



Center for Strategic and Budgetary Assessments

# ANALYSIS OF THE FY 2017 DEFENSE BUDGET AND TRENDS IN DEFENSE SPENDING



KATHERINE BLAKELEY



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Cover: U.S. Navy photo by Mass Communication Specialist 3rd Class Scott Barnes/Released: "Waters East of the Korean Peninsula," April 1, 2015.

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# Executive Summary

The Obama Administration's fiscal year (FY) 2017 budget requests a total of \$590.5 billion for the Department of Defense (DoD). The request includes \$523.9 billion for the base discretionary budget, \$7.8 billion in mandatory spending, and an additional \$58.8 billion in supplemental funding for ongoing Overseas Contingency Operations (OCO). The base discretionary request is \$2.2 billion more than the \$521.7 billion enacted by Congress for FY 2016. In constant dollars, this is a reduction of approximately 1.3 percent from last year's appropriation. In the base budget, the Navy's request for \$155.4 billion is the largest share, followed by the Air Force's at \$151.1 billion, the Army's at \$123 billion, and the defense-wide request at \$94.5 billion. As compared to the total FY 2016 enacted defense budget in real terms including the base budget and OCO funding, the Navy's total budget request is \$6.9 billion, or 4 percent lower; the Army's is \$1.5 billion, or 1 percent lower; and the defense-wide request is \$1.7 billion, or 1.7 percent lower. The Air Force budget request is \$2.2 billion, or 1.3 percent, larger—the only Service to have a requested increase. However, in addition to the Air Force's own "blue" budget, the Air Force's request is traditionally used as the pass-through for the classified "black" budget, which makes up about 10 percent of the overall FY 2017 budget. Within the Air Force's nominal budget, classified programs make up approximately 20 percent.

Overall, the total FY 2017 budget request including both base and OCO funding is \$8 billion, or 1.35 percent, smaller than the FY 2016 enacted defense budget. The OCO budget makes up 10 percent of the total DoD budget request for FY 2017.

The FY 2017 base budget request of \$523.9 billion is consistent with the caps on defense and discretionary spending established by the Budget Control Act (BCA) of 2011, as amended most recently by a deal reached in October 2015 to raise the BCA caps for FY 2016 and FY 2017. However, the Future Years Defense Program (FYDP) projection of the base defense budget calls for spending to rise by about \$23 billion in FY 2018 before largely holding steady at that higher level through FY 2026. Over the remaining four years of the current BCA caps (FY 2018–FY 2021), the FYDP projection of the base defense budget is \$105.3 billion greater than the revised BCA caps in constant FY17 dollars—an indication that DoD's plans do not match current budgetary limitations.

In Congress, the stage is set for a conference fight over the appropriate level of defense funding across fiscal year 2017 (October 1, 2016–September 30, 2017) and its allocation between the base budget and OCO accounts. The Bipartisan Budget Act of 2015 was intended to be a two-year budget deal, providing much-needed stability for DoD. For FY 2017, the budget deal increased the defense and non-defense BCA caps by \$15 billion for total of \$523.9 billion in base budget defense spending. The FY 2017 President’s budget (PB) adheres to that limit on base discretionary spending. In a departure from past budget deals, the October 2015 deal also included increases in OCO funding. For FY 2017, the provision sets \$58.8 billion as the negotiated level of OCO funding. However, the budget deal reached in October 2015 has broken down. Many Republicans, including House Armed Services Committee Chairman Representative Thornberry (R-TX), argue that the \$58.8 billion for OCO was intended as a floor for OCO spending rather than a ceiling, while many Democrats, as well as the Administration, argue that the negotiated \$58.8 billion for OCO was intended as a ceiling. The House defense policy bill (National Defense Authorization Act for Fiscal Year 2017, H.R. 4909) directs \$18 billion of the total of \$58.8 billion OCO funding to the base budget, principally for additional procurement funding towards items on DoD’s unfunded priority lists. The Senate defense authorization bill (S. 2943) contains \$58.8 billion for OCO, without redirecting OCO funding to base budget spending.<sup>1</sup> As in 2015, Congress seems poised for a bitter partisan battle over defense and non-defense spending as the end of the 2016 fiscal year approaches on September 30, 2016.

The FY 2017 budget request includes \$58.8 billion in Overseas Contingency Operations funding, consistent with the level agreed to in the October 2015 budget deal. The OCO request includes \$41.7 billion for Operation Freedom’s Sentinel in Afghanistan, \$7.5 billion for Operation Inherent Resolve in Iraq, \$3.4 billion for the European Reassurance Initiative, \$1.0 billion for the Counterterrorism Partnerships Fund, and \$5.2 billion for base budget needs.

\$102.5 billion for procurement is included in the FY 2017 base budget request, with an additional \$9.5 billion requested in the OCO account. Across the total defense budget, the \$112.1 billion requested for procurement was \$8.9 billion less than the FY 2016 enacted defense budget in real terms—a 7.4 percent decrease. The Navy has requested \$44.8 billion; the Air Force, \$43.9 billion; the Army, \$18.1 billion; and defense-wide programs, \$5.3 billion for FY 2017. Since FY 2001, procurement has held relatively steady at 20 percent of DoD’s discretionary base budget. Procurement spending has been crowded out by faster-growing military personnel and operation and maintenance (O&M) program costs, as well as decisions to reduce procurement spending in order to comply with the Budget Control Act caps. Between FY 2001 and FY 2017, base budget procurement spending rose at a compound annual growth rate of 1.26 percent, compared to 1.65 percent for military personnel spending and 2.73 percent for

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1 Joe Gould, “Senate Appropriations Committee OKs DoD Spending Bill,” *Defense News*, May 26, 2016, available at <http://www.defensenews.com/story/defense/2016/05/26/senate-appropriations-committee-oks-dod-spending/84976260/>; and Jeremy Herb and Connor O’Brien, “Senate Passes Defense Bill Including Women in Draft,” *Politico*, June 14, 2016, available at <http://www.politico.com/story/2016/06/senate-passes-defense-bill-including-women-in-draft-224316>.

O&M spending. Between FY 2007–FY 2021, DoD will request about \$563.4 billion in FY17 dollars for in discretionary budget authority for procurement.

The FY 2017 budget asks for a total of \$71.8 billion in research, development, test, and evaluation (RDT&E) funding, with all but \$400 million of that funding in the base budget. The Air Force has requested \$28.1 billion; the Army, \$7.6 billion; the Navy and Marine Corps, \$17.3 billion; and DoD-wide programs, \$18.6 billion. Overall, classified RDT&E funding makes up about 25 percent of total RDT&E funding, or \$17.9 billion. Because the Air Force's budget is traditionally the pass through for classified funding, about half of the Air Force's FY 2017 RDT&E request, or \$13.1 billion, is classified. Across the total defense budget, the \$71.8 billion requested for RDT&E is \$3.6 billion greater than the FY 2016 enacted defense budget in real terms—a 5.3 percent increase.

For operation and maintenance, the FY 2017 budget requests \$205.9 billion in the base budget, with an additional \$45 billion requested in the OCO account. The Air Force has requested \$57.2 billion; the Army, \$63.3 billion; the Navy, \$47.6 billion; and the Marine Corps, \$7.5 billion. The defense-wide O&M request is \$75.3 billion. The Defense Health Program (DHP) accounts for 13 percent of the total O&M request for FY 2017 at \$32.5 billion, while classified programs make up about 6.8 percent, or 16.9 billion. Across the total defense budget, the \$250.9 billion requested for O&M is \$2.1 billion greater than the FY 2016 enacted defense budget in real terms—a 0.9 percent increase. In absolute terms, base discretionary O&M funding has risen at a compound annual growth rate of 2.73 percent annually between FY 2001 and FY 2017, faster than any other appropriation category. Consistently high operational tempos and the growing cost of O&M in both absolute and relative terms have strained the services' budgets.

The FY 2017 budget requests \$135.3 billion in discretionary funding in the base budget for military personnel (often known as MILPERS) with an additional \$3.6 billion requested in the OCO account. The Air Force has requested \$35.2 billion; the Army, \$57.5 billion; and the Navy and Marine Corps, \$46.1 billion with the Marine Corps request comprising \$7.5 billion of the total. Across the total defense budget, the \$138.8 billion requested for military personnel is \$2.3 billion less than the FY 2016 enacted defense budget in real terms—a 1.6 percent decrease. DoD also has mandatory spending related to personnel costs, namely accrual payments into the military retirement fund that will pay out the retirement of current service-members. In FY 2017, DoD has requested \$7.4 billion for these mandatory payments.

After adjusting for inflation, the FY 2017 defense base budget request of \$532 billion (including both discretionary and mandatory spending) is 11 percent lower than its most recent high of \$600 billion in FY 2010 and about equal to the average defense spending during the Reagan Administration. Including war funding, the FY 2017 DoD spending request totals \$590 billion. At \$59 billion, the FY 2017 war funding request is about 10 percent of the total, down from a height of 28 percent of total DoD spending in FY 2007 and FY 2008. The total FY 2017 DoD request of \$590 billion is 25 percent lower than the FY 2010 peak of \$784 billion, at the height

of the wars in Iraq and Afghanistan, and about 12 percent above the average spending during the Reagan Administration.

As compared to previous drawdowns following major wars or buildups in defense spending, the decline in total defense spending between FY 2010 and FY 2015 has been less in absolute dollars. However, the rate of the drawdown between FY 2010 and FY 2015 has been faster than any other post-war drawdown since the Korean War at a compound annual growth rate of -5.5 percent. By comparison, the annual drawdown rate after the highs of defense spending reached in the Reagan Administration was -3.24 percent. Although the 1985–1998 drawdown was ultimately larger in dollar terms, it occurred more slowly than the 2010–2015 drawdown.

Even as total defense spending over the past fifteen years has reached historic highs in absolute terms, it represents a historically low percentage of gross domestic product (GDP). Including war funding, the FY 2017 DoD budget request of \$597,619 billion (including both discretionary and mandatory spending), would be 3 percent of GDP, and 14.2 percent of overall federal spending. Overall, the share of defense spending as a percentage of GDP has declined steadily since the end of the Korean War. While it is not useful for gauging the necessity of defense spending, defense spending as a percentage of GDP or as a percentage of overall federal spending can be a useful yardstick in discussing the relative affordability of spending on defense (or any other federal program).

This report discusses the FY 2017 DoD budget request, beginning with an overview of the topline budget request, the Budget Control Act caps, and the OCO budget. It then goes into more detail within the procurement; research, development, test and evaluation; operation and maintenance; military personnel; military construction and family housing; and revolving and management fund appropriations titles. Finally, it covers defense-related funding outside of the DoD budget, as well as historically informed analytic perspectives on the defense budget. Unless otherwise noted, all dollars cited are FY 2017 constant dollars, deflated using the Office of Management and Budget (OMB) Chained GDP deflation factors.



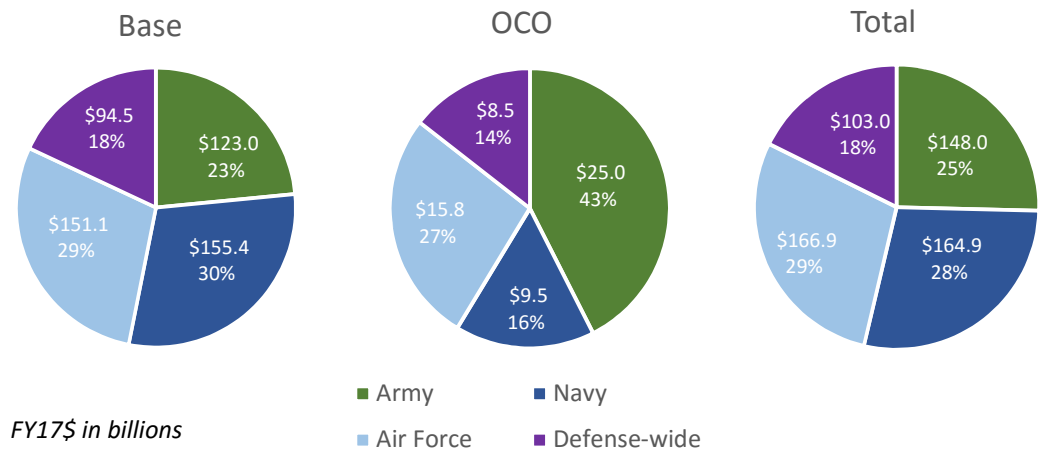
# The FY 2017 Defense Budget

The Obama Administration's FY 2017 budget requests a total of \$590.5 billion for the Department of Defense. The request includes \$523.9 billion for the base discretionary budget, \$7.8 billion in mandatory spending, and an additional \$58.8 billion in supplemental funding for ongoing Overseas Contingency Operations. The base discretionary request is \$2.2 billion more than the \$521.7 billion enacted by Congress for FY 2016. However, in constant dollars, this is a reduction of approximately 1.3 percent from last year's appropriation. In the base budget, the Navy's request for \$155.4 billion is the largest share, followed by the Air Force's at \$151.1 billion, the Army's at \$123 billion, and the defense-wide request at \$94.5 billion (see Figure 1).

As compared to the FY 2016 enacted defense budget in real terms, the Navy's total budget request is \$6.9 billion, or 4 percent lower; the Army's is \$1.5 billion, or 1 percent lower; and the defense-wide request is \$1.7 billion, or 1.7 percent lower. The Air Force budget request is \$2.2 billion, or 1.3 percent, larger—the only Service to have a requested increase. In addition to the Air Force's own blue budget, the Air Force's request is traditionally used as the pass-through for the classified black budget, which makes up about 10 percent of the overall FY 2017 budget. Within the Air Force's nominal budget, classified programs make up approximately 20 percent.

Overall, the total FY 2017 budget request, including both base and OCO funding, is \$8 billion or 1.35 percent smaller than the FY 2016 enacted defense budget. The OCO budget makes up 10 percent of the total DoD budget request for FY 2017.

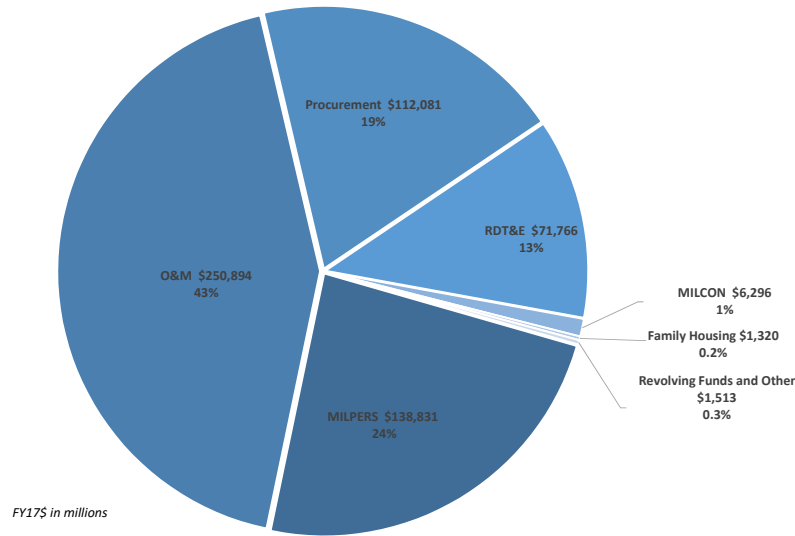
FIGURE 1: FY 2017 DOD BUDGET REQUEST BY SERVICE<sup>2</sup>



OUSD Comptroller: FY17 Defense Budget Request Overview, Tables A-5, A-7, A-9

Across the total discretionary DoD budget (including both the base budget and war funding), O&M is the largest category of appropriations, with \$250.9 billion requested in FY 2017. Military personnel is the second largest at \$138.8 billion, followed by procurement at \$112.1 billion and RDT&E at \$71.7 billion (see Figure 2).

