Acquisition, Technology, and Logistics. For most programs, the latest SCP is newer than the CAPE ICE and incorporates the ICE plus developments that occurred after the ICE was prepared. The CAPE ICE almost always differs from the last SCP conducted before the ICE by more than 0.5%.

The table below lists programs currently having both an up-to-date SCP and an up-to-date CAPE ICE and shows the percentage difference between these positions. These are the only cases where the difference between the ICE and the SCP is relevant to the funding data presented in this report. For all other aircraft types, the funding data used in this report is based on historical

procurement/sustainment costs, an SCP that is much newer than the ICE, an SCP that has not yet been followed by an ICE, or analogies with other programs. In each case of relevance to the funding data in this report, the CAPE ICE projects greater costs than the SCP. Each program ICE explains, in detail, the reasons for differences from the SCP. A shorter and simplified explanation for the differences appears below the table.

Program	Delta
KC-46 tanker	2%
F-35 Joint Strike Fighter	5%
P-8A Poseidon	2%
AH-64 Apache Block 3A	1%
AH-64 Apache Block 3B	4%
E-2D Advanced Hawkeye	6%
MQ-1C Gray Eagle	6%
F-22A Modernization	8%
Combat Rescue Helicopter	3%
F-15 EPAWSS	4%
Delta = (ICE – SCP)/SCP	

KC-46 Tanker. The CAPE and SCP cost estimates for the KC-46 are about two percent different in total. The difference is primarily driven by procurement. Procurement differences can be attributed to expectations of the concession rates that can be achieved when procuring the commercial ("green") aircraft to be modified. Differences can also be attributed to the estimated costs of procuring and installing mission systems on this "green" aircraft

F-35 Joint Strike Fighter. The difference between the CAPE ICE and SCP cost estimates reflected in the above table and summarized in the following is documented in CAPE ICE memo, dated March 9, 2012, which was accomplished to support Milestone B certification.) The difference between the CAPE and SCP cost estimates for the F-35 was primarily attributed to the areas of procurement (2%), MILCON (86%), and O&S (6%). The largest difference between CAPE and SCP estimates of procurement costs was attributable to the assumed future levels of commonality between F-35 variants. The CAPE estimate reflected less commonality among the three F-35 variants than the SCP estimate and, as a result, the CAPE estimates of variant unit costs were higher because of the inherent procurement inefficiencies associated with reduced commonality. The SCP estimate for MILCON used previously-generated, narrowly defined service estimates that did not include all MILCON efforts required to support the entire F-35 fleet. The CAPE estimate was based on the facilities and infrastructure required for the joint training center planned for Elgin Air Force Base, and service-specific requirements for the Air Force, the Marine Corps, and the Navy. The SCP estimate for all variants reflected the manning structure outlined in the Manpower Estimate Report (MER). The CAPE estimate adjusted CTOL mission personnel to better reflect the actual staffing levels of the F-16 and F-22, which are on average more senior in grade than those in the MER. Also, the CAPE estimate of unit-level consumption costs was higher than the SCP, primarily because the CAPE estimate used an F-22 analogy for government-provided consumables while the SCP used legacy Navy data. The

CAPE estimate also applied cost growth to both the air vehicle and engine, while the SCP applied cost growth only to the air vehicle. Subsequent to Milestone B and the March 9, 2012 ICE summarized in the preceding, portions of both the ICE and SCP have been updated and the relative percentage differences between the ICE and SCP have evolved as a result. This will continue as the program progresses. The next formal update to the ICE for all facets of the program will be in support of Milestone C (Full Rate Production) and the percentages in the above table will be updated at that time to reflect the latest comprehensive comparison to the SCP.

P-8A Poseidon. The CAPE and SCP cost estimates for the P-8A are nearly identical, with small differences in procurement (2%) and O&S (2%). The CAPE estimate for procurement is higher primarily due to differences in assumed cost escalation for both the base aircraft and P-8A-unique modifications over time. For the base aircraft, the SCP uses a contractor proposed Producer Price Index (PPI) while CAPE uses slightly higher escalation factors based on the historical difference between the aircraft procurement budget escalation indices and the aircraft PPI for the past ten years. For the P-8A-unique modifications, the SCP assumes a contractor estimated level of reasonable changes, while CAPE assumes that modifications costs will grow over time, due to more typical engineering changes in early production. For O&S the largest difference in the estimates is in unit personnel, where CAPE assumes manning numbers as identified in the MER while the SCP adjusts the enlisted military personnel numbers down to reflect predicted authorizations.