FIGURE 2: FY 2017 DOD TOTAL BUDGET REQUEST BY APPROPRIATIONS TITLE

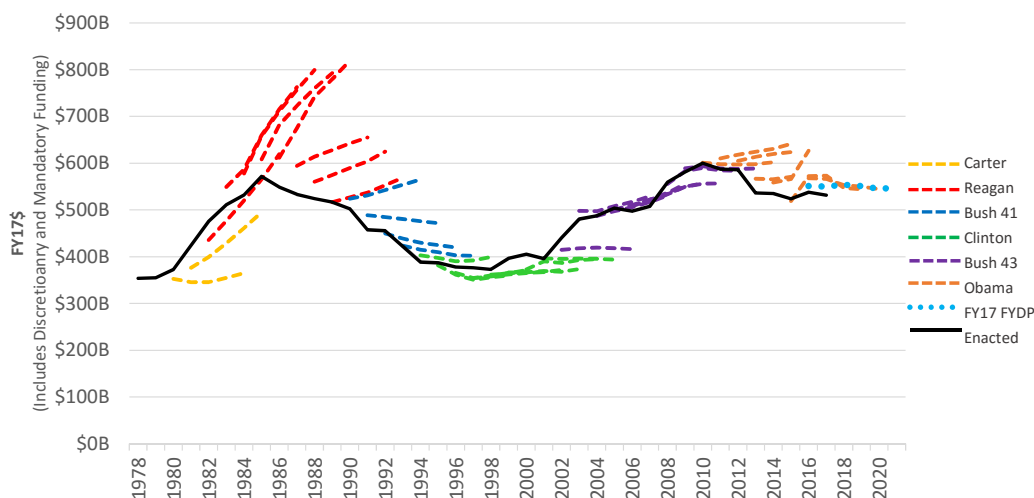


OUSD Comptroller: FY17 Defense Budget Request Overview, Table A-8

2 This report uses several unclassified sources available online for the budget data in its tables and figures. CSBA achieved deflations using the OMB chained GDP deflator. See Appendix A for more information and note the short-form citations captioned beneath graphic data for more specific pages or tables referenced.

Overall, the FY 2017 Future Years Defense Program (FYDP) projects that base budget defense spending, including both discretionary and mandatory base budget spending and excluding war funding, will grow from \$531.8 billion in FY 2017 to \$593.1 billion in FY 2021 in then-year dollars. In constant FY17 dollars, the base defense budget would increase slightly from \$531.8 billion in FY 2017 to \$548.2 billion in FY 2021. However, these FYDP projections do not include war funding. At \$58.8 billion in the FY 2017 request, war funding amounts to 10 percent of the total discretionary DoD budget request. It is likely that DoD will request war funding for fiscal years after FY 2017, which would increase total discretionary defense spending above that projected in the FY 2017 FYDP. The FYDP is an estimate of the resources necessary to fund planned force structure rather than a predictor of the actual amount of funding DoD will receive. As such, the FYDP tends to be a lagging indicator of actual defense spending (see Figure 3).

**FIGURE 3: FYDP DISCRETIONARY BASE BUDGET PLANS BY ADMINISTRATION (FY 1978–FY 2017)**



OUSD Comptroller: FY17 Greenbook, Tables 1-2, 2-1, 6-8

## The Base Budget and the BCA Caps

The FY 2017 base budget request of \$523.9 billion is consistent with the caps on defense and discretionary spending established by the Budget Control Act of 2011, as amended most

recently by a deal reached in October 2015 to raise the BCA caps for FY 2016 and FY 2017.<sup>3</sup> However, the Future Years Defense Program projection of the base defense budget calls for spending to rise by about \$23 billion in FY 2018 before largely holding steady at that higher level through FY 2026. Over the remaining four years of the current BCA caps (FY 2018–FY 2021), the FYDP projection of the base defense budget is \$105.3 billion greater than the revised BCA cap levels in constant FY17 dollars—an indication that DoD’s plans do not match the current budgetary limitations (see Table 1).

**TABLE 1: CURRENT BUDGET CONTROL ACT CAPS FOR DOD AND THE FY 2017 PB**

FY17\$ in billions	FY17	FY18	FY19	FY20	FY21	FYDP
FY16 PB	\$547.3	\$545.9	\$542.8	\$537.8	\$537.4	\$2,710.8
FY17 PB	\$523.9	\$546.1	\$543.2	\$537.8	\$540.9	\$2,691.9
Current BCA caps for DoD, est.	\$523.9	\$512.4	\$514.6	\$516.8	\$519.0	\$2,586.6
<i>delta</i>	\$0	\$33.7	\$28.6	\$21.0	\$21.9	\$105.3

OMB: FY17 and FY16 Budgets, Table 28-1

DoD’s estimated share of funding under the BCA caps is calculated based on the historic ratio of DoD to overall defense spending

As shown in Table 2, Congress has amended the original Budget Control Act of 2011 caps for defense from FY 2013–FY 2017. The average amount of sequester relief in each fiscal year was \$18.4 billion, although the actual amounts have ranged from \$9.7 billion to \$28.2 billion in FY17 dollars. Cumulatively, this sequester relief has totaled \$92.2 billion, for a 4 percent increase over the original BCA caps over this period.

**TABLE 2: ORIGINAL AND AMENDED BCA CAPS FOR DOD**

FY17\$ in billions	FY13	FY14	FY15	FY16	FY17	Average	Total
Original BCA Caps	\$499.8	\$502.0	\$505.3	\$508.2	\$511.6		\$2,526.9
Amended BCA Caps	\$528.4	\$520.4	\$515.0	\$531.4	\$523.9		\$2,619.1
<i>delta</i>	\$28.6	\$18.4	\$9.7	\$23.2	\$12.3	\$18.4	\$92.2

OMB: FY13 Budget, Table 32-1; FY14 Budget, Table 31-1; FY15, FY16, and FY17 Budgets, Table 28-1

DoD’s estimated share of funding under the BCA caps is calculated based on the historic ratio of DoD to overall defense spending

3 The Budget Control Act of 2011 (P.L. 112-75) established limits on discretionary defense and non-defense spending from FY 2012 through FY 2021. The American Taxpayer Relief Act of 2012 (P.L. 112-240) reduced the impact of the FY 2013 sequester. The Bipartisan Budget Act of 2013 (P.L. 113-67) amended the BCA caps for FY 2014 and FY 2015, while the Bipartisan Budget Act of 2015 (P.L. 114-74) amended the BCA caps for FY 2016 and FY 2017.

Simultaneously, the FYDP projections of defense spending in the FY 2013 through FY 2017 budget requests have trended sharply lower, narrowing the remaining gap between defense spending plans and the amended BCA caps (see Figure 4). In particular, the ten-year defense spending projections in the FY 2015, FY 2016, and FY 2017 budget requests are very similar, calling for discretionary base budget defense spending to remain relatively flat in real terms at about \$540 billion in FY17 dollars. In the FY17 FYDP, the average annual difference between the planned defense spending and the BCA caps for FY 2018–FY 2021 is \$26.1 billion, or about 5 percent of the planned budget request in each year (see Figure 5). Senior defense officials are banking on additional sequester relief of at least \$15 billion in FY 2018 and beyond in order to maintain the force structure laid out in the FY 2017 budget and forestall deeper cuts, particularly to Army manpower. However, the difference between the FY 2017 budget request and the BCA caps is steepest in FY 2018, with a delta of \$33.8 billion.

The most recent budget deal reached in October 2015 was intended to be a two-year deal providing agreed-on levels of defense and non-defense funding for FY 2016 and FY 2017, allowing a return to the long-absent regular order of appropriations bills, and avoiding a budget and appropriations fight during the 2016 election season. For FY 2016, the Bipartisan Budget Act of 2015 increased the BCA limits by \$25 billion each for defense and non-defense funding. For FY 2017, the budget deal increased the defense and non-defense BCA caps by \$15 billion, for a BCA cap of \$523.9 billion. The FY 2017 budget request adheres to that limit on base discretionary spending.

In a departure from past budget deals, the October 2015 deal also included increases in OCO funding. For FY 2016, the deal allowed an additional \$8 billion in OCO funding for DoD. For FY 2017, the provision sets \$58.8 billion as the negotiated level of OCO funding. However, the October 2015 deal has since broken down. Many Republicans, including House Armed Services Committee Chairman Representative Thornberry (R-TX), argue that the \$58.8 billion for OCO was intended as a floor for OCO spending rather than a ceiling; while many Democrats, as well as the Administration, argue that the negotiated \$58.8 billion for OCO was intended as a ceiling. Together with non-DoD defense funding (principally nuclear weapons funding for the Department of Energy), this budget deal set an overall level of discretionary defense funding for FY 2017 of \$602 billion.

In Congress, the stage is set for a conference fight over the appropriate level of defense funding across the 2017 fiscal year (October 1, 2016–September 30, 2017), and its allocation between the base budget and OCO accounts. The House defense policy bill as advanced by the House Armed Services Committee authorizes \$602 billion in discretionary defense funding, including \$523.6 billion for DoD's base discretionary budget, \$20 billion for nuclear weapons-related

activities of the Department of Energy, and \$58.8 billion for OCO funding.<sup>4</sup> However, it directs \$18 billion of this OCO funding to the base budget, principally for additional procurement funding towards items on DoD’s unfunded priority lists. These unfunded priority lists have been requested from the Services by Congress and are not endorsed by Secretary of Defense Ash Carter.<sup>5</sup> The operational portion of OCO is funded at \$36 billion in the House authorization and appropriations bills. The Administration had requested \$53.6 billion for operational OCO spending and \$5.2 billion in so-called “OCO-to-base” spending to bring the total OCO funding request to the \$58.8 billion level agreed on in the October budget deal. In addition to this \$18 billion shortfall in OCO funds, the authorization for the OCO funding in the House authorization bill expires on April 30, 2017.<sup>6</sup>

This tactic is intended to force (or allow) an incoming president to submit a supplemental request to Congress for additional OCO funding to finish the remaining five months of the 2017 fiscal year (May 1, 2017–September 30, 2017), raising the overall level of defense funding in FY 2017 over the levels agreed to in the October 2015 deal. The House Appropriations Committee takes a similar approach with the defense appropriations bill (H.R. 5293), appropriating \$517.1 billion in discretionary funding for base defense requirements and shifting \$15.7 billion of the \$58.6 billion of the OCO funding to base budget requirements.<sup>7</sup> The House’s shifting of OCO funds to unrequested base budget expenditures has prompted veto threats for both the authorization and appropriation bills.<sup>8</sup>

In addition to the need for an additional OCO appropriation to cover the remaining five months of the FY 2017 fiscal year, the procurement of additional force structure with OCO-to-base funds in FY 2017 beyond the Administration’s budgeted request will increase ongoing operation and maintenance and personnel costs necessary to utilize and man these systems after they have been procured (see Table 3).

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- 4 House Armed Services Committee, “H.R. 4909—The National Defense Authorization Act for Fiscal Year 2017,” summary brief, May 2016, available at [https://armedservices.house.gov/sites/republicans.armedservices.house.gov/files/wysiwyg\\_uploaded/FY17%20NDAA%20Summary.pdf](https://armedservices.house.gov/sites/republicans.armedservices.house.gov/files/wysiwyg_uploaded/FY17%20NDAA%20Summary.pdf); and Joe Gould, “House Passes Defense Policy Bill Amid OCO Fight,” *Defense News*, May 19, 2016, available at <http://www.defensenews.com/story/defense/2016/05/18/house-passes-policy-bill-amid-oco-fight/84567056/>.
  - 5 Tony Bertuca, “Pentagon’s ‘Awkward Annual Ritual’ of Unfunded Requests Gets Ahead of OSD,” *Inside Defense*, March 4, 2016.
  - 6 Many programs continue to operate with expired authorizations so long as sufficient appropriated funds remain, but it is a clear political signal. See the annual report by the Congressional Budget Office (CBO), *Unauthorized Appropriations and Expiring Authorizations* (Washington, DC: CBO, January 15, 2016), available at <https://www.cbo.gov/publication/51131>. The report data is organized differently in three versions optimized for the Senate Authorizing Committee, the House Authorizing Committee, and the Appropriations Subcommittee.
  - 7 Rebecca Kheel, “House Panel Advanced \$575B Defense Bill,” *The Hill*, May 17, 2016, available at <http://thehill.com/policy/defense/280173-house-committee-advances-575b-defense-spending-bill>. The defense appropriations bills exclude military construction, which is funded in a separate bill.
  - 8 Executive Office of the President, Office of Management and Budget (OMB), “H.R. 4909—National Defense Authorization Act for Fiscal Year 2017,” Statement of Administration Policy, May 16, 2016, available at [https://www.whitehouse.gov/sites/default/files/omb/legislative/sap/114/saphr4909r\\_20160516.pdf](https://www.whitehouse.gov/sites/default/files/omb/legislative/sap/114/saphr4909r_20160516.pdf); and OMB, “National Defense Appropriations Act, 2017,” Statement of Administration Policy, H.R. 5293, June 14, 2016, available at [https://www.whitehouse.gov/sites/default/files/omb/legislative/sap/114/saphr5293r\\_20160614.pdf](https://www.whitehouse.gov/sites/default/files/omb/legislative/sap/114/saphr5293r_20160614.pdf).

**TABLE 3: SELECTED HOUSE DEFENSE AUTHORIZATION BILL ADDITIONAL OCO-TO-BASE FUNDS FOR PROCUREMENT**

Account Title	Amount
Army: Aircraft Procurement	\$1.06 billion
Army: Missile Procurement	\$0.196 billion
Army: Wheeled and Tracked Combat Vehicles	\$0.267 billion
Navy: Aircraft Procurement	\$3.18 billion
Navy: Shipbuilding and Conversion	\$2.27 billion
Air Force: Aircraft Procurement	\$1.70 billion

NDAA: Section 4103, "Procurement for Overseas Contingency Operations for Base Requirements," pp. 1333–1336.

However, the Senate authorization and appropriations bills do not redirect OCO funds to unrequested base budget spending. An amendment to the authorization bill to increase OCO funds by \$18 billion, offered by Senate Armed Services Committee Chairman Senator McCain (R-AZ), was narrowly defeated in a floor vote.<sup>9</sup> A related amendment offered by the Senate Armed Services Committee Ranking Member Senator Reed (D-RI) to authorize an equivalent \$18 billion in additional non-defense funding was also defeated in a floor vote.<sup>10</sup> The Senate defense authorization bill (S. 2943) and the Senate Appropriations Committee's defense appropriations bill (S. 3000) contain \$58.8 billion for OCO, without redirecting OCO funding to base budget spending.<sup>11</sup> As in 2015, Congress seems poised for a bitter partisan battle over defense and non-defense spending as the end of the 2016 fiscal year approaches on September 30, 2016.

The BCA limits on base discretionary defense spending do not apply to funds designated as emergency spending. Accordingly, OCO funding is exempt from the caps imposed by the BCA. Since the enactment of the BCA in 2011, as the war in Iraq was drawing to a close and the drawdown in Afghanistan was underway, DoD and Congress have shifted funds from the base budget into OCO. Senior defense officials have estimated that approximately \$20 billion of expenses that properly belong in the base budget, per OMB guidance, are funded in the OCO budget.<sup>12</sup> Due to this funding of base budget costs through OCO, the prior distinctions between

9 S. Amdt 4229 to National Defense Authorization Act for Fiscal Year 2017, S. 2942, 114th Cong. (2015–2016), available at <https://www.congress.gov/amendment/114th-congress/senate-amendment/4229>.

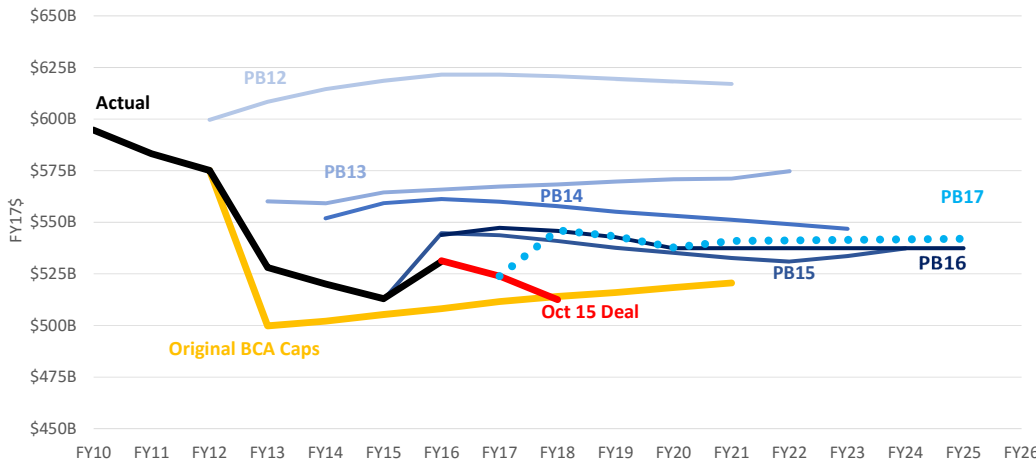
10 S. Amdt 4549 to S. Amdt 4229 to National Defense Authorization Act for Fiscal Year 2017, S. 2942, 114th Cong. (2015–2016), available at <https://www.congress.gov/amendment/114th-congress/senate-amendment/4549>.

11 Gould, "Senate Appropriations Committee OKs DoD Spending Bill"; and Herb and O'Brien, "Senate Passes Defense Bill Including Women in Draft."