AH-64 Apache Block 3A/3B. The differences between the CAPE and SCP cost estimates for the Apache Block 3A and Block 3B programs are primarily attributed to RDT&E for Block 3A (11%) and procurement for Block 3A and 3B (11% and 7% respectively). The difference in RDT&E is driven primarily by software development activities. The CAPE cost estimates for these activities were developed by first estimating the cost of the remaining development based on Phase 1 software productivity, and then constraining program execution over time to the currently available software engineering staff. In contrast, the SCP did not constrain program execution to the available software development staff, so the RDT&E effort requires more resources up front than the CAPE estimate and finishes earlier. This approach would require the contractor to temporarily increase its software engineering staff; an action CAPE maintains is counterproductive and inefficient. The CAPE estimates for both Block 3A and 3B procurement are moderately higher than the SCP due to differing assumptions for labor and material learning curves, material escalation rates, and the production break impact resulting from the transition from the Apache Block 2 production line to the new Block 3 line.

E-2D Advanced Hawkeye (AHE). The difference between the CAPE and SCP cost estimates for the E-2D is primarily attributed to the area of O&S (6%), with the estimates for development and procurement being nearly identical, within 1% for both. The CAPE O&S estimate is higher due to the estimate of resources required for software support. CAPE forecasts that 100 full-time equivalent (FTE) employees are required to support the software maintenance activity, while the Navy assumed 65 FTE employees, based on historical maintenance activity for the E-2C. CAPE forecasts the need for additional employees due to the increase in size and complexity of E-2D software.

MQ-1C Gray Eagle Unmanned Aircraft System (UAS). The difference between the CAPE and SCP cost estimates for the MQ-1C is primarily attributed to the area of O&S (6%), with the estimates for development and procurement being within 1% and 2%, respectively. The CAPE O&S estimate is higher due to assumptions about cost growth above inflation (CGAI) for contractor and material costs. The CAPE estimate is based on negotiated Forward Pricing Rate Agreements (FPRAs) for contract labor resulting in higher labor costs relative to the SCP.

F-22A Modernization Increment 3.2B. The difference between the CAPE and SCP cost estimates for the F-22A modernization is primarily attributed to the area of O&S (7.9%), with the estimates for development and procurement being within 2% and 4%, respectively. The CAPE O&S estimate is higher, because it includes operation and sustainment of the entire fleet of F-22A aircraft, while the SCP includes only the marginal O&S costs of Increment 3.2B, not the full F-22A fleet O&S costs.

Combat Rescue Helicopter. The difference (3%) between the CAPE and SCP cost estimates for life-cycle costs of the Combat Rescue Helicopter is primarily attributed to the areas of EMD (-8%), procurement (-7%), and O&S (6%). A major reason the SCP estimate for EMD is higher than the ICE is that the SCP includes an additional allowance for engineering change orders in the EMD phase, while the CAPE estimate assumes these resources are already reflected in actual historical EMD cost information. The CAPE procurement estimate is lower than the SCP with the SCP risk adjustment accounting for most of the difference. The difference between the CAPE and SCP for O&S costs is mainly attributed to higher CAPE estimates for unit-level manpower, depot-level reparables, and consumable parts, which are consistent with historical experience.

F-15 Eagle Passive Active Warning and Survivability system (EPAWSS). The difference (4%) between the CAPE and SCP estimates for EPAWSS Increment 1 are attributed to the areas of development (9%), production (3%) and O&S (3%). The cost difference in development is due to differences in assumptions regarding the duration of the development program and in cost estimating methodology for development hardware. In this case CAPE forecasts a longer development schedule and includes staffing over time. The CAPE production estimates are higher, because CAPE assesses higher risk in modifying the F-15C for EPAWSS installation in locations that were not previously used to support electronics installation. The CAPE O&S estimate is higher because CAPE projects greater effort will be required for sustaining software support and continuing improvement costs.

Confidence Levels. CAPE cost estimates are built upon a product-oriented work breakdown structure, based on historical actual cost information to the maximum extent possible, and most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department has been successful. It is difficult to calculate mathematically the precise confidence levels associated with CAPE life-cycle cost estimates prepared for MDAP programs. Based on the rigor in methods used in building CAPE estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, it is equally likely that the CAPE estimate will prove too low or too high for execution of the described program.