12 \$20 billion is an estimate reached by discussion with defense officials, and defense analysts. It does not represent an official figure. See also Mark Cancian, "War Funding, Sequestration, and the Budget Impasse," June 12, 2015, <https://www.csis.org/analysis/war-funding-sequestration-and-budget-impasse> OMB, "Criteria for War/Overseas Contingency Operations Funding Requests," memorandum from Associate Director for Defense and Foreign Affairs Steven M. Kosiak to Under Secretary of Defense (Comptroller) Robert Hale, September 9, 2010, available at <http://asafm.army.mil/Documents/OfficeDocuments/Budget/Guidances/omb-gd.pdf>.

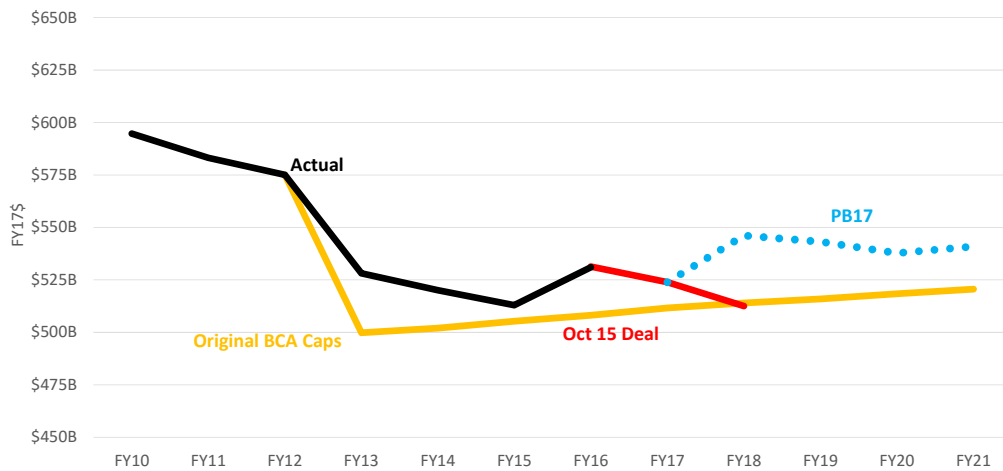
DoD’s base budget with the OCO budget, intended initially to fund unforeseen emergency needs, and then funding ongoing contingency operations, has been substantially eroded.

FIGURE 4: BCA CAPS AND BASE BUDGET DEFENSE SPENDING PLANS (FY 2012–FY 2017)



OMB: FY10 Budget, Table 26-1; FY11, FY12, and FY13 Budgets, Table 32-1; FY14 Budget, Table 31-1; FY15, FY16, and FY17 Budgets, Table 28-1

FIGURE 5: AMENDED BCA CAPS AND FY 2017 FYDP



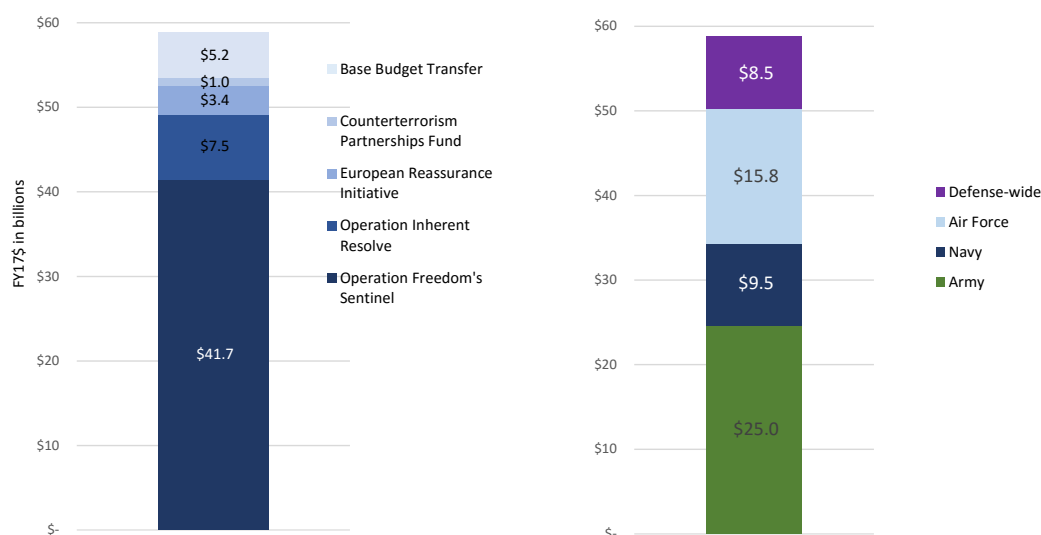
OMB: FY10 Budget, Table 26-1; FY11, FY12, and FY13 Budgets, Table 32-1; FY14 Budget, Table 31-1; FY15, FY16, and FY17 Budgets, Table 28-1



## Overseas Contingency Operations Funding

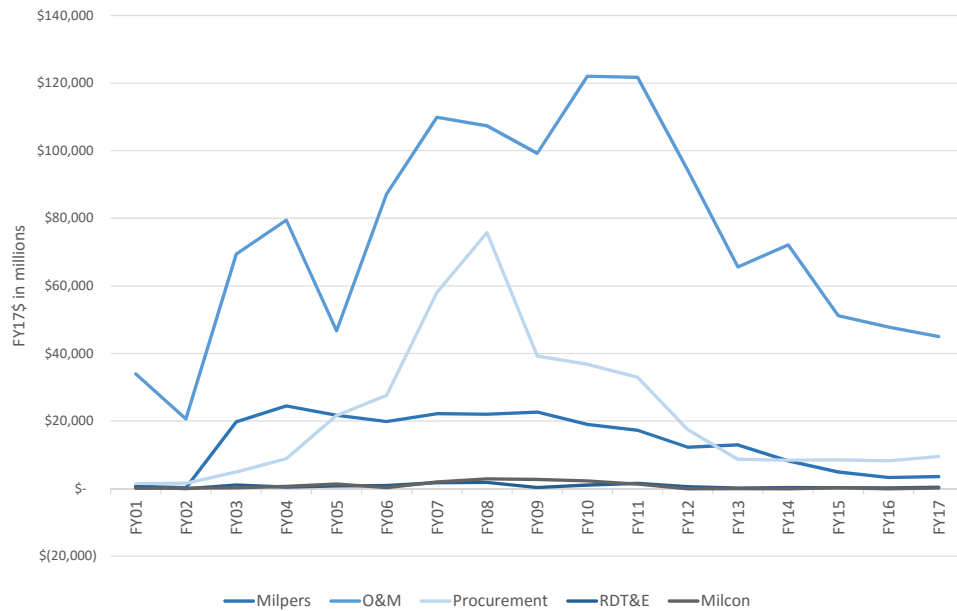
The FY 2017 budget request includes a request of \$58.8 billion in Overseas Contingency Operations funding, consistent with the level agreed to in the October 2015 budget deal (see previous section). The OCO request includes \$41.7 billion for Operation Freedom's Sentinel in Afghanistan, \$7.5 billion for Operation Inherent Resolve in Iraq, \$3.4 billion for the European Reassurance Initiative, \$1.0 billion for the Counterterrorism Partnerships Fund (CTPF), and \$5.2 billion for base budget needs. Overall, the Army has requested \$25 billion in OCO funds; the Air Force, \$15.8 billion; the Navy, \$9.5 billion; and the defense-wide request, \$8.5 billion (see Figure 6).

**FIGURE 6: FY 2017 OCO REQUEST BY OPERATION AND SERVICE**

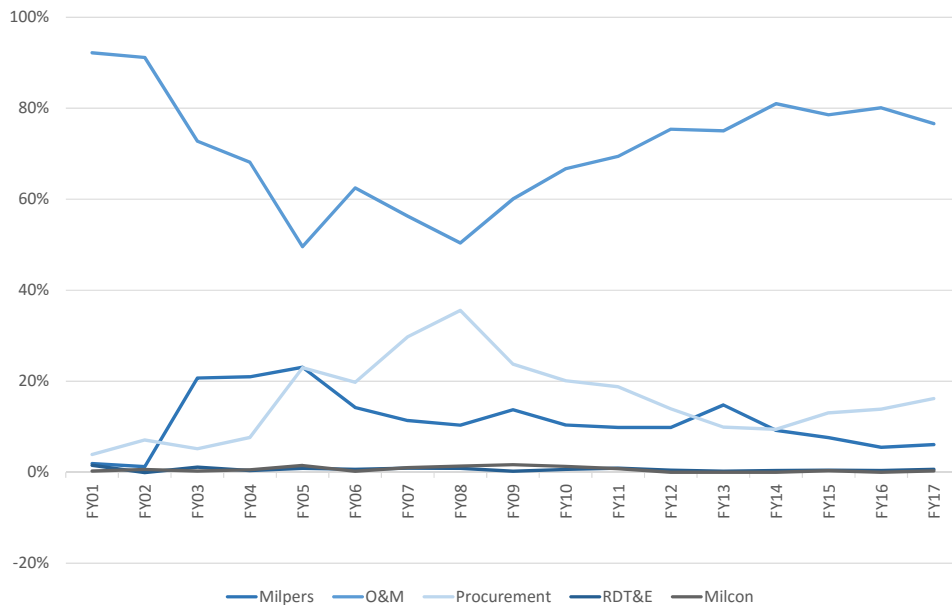


USD Comptroller: FY17 Defense Budget Request Overview, Tables A-6 and A-7

In the FY 2017 OCO request, O&M makes up 77 percent of the total at \$45 billion. Procurement is the second largest share of 16 percent at \$9.5 billion, followed by 6 percent, or \$3.5 billion, for MILPERS. Since FY 2001, O&M has always been the largest type of OCO funding. However, during the height of the wars in Iraq and Afghanistan, military personnel and, especially between FY 2006 and FY 2009, procurement made up increasing shares of OCO. While O&M and military personnel funding have declined between FY 2011 and FY 2017, albeit more slowly since FY 2013, OCO procurement funding has held steady between FY 2013 and FY 2017 (see Figure 7 and Figure 8).

**FIGURE 7: OCO BUDGET AUTHORITY BY APPROPRIATIONS TITLE (FY 2001–FY 2017)**

OUSD Comptroller: FY17 Greenbook, Table 2-1

**FIGURE 8: PERCENTAGE OF OCO BUDGET AUTHORITY BY APPROPRIATIONS TITLE (FY 2001–FY 2017)**

OUSD Comptroller: FY17 Greenbook, Table 2-1

Overseas Contingency Operations funding pays for deploying and supporting U.S. troops conducting and supporting military operations, to include general operations, transportation and repairs, purchasing and replacing equipment used in conflict, military construction, intelligence activity, training local security forces, and other conflict-related activities. Funding designated as OCO or emergency funding by the Congress and the President does not count towards the Budget Control Act caps on defense and non-defense spending currently in force. However, as war funding was not exempt from a sequester triggered by appropriations above the caps level, OCO funding was cut by \$5.3 billion in the FY 2013 sequester.<sup>13</sup>

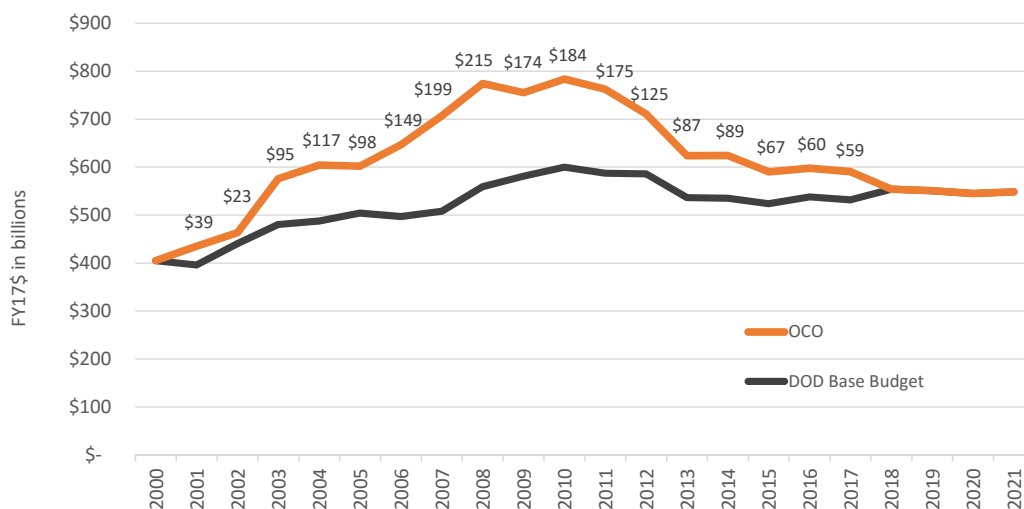
The use of the regular budget process for war-related funding began to be formalized in FY 2004 as a way to allow for the budgeting, oversight, and appropriations of funding for the conflicts in Iraq and Afghanistan in a more routine and standardized way than the variety of supplemental and emergency appropriations that had been utilized previously. Gradually, more and more of the war-related costs were programmed through a separate budget submission, but emergency supplementals were used to cover war costs until FY 2011.<sup>14</sup> These war-related funds became formally known as OCO in FY 2012. War costs had been defined by DoD as those incremental costs related to the war that would not have been incurred without the conflict “above and beyond baseline training, operations and personnel costs.”<sup>15</sup> In fall 2006, the guidance for defining costs as war funding was relaxed to include the costs of “the longer war on terror,” rather than strictly incremental costs.<sup>16</sup> This policy shift expanded the scope of war funding, particularly for procurement and regional theatre costs. In 2009, OMB instituted stricter guidance regarding what expenses were properly considered war costs and updated it in 2010. This guidance imposed geographic limits of what areas were considered the theatre of operations. It also limited procurement to replacing combat losses of equipment of or repair to original capability; direct war operational costs; in-theatre incremental costs; and combat-related special pays and allowances.<sup>17</sup>

The broad expansion of war-related costs in 2006 allowed for a greater share of regional expenses to be considered war costs over and above direct incremental costs. The limitations of defense spending imposed by the 2011 Budget Control Act and the simultaneous drawdowns of the conflicts in Iraq and Afghanistan have functioned to increase the pressure

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- 13 Amy Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11*, RL33110 (Washington, DC: Congressional Research Service, July 22, 2014), p. 44, available at <https://www.fas.org/sgp/crs/natsec/RL33110.pdf>.
  - 14 Ibid., Table C-1, “Defense Department, Foreign Operations Funding, and VA Medical Funding and Other Global War on Terror Activities, FY 2001–FY 2014,” pp. 93–95.
  - 15 Office of the Under Secretary of Defense (Comptroller), Chapter 23, “Contingency Operations,” in *Financial Management Regulation*, DoD 7000.14-R, Volume 12, *Special Accounts, Funds and Programs* (Washington, DC: DoD, September 2007), p. 23-11.
  - 16 Deputy Secretary of Defense Gordon England, “Ground Rules and Process for FY’07 Spring Supplemental,” memorandum to Secretaries of the Military Departments, October 25, 2006, as cited in Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11*, p. 44.
  - 17 OMB, “Criteria for War/Overseas Contingency Operations Funding Requests.”

on DoD's base budget along with the temptation to attribute costs to contingency operations that should properly be part of the base budget. While funding related to the conflict in Iraq drew down swiftly in tandem with the number of forces, the decline of funding related to Afghanistan has occurred far more slowly than the number of personnel in country.<sup>18</sup> According to senior DoD officials, there are about \$20–\$30 billion in base budget costs currently funded through OCO. While DoD has not specifically enumerated these costs, they are principally costs for the military's regional presence in the O&M appropriations title. While funds related to sustaining combat forces have declined swiftly, broader readiness and support O&M funds within OCO have declined more slowly.<sup>19</sup> While overall OCO funding has declined from a high of \$215 billion in FY 2007 to a request of \$58.8 billion in FY 2017, the rate of decline has slowed significantly, indicating that OCO has become an enduring request for ongoing regional operations rather than closely driven by the needs of a specific contingency (see Figure 9).

**FIGURE 9: BASE AND OCO ENACTED AND PROJECTED FUNDING (FY 2000–FY 2021)**



OUSD Comptroller: FY17 Greenbook, Tables 1-2, 2-1, 6-8

In Afghanistan, the FY 2017 request of \$41.7 billion to support Operation Freedom's Sentinel and related missions will fund an average annual planned end strength in-country of 6,217 troops in FY 2017. This includes about 9,800 troops through the end of December 2016, drawing down to about 5,500 troops by January 2017. However, recent reports indicate that the

<sup>18</sup> Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11*, Figure 8, "Changes in Troop Strength and Operational Costs," p. 47.

<sup>19</sup> Katherine Blakeley and Lawrence Korb, *The War Chest: War Funding and the End of the War in Afghanistan* (Washington, DC: The Center for American Progress, October 16, 2014), p. 19, available at <https://cdn.americanprogress.org/wp-content/uploads/2014/10/WarChest-report.pdf>.

Obama Administration is considering—once again—slowing the announced drawdown of U.S. forces in Afghanistan.<sup>20</sup> North Atlantic Treaty Organization (NATO) forces and bases are expected to remain in Afghanistan through 2020 instead of withdrawing in 2017.<sup>21</sup> See Table 4 for force structure levels in Afghanistan and Iraq and of other in-theatre support between FY 2014 and FY 2017.

**TABLE 4: OCO FUNDING BY REGION (FY 2014–FY 2017)**

<i>Current year dollars in millions</i>	<i>2014 actual</i>	<i>2015 actual</i>	<i>2016 enacted</i>	<i>2017 requested</i>	<i>Delta</i>
Afghanistan	34,813	10,012	9,737	6,217	-82%
Iraq	0	3,180	3,550	3,550	
In-theatre Support	59,738	55,958	55,831	58,593	-2%
CONUS/Other	20,367	16,020	15,991	13,085	-36%

USD Comptroller: FY17 and FY16 Defense Budget Request Overviews, Figure 7.2

In Iraq, the FY 2017 OCO budget request includes \$7.5 billion to support Operation Inherent Resolve in Iraq and the Levant, a 50 percent increase from the \$5 billion enacted in FY 2016. This funding would support 3,550 troops on the ground in the region, principally for training and partnering with Iraqi security forces in the fight against the Islamic State of Iraq and Syria (ISIS).

This \$7.5 billion request includes \$600 million for the Iraq Train and Equip Fund, which includes training, advising, assisting, and equipping Iraqi security forces, broadly defined as the Iraqi Army, Kurdish Peshmerga forces, Ministry of Interior police, border security, the emergency response division, the counter-terrorism service, popular mobilization forces, and “other forces with a national security mission.”<sup>22</sup> Of this \$600 million, \$170 million would go to purchase equipment, including 4x4 trucks and SUVs, armored vehicles, light machine guns, body armor, and rifles. A further \$324 million would replace ammunition expended and vehicles lost in combat, including \$110 million for ammunition, \$77 million for up-armored Humvees, \$56 million for light armored vehicles, and \$15 million for armored bulldozers to clear mined areas. It also includes \$72 million for maintenance and sustainment of equipment provided by the U.S. government, since “the lack of organic Iraqi capacity” is “a critical

20 Arshad Mohammed and Phil Stewart, “U.S. May Not Make Afghanistan Troop Decision by Warsaw Summit,” *Reuters*, June 13, 2016, <http://www.reuters.com/article/us-usa-afghanistan-troops-idUSKCN0YZoC4>

21 Thomas Gibbons-Neff, “Diplomat: Key NATO Bases in Afghanistan to Remain Open Despite Troop Reductions,” *The Washington Post*, June 15, 2016, available at <https://www.washingtonpost.com/news/checkpoint/wp/2016/06/15/diplomat-key-nato-bases-in-afghanistan-to-remain-open-despite-troop-reductions/>; and Tom Vanden Brook, “NATO Plans for Afghan War Through 2020,” *USA Today*, June 15, 2016, available at <http://www.usatoday.com/story/news/politics/2016/06/15/nato-plans-afghan-war-through-2020/85914782/>.

22 Office of the Secretary of Defense, *Department of Defense Budget Fiscal Year (FY) 2017: Justification for FY 2017 Overseas Contingency Operations (OCO) Iraq Train & Equip Fund (ITEF)* (Washington, DC: DoD, February 2016), p. 3, available at [http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY17\\_ITEF\\_J\\_Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY17_ITEF_J_Book.pdf).

weakness.”<sup>23</sup> Finally, the Iraqi Train and Equip Fund request includes \$64 million for military base improvements, maintenance, and sustainment, including \$35 million earmarked for “future Iraqi logistics support areas and tactical assembly areas along [the] road to Mosul.”<sup>24</sup>

The OCO budget request also includes \$250 million for a Syria Train and Equip Fund, run by the Special Operations Joint Task Force–Operation Inherent Resolve, in order to recruit, vet, train, equip, and support various elements of “Moderate Syrian Opposition” to become “Vetted Syrian Opposition” forces with the goal of degrading and countering ISIS in Syria. Of the requested \$250 million, the largest single cost is for ammunition (\$193 million) followed by weapons (\$13.2 million), primarily AK-47s, PKM and DShK machine guns, mortars, and RPG anti-tank weapons. Other costs include resupply costs (\$8.6 million), trainee living costs (\$9.6 million) and stipends (\$6 million, up to \$400 per fighter monthly), other equipment such as uniforms and communications equipment (\$4.6 million), and \$5 million for “emerging costs.” Qatar, Saudi Arabia, Turkey, and Jordan have also contributed to hosting and training selected trainees as part of the Syria Train and Equip effort.<sup>25</sup>

Similarly, DoD requests \$1 billion for the recently created Counterterrorism Partnerships Fund (CTPF), to provide counterterrorism support to partner nations and augment U.S. capability to support partners in counterterrorism operations. This fund has been criticized along several axes: as a redundant fund for partnership support, as a slush fund for a lack of transparency as to which activities it will actually fund, and for using emergency funding to enhance enduring U.S. capabilities to work with partner nations.<sup>26</sup> Others have praised the fund as allowing flexible, customized approaches to individual partner nations and enabling regional commanders to capitalize on opportunities as they emerge.<sup>27</sup> Congress appropriated \$1.3 billion for the fund in FY 2015 instead of the Administration’s \$5 billion inaugural request. The budget justification describes potential areas of activity, including countering terrorist groups operating in each area; assisting partner nations with securing their borders and territory; supporting partner nations’ institutional capacity; improving interdiction of illicit flows of drugs, money, weapons of mass destruction (WMDs), natural resources, and persons; conducting effective counter-incursion operations to disrupt violent extremist organizations;

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23 Ibid., p. 5.

24 Ibid., p. 7. As of July 1, 2016, ISIS controlled the main road to Mosul north of the village of Baiji. See Caitlin Forrest, “ISIS Sanctuary Map: July 1, 2016,” Institute for the Study of War, July 1, 2016, available at <http://www.understandingwar.org/backgrounder/isis-sanctuary-map-july-1-2016>.

25 Office of the Secretary of Defense, *Department of Defense Budget Fiscal Year (FY) 2017: Justification for FY 2017 Overseas Contingency Operations (OCO) Syria Train & Equip Fund (STEF)* (Washington, DC: DoD, February 2016), available at <http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY17-J-B.pdf>.

26 Justin Sink, “Obama Pushes \$5 Billion Counterterrorism Fund to Fight ISIS,” *The Hill*, September 8, 2014, available at <http://thehill.com/homenews/administration/216980-obama-to-push-leaders-for-5b-counterterrorism-fund>.

27 James Stavridis and John R. Allen, “Expanding the U.S. Military’s Smart-Power Toolbox,” *Wall Street Journal*, June 9, 2016, <http://www.wsj.com/articles/expanding-the-u-s-militarys-smart-power-toolbox-1465425489>.

denying access to violent extremist organizations; and enabling U.S.–partner interoperability and collaboration (see Table 5).<sup>28</sup>

**TABLE 5: FY 2017 COUNTERTERRORISM PARTNERSHIPS FUND FOCUS AREAS**

Area	Amount (in millions)	COCOM	Goals	Partner Nations
<b>Sahel Maghreb</b>	\$125	AFRICOM	<ul style="list-style-type: none"> <li>• Counter al-Qaeda in the Islamic Maghreb</li> <li>• Counter ISIS</li> <li>• Counter other regionally-based terrorist groups</li> </ul>	Algeria, Burkina Faso, Libya, Mali, Mauritania, Morocco, Senegal, Tunisia
<b>Lake Chad Basin</b>	\$125	AFRICOM	<ul style="list-style-type: none"> <li>• Counter Boko Haram</li> <li>• Counter al-Qaeda in the Islamic Maghreb</li> </ul>	Cameroon, Chad, Niger, Nigeria
<b>East Africa</b>	\$200	AFRICOM	<ul style="list-style-type: none"> <li>• Counter al-Shabaab</li> <li>• Counter al-Qaeda in East Africa</li> <li>• Counter other regionally-based terrorist groups</li> <li>• Transition security from African Union Mission in Somalia to a Somali-led mission to secure its own territory</li> </ul>	Djibouti, Ethiopia, Kenya, Somalia, Uganda
<b>Greater Levant</b>	\$470	CENTCOM	<ul style="list-style-type: none"> <li>• Counter ISIS</li> <li>• Counter other regionally-based terrorist groups</li> </ul>	Jordan, Lebanon, Turkey
<b>Arabian Peninsula</b>	\$50	CENTCOM	<ul style="list-style-type: none"> <li>• Counter al-Qaeda in the Arabian Peninsula</li> <li>• Counter other regionally-based terrorist groups</li> </ul>	Oman, Bahrain, and other Gulf Cooperation Council nations (the other members are Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates)
<b>Central Asia</b>	\$30	CENTCOM	<ul style="list-style-type: none"> <li>• Counter Taliban</li> <li>• Counter ISIS</li> <li>• Counter other regionally-based terrorist groups</li> </ul>	Tajikistan, possibly others

OUSD Comptroller: FY17 Counterterrorism Partnerships Fund, p. 1

28 Office of the Under Secretary of Defense (Comptroller), *Department of Defense Budget Fiscal Year (FY) 2017: Counterterrorism Partnerships Fund* (Washington, DC: DoD, February 2016), available at [http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017\\_CTPF\\_J-Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017_CTPF_J-Book.pdf).

The FY 2017 request includes illustrative “potential uses of CTPF funds,” including airlift, equipment, and training for partner nation counter-terrorism capabilities; border security; intelligence, surveillance, and reconnaissance (ISR) including unmanned aircraft, night vision devices, thermal detection equipment, and radios; counter-IED capabilities; and logistical support, close air support.<sup>29</sup> However, it does not detail any specific efforts.

The FY 2017 request includes \$3.4 billion for the European Reassurance Initiative, an increase of \$2.6 billion over the \$800 million enacted for FY 2016. Originally requested in June 2014 in response to a greater focus on the potential security challenges from Russia following its invasion of Crimea and continuing support for separatists in eastern Ukraine, this effort is intended to “reassure allies of the U.S. commitment to their security and territorial integrity as members of the NATO alliance.”<sup>30</sup> As compared to the FY 2016 enacted funds, the FY 2017 request funds \$1.9 billion of enhanced prepositioning of equipment and supplies (a \$1.85 billion increase), as well as twice as much funding for increased presence, improved infrastructure, and more exercises and training. It also includes a request for \$1.2 billion in procurement, primarily for Army prepositioned equipment sets (see Table 6). Notable assurance efforts include the heel-to-toe rotation of an armored brigade combat team for continuous presence in the Baltic states and Poland; prepositioning of air equipment in eastern Europe, including refueling trucks, tow tractors, and cargo handling equipment; upgrades to ranges and training infrastructure; additional bilateral and multilateral exercises; and increased special operations forces partnerships with Eastern European NATO allies. Deterrence-focused efforts include the rotation of an Army combat aviation brigade, enhanced Army prepositioned stocks and sustainment, maintaining F-15C’s at Royal Air Base Lakenheath, greater combat air presence and NATO air policing, improved intelligence and ISR capabilities, modernizing Keflavik Airfield in Iceland to support P-8A anti-submarine aircraft, airfield improvements in other countries, and additional exercises and training.<sup>31</sup>

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29 Ibid.

30 Office of the Under Secretary of Defense (Comptroller), *Department of Defense Budget Fiscal Year (FY) 2017: European Reassurance Initiative* (Washington, DC: DoD, February 2016), available at [http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017\\_ERI\\_J-Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017_ERI_J-Book.pdf).

31 Ibid.; Office of the Under Secretary of Defense (Comptroller), Chief Financial Officer, *Department of Defense Fiscal Year 2017 Budget Request: Defense Budget Overview* (Washington, DC: DoD, February 9, 2016), p. 7-7, available at [http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017\\_Budget\\_Request\\_Overview\\_Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017_Budget_Request_Overview_Book.pdf).



**TABLE 6: EUROPEAN REASSURANCE INITIATIVE FUNDING (FY 2015–FY 2017)**

<i>Current year dollars in millions</i>		<i>FY 2015 actual</i>	<i>FY 2016 enacted</i>	<i>FY 2017 request</i>
<b>By category</b>	Increased Presence	\$423.1	\$471.4	\$1,049.8
	Exercises and Training	\$40.6	\$108.4	\$163.1
	Improved Infrastructure	\$196.5	\$89.1	\$217.4
	Enhanced Prepositioning	\$136.1	\$57.8	\$1,903.9
	Building Partner Capacity	\$13.7	\$62.6	\$85.5
<b>By component</b>	Army	\$438.9	\$504.4	\$2,825.3
	Navy	\$31.0	\$34.1	\$86.3
	Air Force	\$301.6	\$191.9	\$388.7
	Defense-wide	\$29.5	\$58.9	\$119.5
<b>By appropriation title</b>	Military Personnel	\$1.5	\$24.3	\$264.8
	Operation and Maintenance	\$632.9	\$765.0	\$1,829.1
	Procurement	\$0.6	\$0	\$1,165.4
	Military Construction	\$175.0	\$0	\$113.6
	Revolving and Management Funds	\$0	\$0	\$46.8
<b>ERI Transfer Fund (to support Ukraine, Estonia, Lithuania, Latvia)</b>		\$175.0		
<b>TOTAL:</b>		<b>\$985.0</b>	<b>\$789.3</b>	<b>\$3,419.7</b>

OUSD Comptroller: FY17 European Reassurance Initiative, pp. 1 and 24

**TABLE 7: OCO FUNDING BY MISSION (FY 2014–FY 2017)**

<i>Current year dollars in billions</i>	<i>FY 2014 actual</i>	<i>FY 2015 actual</i>	<i>FY 2016 enacted</i>	<i>FY 2017 request</i>	<i>Delta</i>
Operations/Force Protection in Afghanistan	\$ 26.2	\$ 11.0	\$ 7.7	\$ 8.7	-67%
In-Theatre Support	\$ 19.9	\$ 20.1	\$ 16.4	\$ 17.0	-15%
Investment/Equipment Reset*	\$ 8.8	\$ 9.5	\$ 7.9	\$ 9.4	7%
Temporary Military End Strength**	\$ 4.7	\$ 2.4	\$ 3.5	\$ 3.6	-24%
Iraq Train and Equip***		\$ 1.6	\$ 0.7	\$ 0.6	
Syria Train and Equip ***		\$ 0.5	\$ 0.6	\$ 0.25	
European Reassurance Initiative		\$ 0.9	\$ 0.8	\$ 3.4	
* This became Equipment Reset and Readiness in the FY 2017 budget submission					
** The FY 2017 OCO request does not separate out temporary military end strength, but does include \$3.6 billion in military personnel funding					
*** Funds for the first years of both the Syria & Iraq Train and Equip efforts were enacted, but were not requested in the regular OCO budget submission					

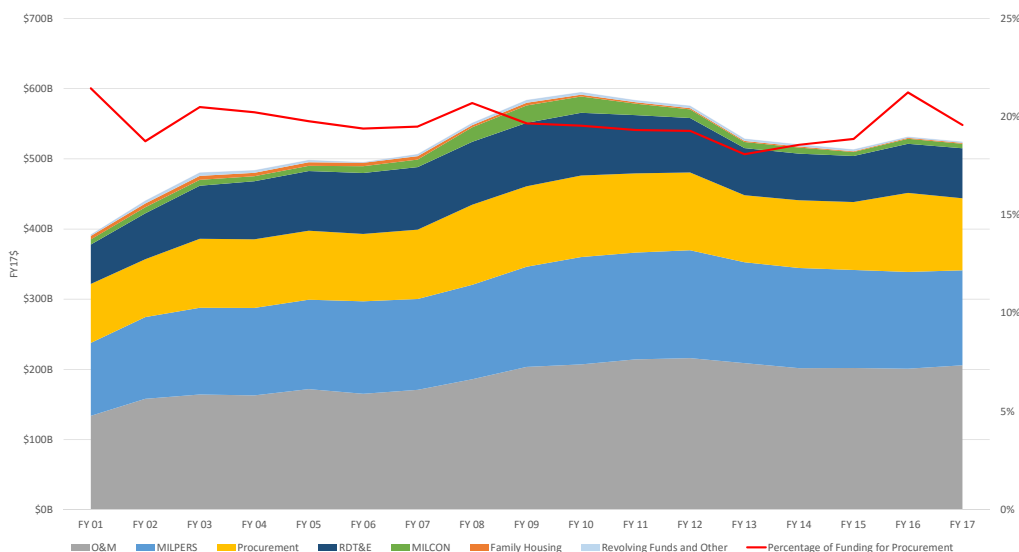
OUSD Comptroller: FY17 and FY16 Defense Budget Request Overviews, Figure 7.1; FY15 and FY14 Defense Budget Request Overviews (Amendments), Figure 1

## Procurement

### Overview

\$102.5 billion for procurement is included in the base budget request with an additional \$9.5 billion requested in the OCO account. Across the total defense budget, the \$112.1 billion requested for procurement was \$8.9 billion less than the FY 2016 enacted defense budget in real terms—a 7.4 percent decrease. The Navy has requested \$44.8 billion; the Air Force, \$43.9 billion; the Army, \$18.1 billion; and the defense-wide request is \$5.3 billion. Since FY 2001, procurement has held relatively steady at 20 percent of DoD’s discretionary base budget (see Figure 10). In absolute terms, base discretionary procurement funding has risen at a compound annual growth rate of 1.26 percent annually between FY 2001 and FY 2017. Between FY 2007–FY 2021, DoD will request about \$563.4 billion in FY17 dollars in discretionary budget authority for procurement (see Table 8).

**FIGURE 10: DOD BASE DISCRETIONARY BUDGET BY APPROPRIATION TYPE (FY 2001–FY 2017)**



USD Comptroller: FY17 Greenbook, Table 2-1

**TABLE 8: PROJECTED PROCUREMENT BUDGET AUTHORITY BY SERVICE (FY 2017–FY 2021)**

<i><b>FY17\$ in billions</b></i>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Total</b>
Army	\$17.97	\$17.58	\$17.40	\$17.45	\$17.67	<b>\$88.07</b>
Navy	\$44.75	\$49.00	\$48.82	\$48.48	\$50.49	<b>\$241.54</b>
Air Force	\$43.90	\$40.89	\$39.76	\$40.30	\$41.01	<b>\$205.94</b>
Defense-wide	\$5.46	\$5.91	\$5.64	\$5.61	\$5.44	<b>\$27.83</b>
<b>Total</b>	<b>\$112.08</b>	<b>\$113.08</b>	<b>\$111.61</b>	<b>\$111.84</b>	<b>\$114.78</b>	<b>\$563.39</b>

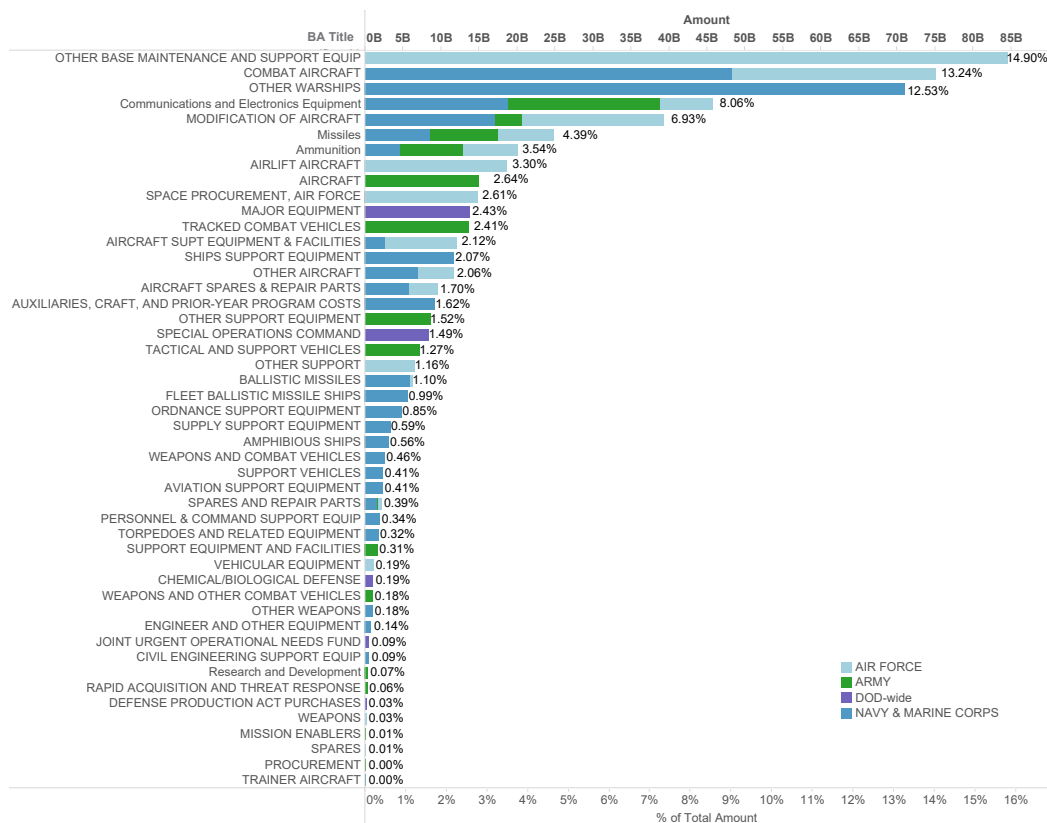
OMB: FY17 Budget, OMB Budget Database

## Major Programs

After classified programs, which make up 14.9 percent of all procurement spending, combat aircraft make up the largest share of planned procurement spending across the FYDP at 13.24 percent of all procurement spending. Warships make up 12.53 percent; communications and electronics equipment, 8.06 percent; and modification of aircraft, a further 6.93 percent. Together, these categories of procurement make up 55.66 percent of planned DoD procurement spending over the FYDP (see Figure 11). Collectively, sixty-two major defense acquisition

programs can account for 39 percent of the total amount of procurement and RDT&E spending in FY 2017.<sup>32</sup>

**FIGURE 11: PROJECTED PROCUREMENT SPENDING BY BUDGET ACTIVITY (FY 2017–FY 2021)**



Data from VisualDoD; analysis in Tableau; current year dollars in billions

The initial category, "Other Base Maintenance and Support Equip," comprises classified procurement programs

Within the Navy and Marine Corps' planned FY 2017–FY 2021 procurement budget, the largest programs are the Virginia-class submarine at \$28.6 billion over the FYDP, the F-35B and F-35C at \$23.4 billion, the DDG-51 Arleigh Burke-class destroyer at \$19.3 billion, the carrier replacement program at \$12.4 billion, and F-18 procurement and modifications at \$8.6 billion. Overall, across the FYDP, the department of the Navy plans to spend \$85.2 billion, or 37 percent of its procurement request, on shipbuilding, and \$77.3 billion, or 35 percent, on

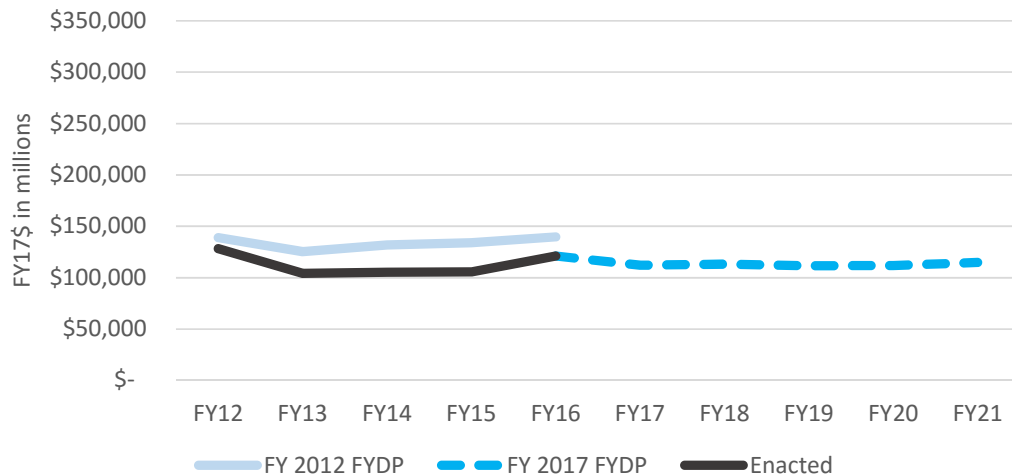
<sup>32</sup> Major defense acquisition programs are defined by statute at 10 U.S.C. 2340 as programs with an estimated total RDT&E expenditure of more than \$300 million in FY 1990 dollars (about \$514 million in FY17 dollars), or estimated total procurement expenditures of more than \$1.8 billion in FY 1990 dollars (about \$3 billion in FY17 dollars). Office of the Under Secretary of Defense (Comptroller), Chief Financial Officer, *Department of Defense Fiscal Year 2017 Budget Request: Program Acquisition Cost By Weapon System* (Washington, DC: DoD, February 2016), p. 5, available at [http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017\\_Weapons.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017_Weapons.pdf).

aircraft procurement. Other procurement is the third largest tranche of Navy procurement at \$37.9 billion over the FYDP.

For the Air Force, the top three programs are the F-35A, with a total planned budget of \$29.0 billion; the KC-46 tanker program to recapitalize the KC-135 tanker fleet at \$15.0 billion; and the B-21 bomber, with a planned \$11.5 billion of RDT&E funding. Roughly equal to the Navy's aircraft spending, \$78.1 billion, or 65 percent of the Air Force's procurement budget over the FYDP, is devoted to aircraft. \$14.2 billion of its aircraft procurement budget, or 12 percent, is earmarked for space procurement; \$12.6 billion, or 10 percent, for other procurement; \$9.0 billion, or 7 percent, for missiles; and \$7.1 billion, or 6 percent, for ammunition.

The Army's largest procurement programs are the UH-60M Blackhawk, at \$6.1 billion over the FYDP; the AH-64 Apache, at \$6.2 billion over the FYDP; and the Joint Light Tactical vehicle, at \$3.9 billion over the FYDP. Other procurement makes up 30 percent of the Army's procurement budget over the FYDP at \$34.2 billion. Aircraft procurement is \$19.6 billion, or 22.9 percent; procurement of wheeled and tracked combat vehicles is \$14.0 billion, or 16.4 percent; missile procurement is \$8.8 billion, or 10 percent; and ammunition is \$7.8 billion, or 9 percent. In DoD-wide procurement spending the largest programs are the Aegis ballistic missile defense at \$8.7 billion and the Terminal High-Altitude Area Defense (THAAD) at \$2.1 billion.

The FY 2012 budget, submitted in February 2011, was the last budget submission developed before the enactment of the Budget Control Act of 2011 and the imposition of budgetary caps on defense and non-defense discretionary spending from FY 2013 through FY 2021. Accordingly, it can be a useful reference point in evaluating what defense spending may have looked like absent the budget caps. After adjusting for inflation, procurement spending planned in the FY 2012 FYDP (FY 2012–FY 2016) would have totaled \$670 billion. However, the enacted procurement spending over that period totaled \$564.4 billion, a difference of \$105.6 billion, or 16 percent. This \$105.6 billion difference between the FY 2012 FYDP plan and enacted spending amounts to nearly a year's worth of anticipated procurement foregone over the course of the FY 2012 FYDP. The FY 2017 budget calls for a total of \$112.1 billion in procurement in FY 2017 and \$563.9 billion over the FYDP (FY 2017–FY 2021). Overall, this is a slight decline from the procurement funding enacted between FY 2012–FY 2016 (see Figure 12).

**FIGURE 12: FY 2012 PLANNED PROCUREMENT SPENDING VS. ENACTED SPENDING**

OUSD Comptroller: FY17 Greenbook, Tables 1-9, 6-8

Concerns about shrinking force structure have led Congress to enact minimum quantities of certain types of forces in recent years' annual National Defense Authorization Act (NDAA) bills, as well as prohibitions on retiring specific platforms. In the FY 2016 National Defense Authorization Act, provisions prohibited funding for the retirement or inactivation of Ticonderoga-class cruisers or the retirement of A-10, EH-130H Compass Call, Joint Surveillance Target Attack Radar System (JSTARS), Airborne Warning and Control System (AWACS), or KC-10 aircraft.<sup>33</sup> Force structure minimums include:

- A prohibition on the Navy maintaining less than **11 operational aircraft carriers** (excepting those in routine maintenance or repair).<sup>34</sup> This requirement was temporarily lowered to ten for the period between the inactivation of the *Enterprise* (CVN-65) and the commissioning of the *Gerald R. Ford* (CVN-78), expected several months after its planned delivery in August or September 2016.<sup>35</sup>
- A minimum requirement of **10 carrier air wings**.<sup>36</sup> The FY 2017 budget request proposes deactivating one of the ten carrier air wings, Carrier Air Wing Fourteen (CVW-14), arguing that through 2025, there will typically be one carrier undergoing a

33 National Defense Authorization Act For Fiscal Year 2016, P.L. 114-92, 129 Stat. 726 (2015), Sections 142, 143, 144, 146, 147, and 1024.

34 National Defense Authorization Act For Fiscal Year 2006, P.L. 109-163, 119 Stat. 3136 (2006), Section 126. This was amended to eleven and codified under 10 U.S.C. §5062(b) (2006).

35 Ronald O'Rourke, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress*, RS20643 (Washington, DC: Congressional Research Service, April 5, 2016), pp. 1–2, available at <https://www.fas.org/sgp/crs/weapons/RS20643.pdf>.

36 National Defense Authorization Act For Fiscal Year 2012, P.L. 112-81, 125 Stat. 1298, (2011), Section 1093. This was codified under 10 U.S.C. § 5062 notes (2011), available at <https://www.law.cornell.edu/uscode/text/10/5062>.

four-year refueling and complex overhaul, as well as one carrier in deep maintenance, leading to ten carrier air wings available for nine potentially deployable carriers. According to the Navy, CVW-14 has not deployed since 2011 and has been understaffed for the past several years.<sup>37</sup> Deactivating the air wing would reduce the Navy's costs by \$946 million over the FY 2017–FY 2021 FYDP.

- A minimum requirement of **1,900 fighter aircraft** in the Air Force, of which at least 1,100 must be combat-coded.<sup>38</sup> In FY 2016, the Air Force's fighter aircraft fleet of A-10s, F-15C/Ds, F-15Es, F-16s, F-22s, and F-35As totals 1,971 aircraft, of which 1,141 are combat-coded. According to the FY 2017 aviation plan, the Air Force's count of fighter aircraft will go below 1,900 in about FY 2022 and continue declining through FY 2031. This decline is driven by Air Force plans to retire older aircraft that are costlier to maintain at a faster rate than it will procure new F-35A aircraft.<sup>39</sup>
- A minimum requirement of **275 strategic airlift aircraft**.<sup>40</sup>

The divergence between the procurement spending planned for FY 2012–FY 2016, procurement spending planned in the FY 2017–FY 2021 FYDP and beyond, and enacted procurement spending can be seen in the profiles of selected major procurement programs. In aviation, the numbers of fighter/attack, trainer, special operations, and ISR aircraft are projected to decline by roughly 14 percent over the next decade. Attack helicopters are the only aviation category projected to grow, reaching 905 helicopters in FY 2026 from 749 in FY 2017 (see Figure 13).

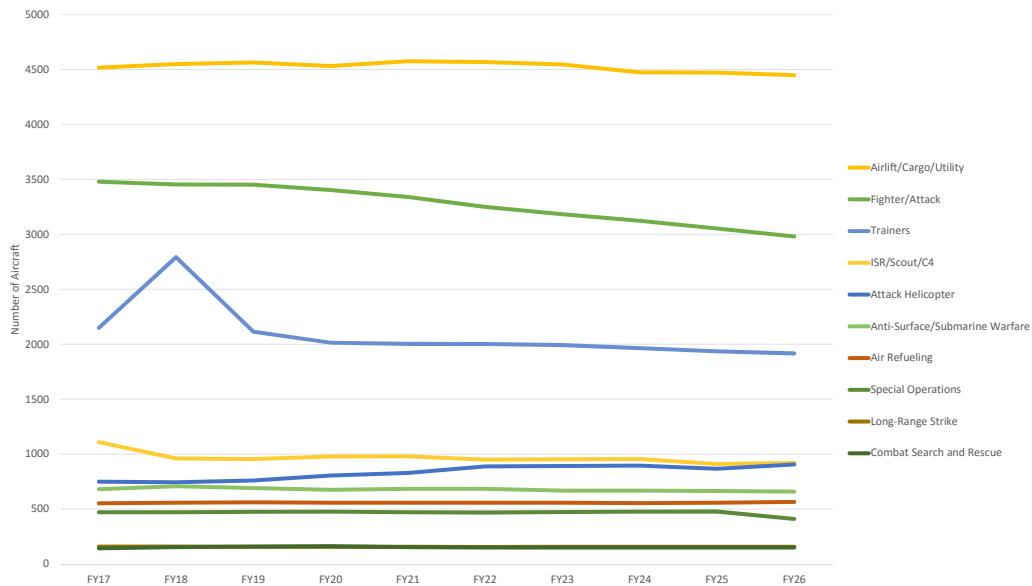
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37 Megan Eckstein, "FY 2017 Budget: Navy Asks Congressional Permission to Shutter Carrier Air Wing," *United States Naval Institute News*, February 9, 2016, available at <https://news.usni.org/2016/02/09/fy-2017-budget-navy-asks-congressional-permission-to-shutter-carrier-air-wing>.

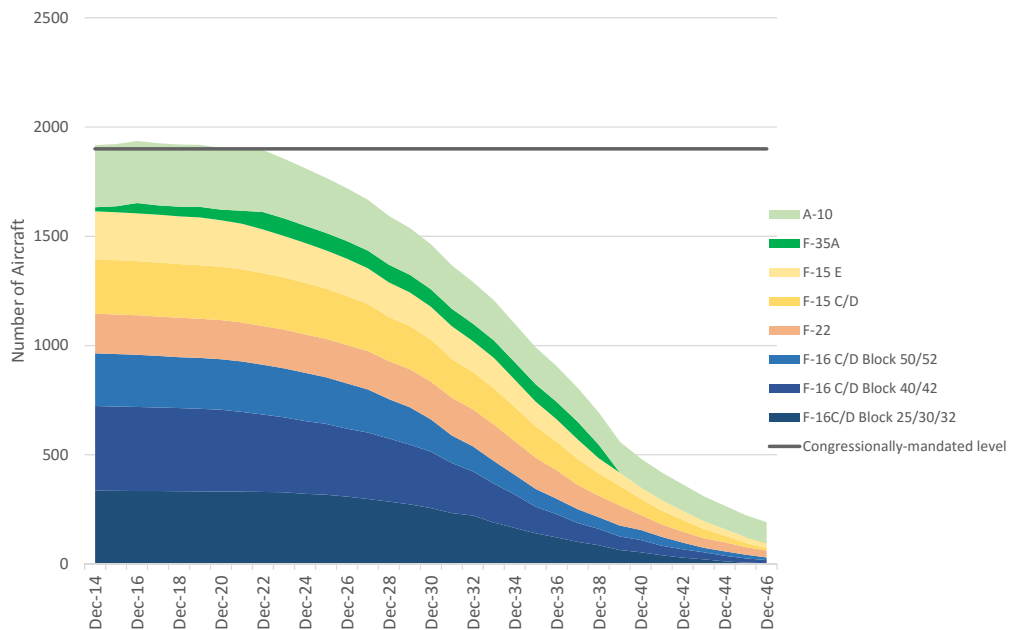
38 National Defense Authorization Act For Fiscal Year 2016, Section 151.

39 DoD, *Annual Aviation Inventory and Funding Plan: Fiscal Years (FY) 2017–2046* (Washington, DC: DoD, March 2016), pp. 6–7. Of the remaining 830 fighter aircraft, 436 are training aircraft, 122 are RDT&E aircraft, and 272 are backup or attrition reserve aircraft used to replace in-service aircraft after losses.

40 National Defense Authorization Act For Fiscal Year 2013, P.L. 112-239, 126 Stat. 1632 (2013), Section 141.

**FIGURE 13: FY 2017 AVIATION PLAN AIRCRAFT INVENTORY (FY 2017–FY 2026)**

DoD: Annual Aviation Inventory and Funding Plan FY 2017–2046

**FIGURE 14: POTENTIAL AIR FORCE FIGHTER AIRCRAFT INVENTORY UNDER ONE RETIREMENT AND PROCUREMENT SCENARIO**

DoD: Annual Aviation Inventory and Funding Plan FY 2017–2046



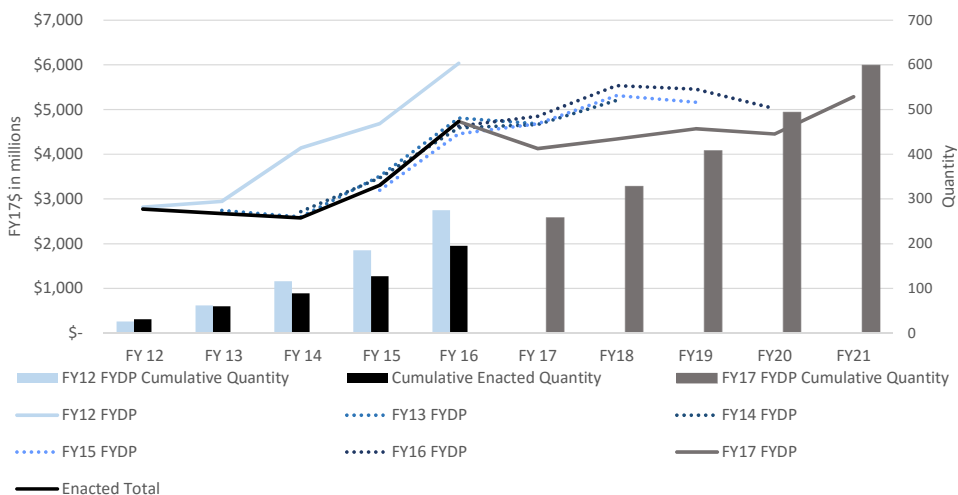
Within the combat aviation fleet, the Air Force faces a number of decisions about how and when to retire the aging F-15C/D and F-15E Strike Eagle, the F-16 fleet, and the A-10, as well as how and when to purchase new aircraft (see Figure 14 for one illustrative fighter aircraft inventory scenario). In the FY 2017 Aviation Inventory and Funding Plan DoD plans to divest the A-10 sometime between FY 2018 and FY 2022 but notes that that is “subject to change.” The Air Force still plans to purchase a total of 1,763 F-35As according to the most recent selected acquisition report, although the repeated flattening of the procurement curve in recent FYDPs brings achieving that quantity into question.<sup>41</sup> Although below the FY 2012 FYDP projected spending levels and quantities procured, DoD spending on the F-35 has closely tracked that projected in the FY 2013–FY 2016 FYDPs. The FY 2012 FYDP projected a total spending of \$22.8 billion between FY 2012–FY 2016, but enacted spending over that time period totals \$16.1 billion, a 29 percent decrease.

In FY 2017, the Air Force will purchase forty-three F-35As, while the Navy will purchase sixteen F-35Bs and four F-35Cs. Compared to last year’s FYDP (FY 2016–FY 2020), the Air Force will purchase forty-five fewer F-35As over the FY 2017 FYDP, procuring an average of forty-nine planes per year for a total of 243 between FY 2017 and FY 2021. The projected Air Force procurement spending for the F-35 between FY 2017 and FY 2021 totals \$15.5 billion in current year dollars. The Navy and the Marine Corps will purchase an additional fourteen F-35Bs and twenty-eight F-35Cs over the FY 2017 FYDP as compared to the FY 2016 FYDP. The Navy and Marine Corps’ planned purchase of ninety-seven F-35Bs and sixty-four F-35Cs over the FY 2017 FYDP, a total of 161 aircraft, will total \$22.7 billion in current year dollars, or about 28 percent of their total planned aircraft procurement spending (see Figure 15). The Navy also plans to extend the service life of the F/A 18A–D Hornet fleet to 10,000 hours per aircraft and study an extension to the service life of the F/A 18E/F Super Hornet fleet in order to compensate for delays in the F-35C program.<sup>42</sup> The expected cost of these modifications to the F-18s is \$8.24 billion across the FY 2017 FYDP.

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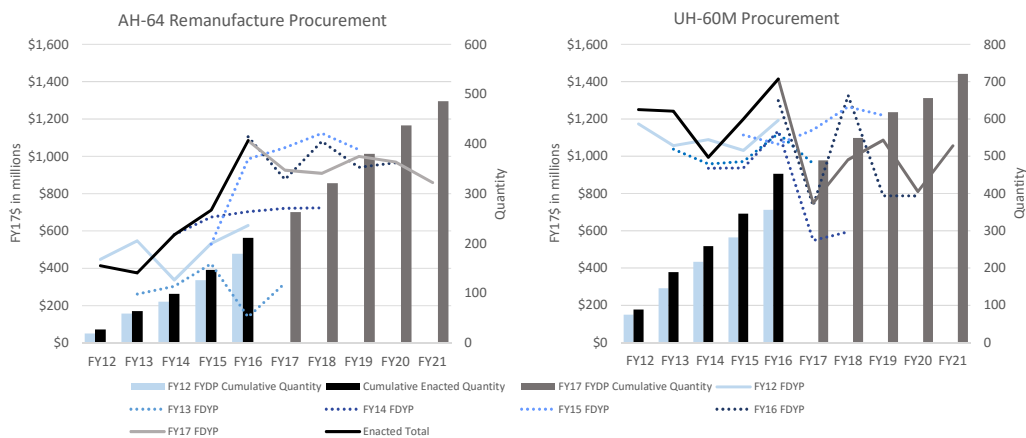
41 Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L), *December 2015 Selected Acquisition Report (SAR) as of the FY 2017 President’s Budget: F-35 Joint Strike Fighter Aircraft (F-35)* (Washington, DC: DoD, March 2016).

42 DoD, *Annual Aviation Inventory and Funding Plan: Fiscal Years (FY) 2017–2046*, pp. 6–7. The F/A 18A–D fleet is undergoing a Service Life Extension Program

**FIGURE 15: F-35 FUNDING AND PROCUREMENT (FY 2012–FY 2021)**


Data from VisualDoD

Since FY 2012, both the enacted funding and the total enacted quantity of the AH-64 Apache and the UH-60M Blackhawk have been substantially above the projected FY 2012 FYDP level. For the Apache, DoD has purchased a total of 211 aircraft between FY 2012 and FY 2016, 21 percent more than the 179 projected in the FY 2012 FYDP. For the Blackhawk, DoD has purchased an additional thirty-three aircraft for a total of 107 helicopters, 45 percent over the quantities projected in FY 2012. Similarly, both programs have received greater funding than projected in FY 2012. In constant FY17 dollars, the Apache program received a total of \$3.16 billion, or 27 percent more than projected, and the Blackhawk received \$6.1 billion, or 10 percent more (see Figure 16).

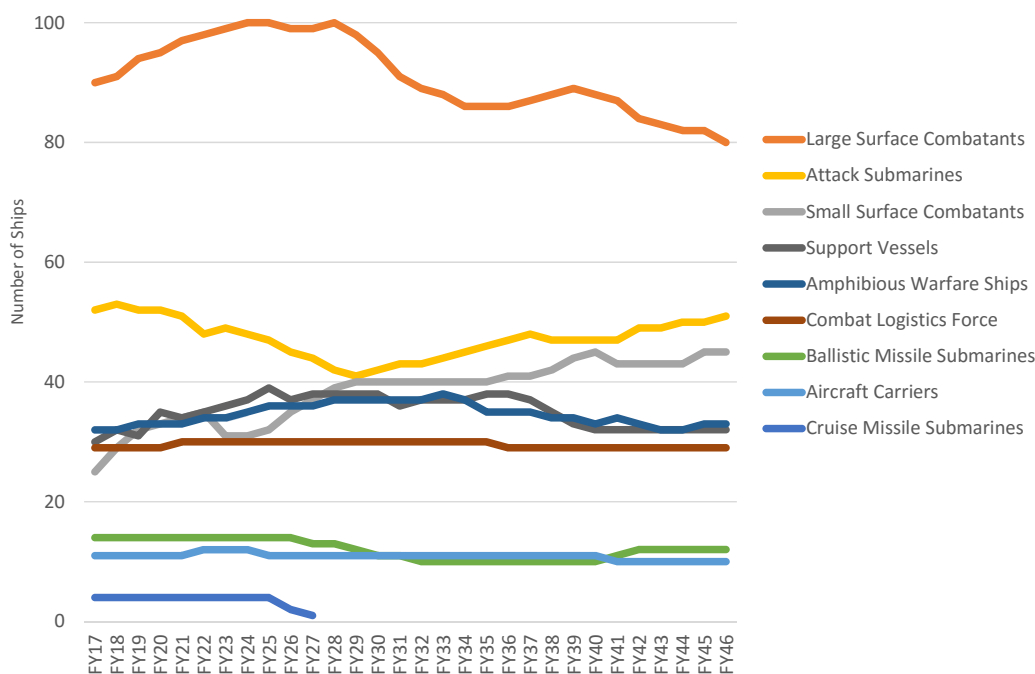
**FIGURE 16: APACHE AND BLACKHAWK HELICOPTER FUNDING AND PROCUREMENT (FY 2012–FY 2021)**


Data from VisualDoD

By contrast, enacted funding and procurement profiles for other aircraft were significantly flatter than projected in the FY 2012 FYDP. The P-8A Poseidon ISR, anti-submarine and anti-surface warfare aircraft program received a total of \$11 billion in funding over the FY 2012 FYDP, 26 percent lower than projected, while the E-2D Advanced Hawkeye command and control aircraft program received \$4.1 billion, 25 percent lower than projected.

In shipbuilding, the Navy's FY 2017 *30-Year Shipbuilding Plan* projects reaching a high of 313 battleforce ships in FY 2025 before falling to 292 ships in FY 2046, just above the 287 ships in FY 2017. This projected decline in the overall number of ships also includes a shift in the overall composition of the Navy's battleforce with a declining number of large surface combatants and a growing number of small surface combatants (see Figure 17). The *30-Year Shipbuilding Plan* calls for a large increase in funding after the FY 2017–FY 2021 FYDP, jumping from about \$17.6 billion in FY 2021 to nearly \$19 billion in FY 2022.

**FIGURE 17: FY 2017 NAVY SHIPBUILDING PLAN FLEET INVENTORY (FY 2017–FY 2046)**



CNO: 30-Year Shipbuilding Plan

The Ohio-class replacement program largely drives this rapid rise in projected shipbuilding funding. Although advance procurement funding has already begun to be appropriated in advance of the procurement of the first boat in FY 2021, the Navy projects that a substantial increase in topline shipbuilding funds will be necessary to fund the program. After a spikier funding profile between FY 2017 and FY 2025, due to the procurement of one boat in FY 2021 and one in FY 2024, one Navy estimate projects funding needs for the program will stabilize

at about \$5.5 billion annually in current year dollars between FY 2026 and FY 2035, when the Navy plans to procure one boat per year.<sup>43</sup> That figure reflects the Navy’s target acquisition cost of \$4.9 billion per boat in FY 2010 dollars, adjusted to current year dollars. In January 2015 the Navy estimated that the average cost of the non-lead boats would be \$5.2 billion in FY 2010 base-line dollars—about \$5.8 billion in FY17 dollars.<sup>44</sup> The Congressional Budget Office’s (CBO) cost estimates, which are based on historical antecedents, forecast that DoD’s acquisition costs will be 2.3 percent higher than DoD projects between FY 2016–FY 2010 and 7.3 percent higher than projected from FY 2020–FY 2030. In response to the anticipated high costs, Congress has created a National Sea-Based Deterrence Fund with the intention of funding the procurement of the nuclear ballistic submarine Ohio-class replacement out of this fund, rather than out of the Navy’s existing shipbuilding budget. However, it remains unclear how Congress intends to fund this account while the BCA caps remain in effect.

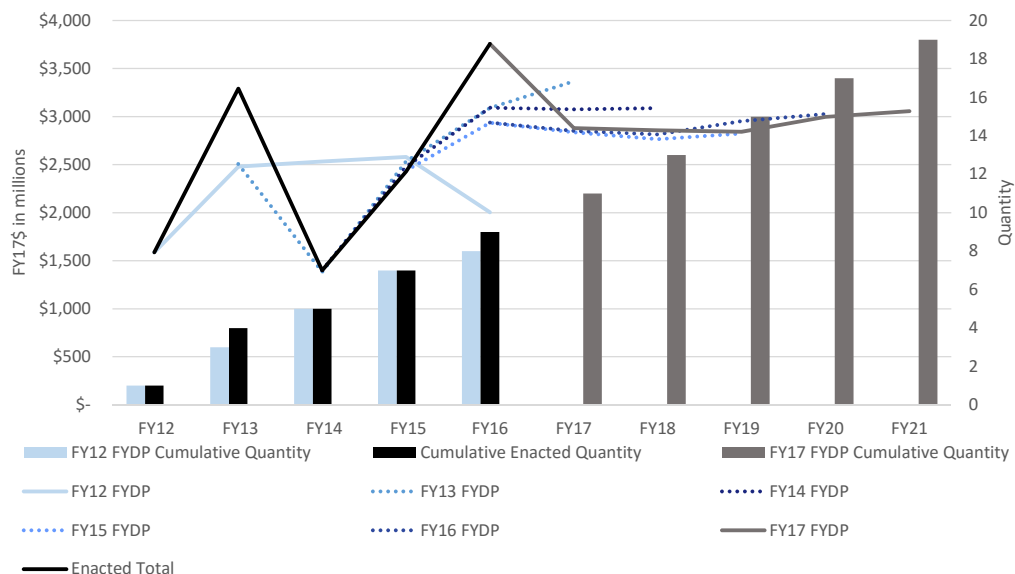
Other major Navy shipbuilding programs’ funding levels and quantities procured have tracked closely to evolving FYDP projections, illustrating the joint commitment of the Navy, the administration, and the Congress to keeping procurement of key shipbuilding programs on track. Enacted funding for the DDG-51 Arleigh Burke-class Flight III Destroyers totaled \$12.5 billion between FY 2012–FY 2016, or 11.5 percent more than the funding projected in the FY 2012 FYDP. One additional ship above the FY 2012 projected quantity was procured. The FY 2017 FYDP projection for the program essentially continues the projection of the FY 2015 and FY 2016 budgets (see Figure 18). Similarly, the Virginia-class attack submarine program enacted funding has tracked that requested in the FY 2012 FYDP nearly exactly, as have the quantities procured. The FY 2017 FYDP continues that funding profile, funding the procurement of two ships a year in years where the Navy is not procuring an Ohio-class replacement submarine, and one ship per year in years where the Navy is procuring an Ohio-class replacement submarine (see Figure 19).

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43 Office of the Chief of Naval Operations (CNO), Deputy Chief of Naval Operations (Integration of Capabilities and Resources) (N8), *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2017* (Washington, DC: CNO, July 2016). This is popularly known as the *30-year Shipbuilding Plan*.

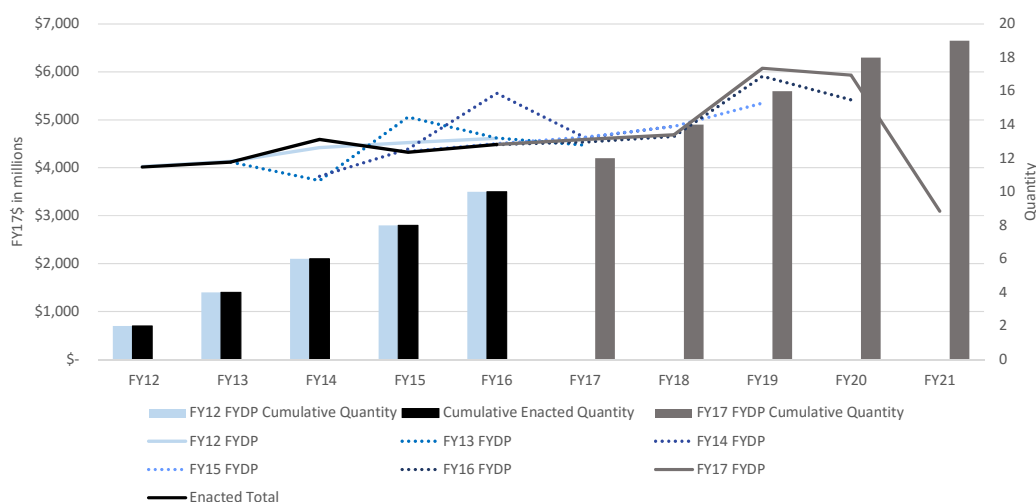
44 Ronald O’Rourke, *Navy Ohio Replacement (SSBN[X]) Ballistic Missile Submarine Program: Background and Issues for Congress*, R41129 (Washington, DC: Congressional Research Service, May 27, 2016), available at <https://www.fas.org/sgp/crs/weapons/R41129.pdf>.

**FIGURE 18: DDG-51 ARLEIGH BURKE-CLASS DESTROYER FUNDING AND PROCUREMENT (FY 2012–FY 2021)**



Data from VisualDoD

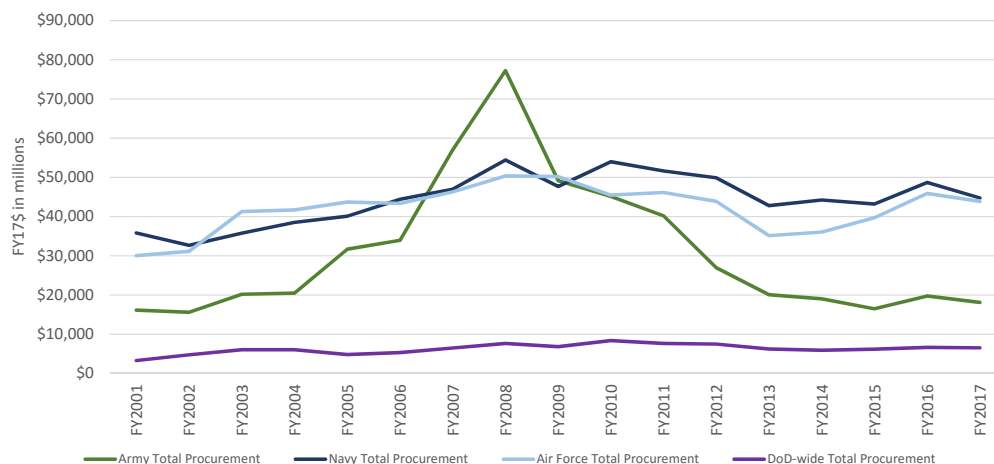
**FIGURE 19: VIRGINIA-CLASS ATTACK SUBMARINE FUNDING AND PROCUREMENT (FY 2012–FY 2021)**



Data from VisualDoD

## Recent Procurement Trends

**FIGURE 20: TOTAL PROCUREMENT BA BY SERVICE (FY 2011–FY 2017)**



OUUSD Comptroller: FY17 Greenbook, Table 2-1

Between FY 2001 and FY 2017, the Army's base spending on procurement has declined by a compound annual growth rate of -0.32 percent, the Navy's grew by 1.3 percent, the Air Force's by 1.87 percent, and DoD-wide by 2.05 percent. Including war funding, the Army's total spending on procurement grew at a compound annual growth rate of 0.72 percent, the Navy's by 1.4 percent, the Air Force's by 2.4 percent, and defense-wide by 4.4 percent annually between FY 2001 and FY 2017. Overall, as compared to procurement spending in FY 2001, the procurement funding requested for FY 2017, adjusted for inflation, is 12 percent higher for the Army, at \$18.1 billion, 25 percent higher for the Navy, at \$44.8 billion, 46 percent higher for the Air Force, at \$43.9 billion, and almost 100 percent greater for defense-wide, at \$6.5 billion (see Figure 23). In FY 2017, the Navy's procurement request was 47.7 percent of the total procurement request. The Air Force's is 26 percent, the Army's 19.8 percent, funding for defense-wide 4.6 percent, and 1.9 percent for the Marine Corps.

Considering total procurement spending (war funding and base budget), the Air Force and Navy's procurement funding for FY 2001–FY 2021 (through the end of the FY 2017 FYDP) is lower than the average procurement spending in the FY 1975–FY 1995 defense buildup and drawdown cycle in real terms. The Air Force's spending on procurement averaged \$3.5 billion lower annually, while the Navy's averaged \$3.8 billion lower annually. By contrast, the Army's procurement over this timeframe is on average \$6.6 billion higher annually, reflecting the sharp increase in procurement spending during the Iraq and Afghanistan wars (see Figure 21). The proportion of each Service's budget spent on procurement is also considerably lower in the post-Cold War period (see Figure 22). In other words, the Services' spending on procurement grew more slowly than their topline budgets.

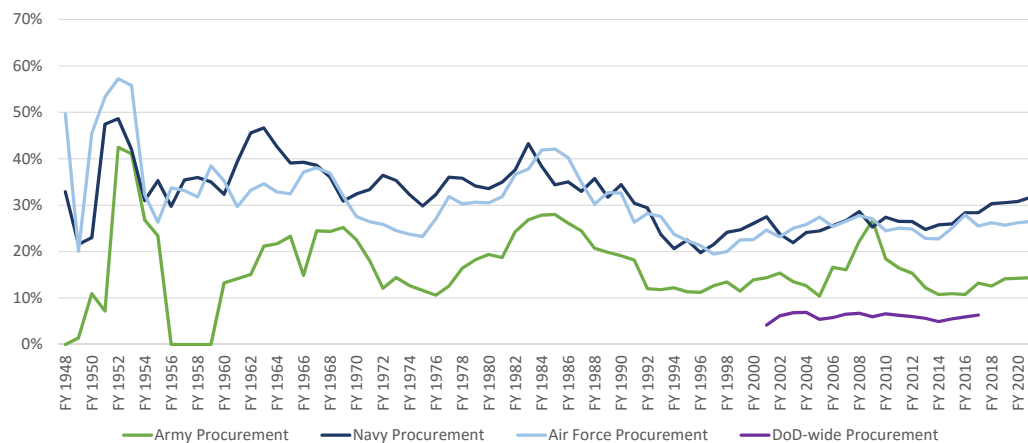
**FIGURE 21: DISCRETIONARY DEFENSE BUDGET AUTHORITY FOR PROCUREMENT BY SERVICE (FY 1948-FY 2017)**



OUSD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

Due to limitations in the data, defense-wide spending by appropriations title is only available from 2001 onwards

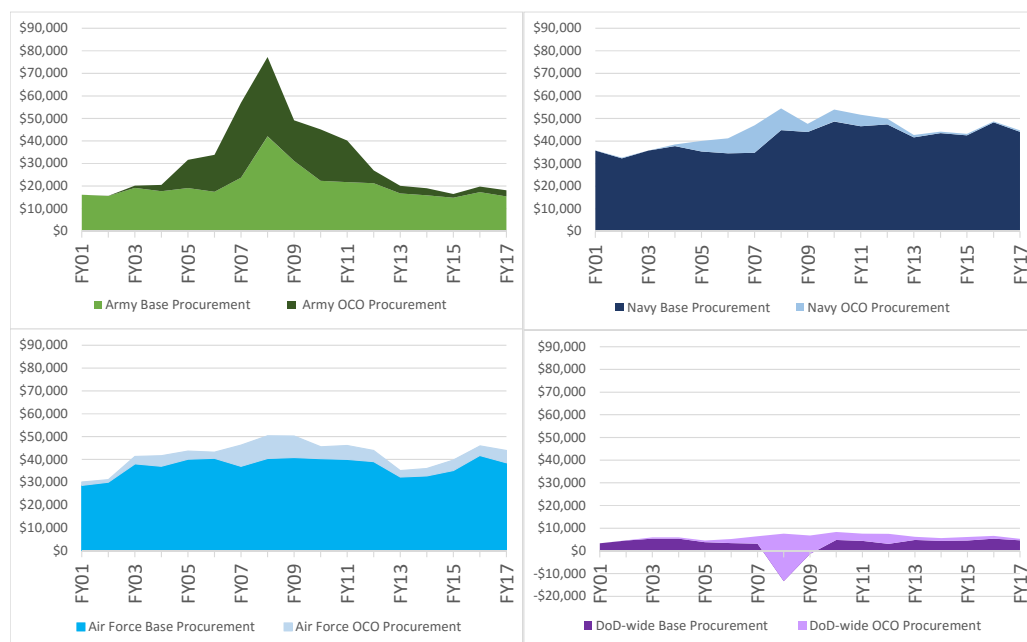
**FIGURE 22: PERCENTAGE DISCRETIONARY DEFENSE BUDGET AUTHORITY FOR PROCUREMENT BY SERVICE TOTAL (FY 1948-FY 2017)**



OUSD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

This shift in the Services' spending is reflective of the crowding out of procurement by increases in military personnel and operation & maintenance costs, which have been rising faster than procurement, as well as decisions to reduce procurement spending in order to comply with the Budget Control Act caps. Between FY 2001 and FY 2017, procurement spending rose at a compound annual growth rate of 1.26 percent, compared to 1.65 percent for military personnel spending and 2.73 percent for O&M spending.

**FIGURE 23: SERVICE PROCUREMENT SPENDING IN OCO AND BASE BUDGET (FY 2001-FY 2017)**

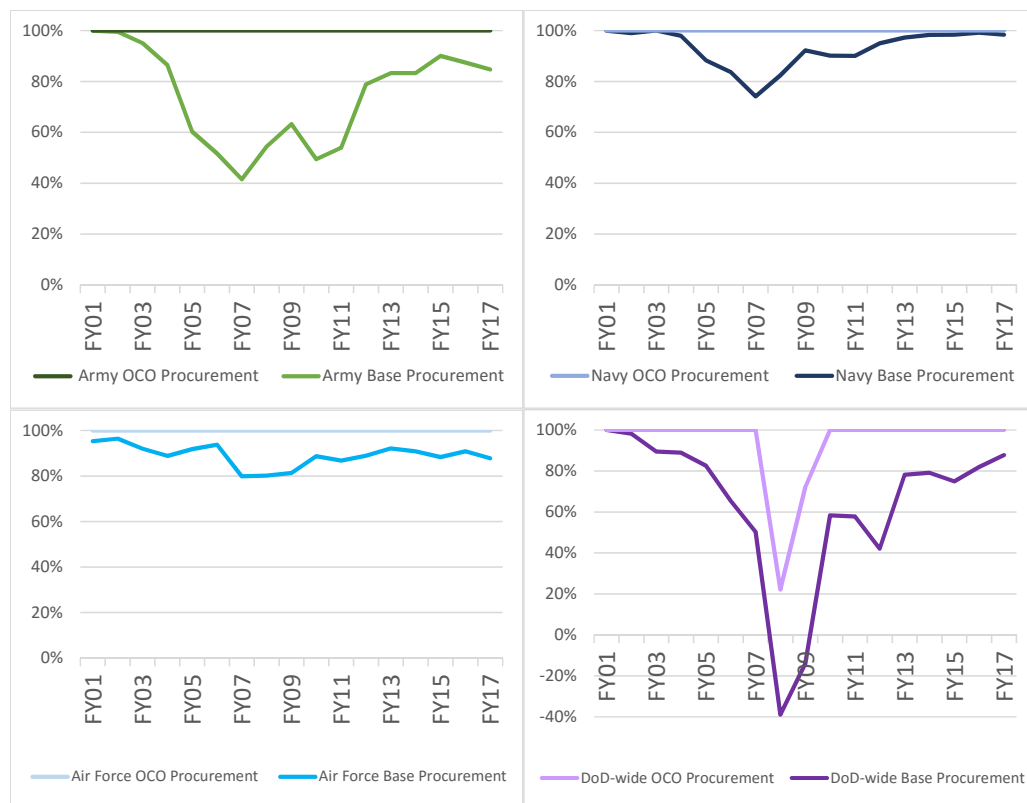


OUSD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1; FY17 dollars in millions

War funding made up a growing share of each Service's procurement spending, peaking at about 40 percent for the Army, 25 percent for the Navy, 20 percent for the Air Force, and about 40 percent of defense-wide procurement spending in FY 2007 before declining (see Figure 23 and Figure 24). In the FY 2017 budget request, OCO funding still accounts for a significant proportion of the Services' planned procurement spending: 15.3 percent for the Army and 12.2 percent for the Air Force, and 12.2 percent for defense-wide. By contrast, just 1.5 percent of the Navy's FY 2017 budget request relies on OCO funding.



**FIGURE 24: PERCENTAGE OF SERVICE PROCUREMENT SPENDING AS OCO AND BASE BUDGET (FY 2001–FY 2017)**



USD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

## RDT&E

### Overview

Overall, the FY 2017 budget asks for a total of \$71.8 billion in RDT&E funding, with all but \$400 million of that funding in the base budget. The Air Force has requested \$28.1 billion, the Army \$7.6 billion, the Navy and Marine Corps \$17.3 billion, and DoD-wide \$18.6 billion. Overall, classified RDT&E funding makes up about 25 percent of total RDT&E funding, about \$17.9 billion. Because the Air Force's budget is traditionally the pass through for classified funding, about half of the Air Force's FY 2017 RDT&E request, \$13.1 billion, is classified. Across the total defense budget, the \$71.8 billion requested for RDT&E is \$3.6 billion greater than the FY 2016 enacted defense budget in real terms—a 5.3 percent increase.

In absolute terms, base discretionary RDT&E funding has risen at a compound annual growth rate of 1.53 percent annually between FY 2001 and FY 2017. Between FY 2017–FY 2021, DoD will request about \$351.4 billion in FY17 dollars for in discretionary budget authority for RDT&E (see Table 9). In real terms, planned RDT&E funding declines over the course of the FYDP, from \$71.8 billion in FY 2017 to \$66.5 billion in FY 2021, a 7.1 percent decline. Buoyed by classified spending, the Air Force’s planned FYDP RDT&E spending increases by \$2 billion over the course of the FYDP, while the Navy’s is projected to decline sharply, from \$17.35 billion in FY 2017 to \$11.78 billion in FY 2021—a decrease of \$5.6 billion, or 32 percent. This reduction in Naval RDT&E funding may in part reflect reduced need for RDT&E resources for the Ohio-class submarine and F-35 across the FYDP, but may also indicate a potential future shortfall in Naval RDT&E funding.

Within procurement and RDT&E, key DoD initiatives are space and space-based systems, missile defense programs, cyberspace operations, and continued investments in basic science and technology research. DoD has touted investments in a Third Offset Strategy, including both next-generation technologies and reworking of existing technologies in new and innovative approaches, which is the primary role of the newly revealed Strategic Capabilities Office. However, what actually makes up the Third Offset Strategy investments remains opaque, as many of the capabilities are classified. DoD investing \$3.6 billion in FY 2017 and \$18 billion over the FYDP (in current year dollars) in capabilities related to the Third Offset Strategy. Within this broader umbrella, over the next 5 years, DoD plans to invest \$3 billion in weapons and concepts for surface strike and air-to-air combat to combat the anti-access challenge; \$500 million in improved ability to defend key capabilities or locations and camouflage and dispersal abilities for the guided munitions salvo competition, \$3 billion in new submarine and undersea capabilities, including new payloads, sensors, mines, and torpedoes. Other investments over the next 5 years are more futuristic, including \$3 billion to advance human-machine teaming, including improving collaborative decision-making and enabling swarming of systems, \$1.7 billion for cyber and electronic warfare, including systems that can sense, learn, and react autonomously, and more than \$500 million to expand wargaming, test new operational concepts, tactics, techniques and procedures, and demonstrate advanced capabilities, with a particular focus on ground combat.<sup>45</sup>

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45 Assistant Secretary of Defense for Research and Engineering Stephen Welby, “Third Offset Technology Strategy,” Statement before the of the Senate Armed Services Committee, Emerging Threats and Capabilities Subcommittee, April 12, 2016, available at [http://www.defenseinnovationmarketplace.mil/resources/Welby\\_041216\\_SASC\\_ETC.pdf](http://www.defenseinnovationmarketplace.mil/resources/Welby_041216_SASC_ETC.pdf).

**TABLE 9: PROJECTED RDT&E DISCRETIONARY BUDGET AUTHORITY BY SERVICE  
(FY 2017–FY 2021)**

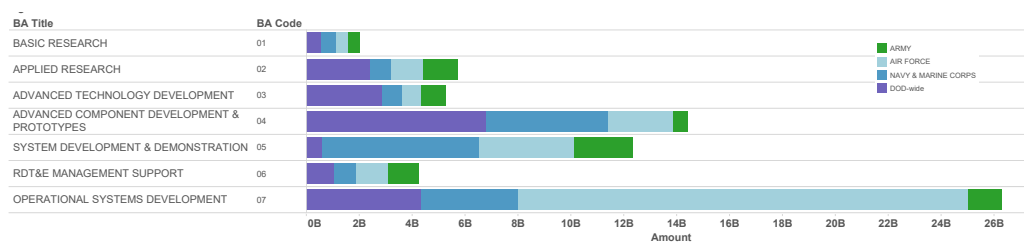
<i>FY17\$ in billions</i>	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
Army	\$7.62	\$7.73	\$7.13	\$6.788	\$6.72	<b>\$35.99</b>
Navy	\$17.35	\$15.91	\$14.31	\$12.72	\$11.78	<b>\$72.07</b>
Air Force	\$28.15	\$30.60	\$30.97	\$29.75	\$30.33	<b>\$149.80</b>
Defense-wide	\$18.65	\$19.50	\$19.76	\$17.93	\$17.69	<b>\$93.53</b>
<b>Total</b>	<b>\$71.77</b>	<b>\$73.74</b>	<b>\$72.18</b>	<b>\$67.19</b>	<b>\$66.52</b>	<b>\$351.39</b>

OMB: FY17 Budget, OMB Budget Database

### Categories and Major Programs

RDT&E funding falls into seven budget activities:

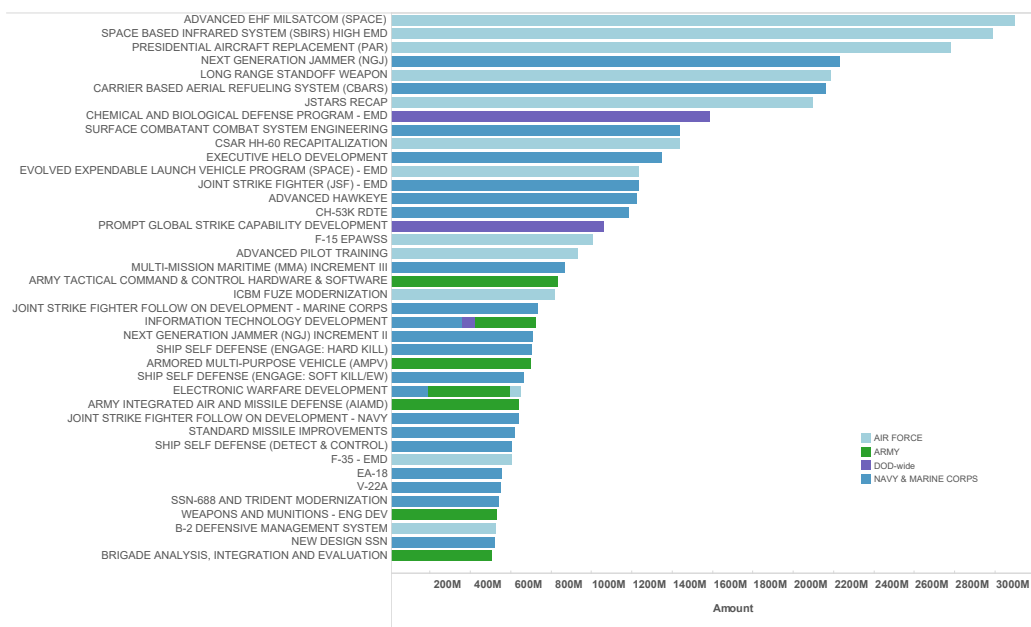
- **Basic research**, which precedes any system-specific research;
- **Applied research**, which aims to translate promising basic research into broad military needs, which can include materiel solution analysis prior to a Milestone A decision
- **Advanced technology development**, for efforts to develop and integrate hardware for field experiments and tests in order to demonstrate technological feasibility and assess operability and producibility, often applied to systems in the technology maturation and risk reduction phase of the acquisition process, between Milestones A and B;
- **Advanced component development and prototypes**, to evaluate integrated technologies in a realistic operating environment and assess the maturity, performance or cost reduction potential of advanced technologies, also often applied to systems between Milestone A and B;
- **System development and demonstration**, typically for engineering and manufacturing development for weapons systems programs between Milestone B and C, before low-rate initial production
- **RDT&E management support**, which funds RDT&E facilities, test ranges, and the operating costs of test systems; and
- **Operational systems development**, for upgrading systems that have been fielded or that have been approved for full-rate production.

**FIGURE 25: REQUESTED RDT&E FUNDING BY BUDGET ACTIVITY (FY 2017)**

Data from VisualDoD; analysis in Tableau

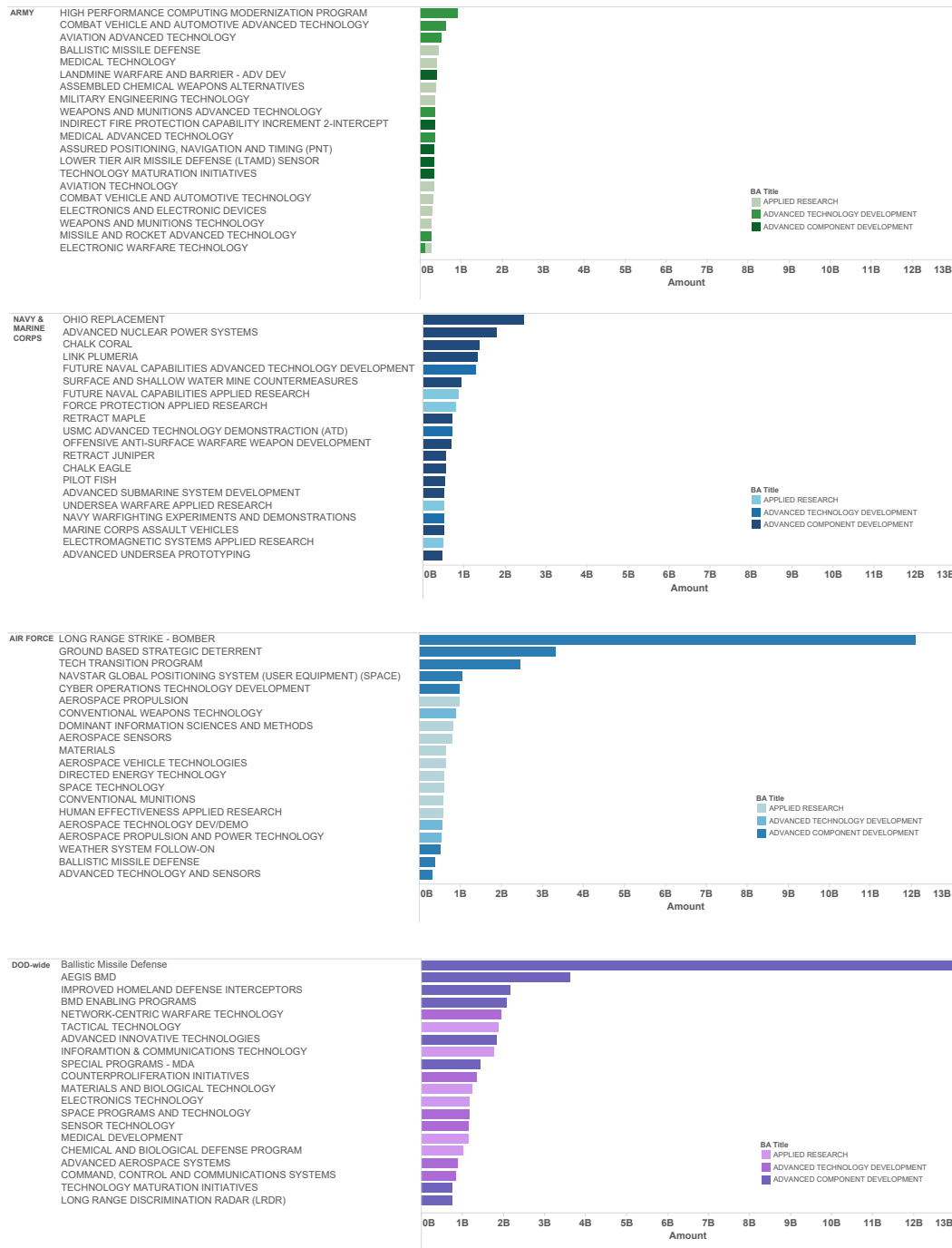
Across DoD, funding for operational systems development RDT&E makes up the largest share of RDT&E funding, at \$26.3 billion, 37 percent of total RDT&E funding. Most of this funding, \$17.8 billion, or 68 percent, is classified, the only classified RDT&E funding. Advanced components and prototypes makes up 20.5 percent of total RDT&E funding, while system development and demonstration accounts for 17 percent (see Figure 25).

Evaluating the Services' RDT&E funding for system development and demonstration illustrates what programs and systems are moving down the acquisition pipeline and should be available within ten years, and what technologies are matured (see Figure 26).

**FIGURE 26: PROJECTED RDT&E FUNDING FOR SYSTEM DEVELOPMENT AND DEMONSTRATION (BA 5) (FY 2017–FY 2021)**

Data from VisualDoD; analysis in Tableau; current year dollars in millions

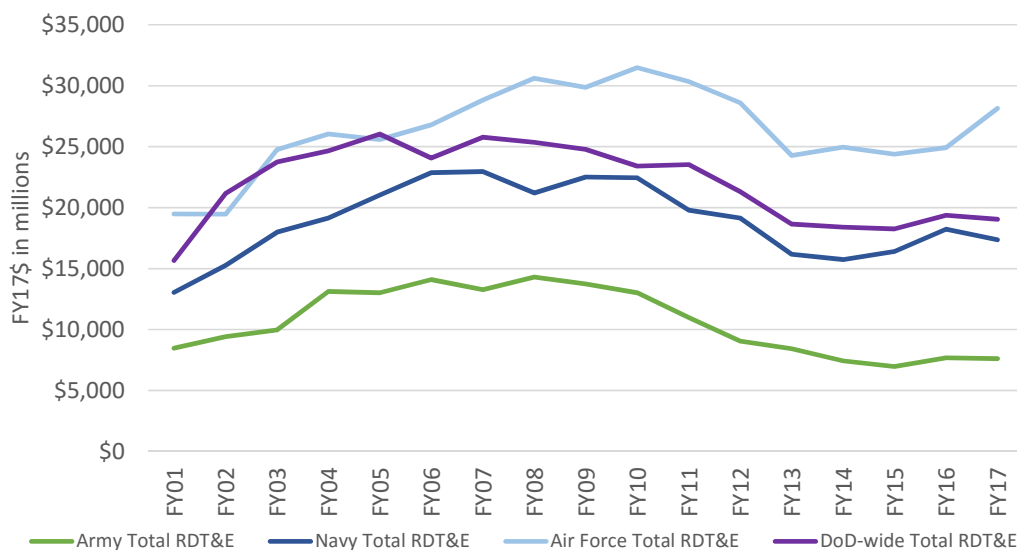
Funding levels of the applied research, advanced technology development, advanced component and prototypes budget activities (budget activities 2–4, respectively), can illustrate what types of technologies and capabilities the Services are investing in for the mid-term and far futures (see Figure 27). The Army’s investments focus on high-performance computing, automotive and aviation technology, and medical technologies. For example, RDT&E investments in the Army’s combat vehicle and automotive advanced technology program element include research on survivability, such as active protection and blast mitigation, and unmanned ground vehicles. Many of the Navy’s top investments are in programs that are classified. One of the Navy’s largest research lines is for future naval capabilities advanced technology development. Illustrative projects include RDT&E efforts in human–systems integration for semi-automated and unmanned aerial systems; tactical decision-making and improved simulators; improvements to corrosion control, thermal management, and hull treatments for Navy vessels; counter-IED electronic warfare and improved tactical imagery; improved battlespace information and battle management; and research into long-endurance undersea vehicle propulsion. The Air Forces’ largest RDT&E investments in BAs 2, 3, and 4 are for existing programs that are in the early stages of the acquisition process, including the B-21 and the Ground-Based Strategic Deterrent (GBSD), the planned replacement for the aging Minuteman III ICBM force. Other areas for investment focus on aerospace propulsion and power technology, including improvements to jet engines, space technologies, and sensors.

**FIGURE 27: PROJECTED RDT&E FUNDING BY SERVICE (BA2, 3, AND 4) (FY 2017–FY 2021)**

Data from VisualDoD; analysis in Tableau; current year dollars in millions

## Recent RDT&E Trends

**FIGURE 28: TOTAL RDT&E BUDGET AUTHORITY BY SERVICE (FY 2001–FY 2017)**



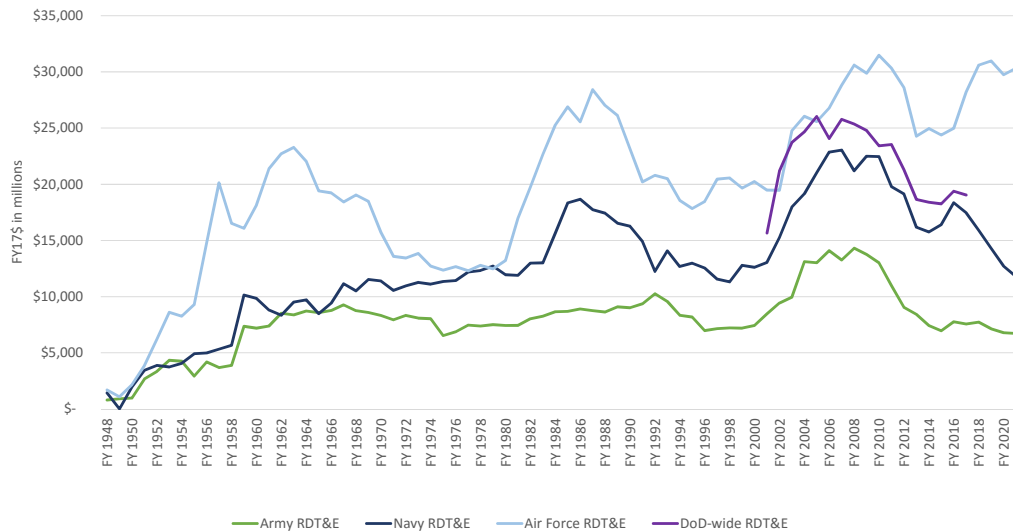
OUSD Comptroller: FY17 Greenbook, Table 2-1

Between FY 2001 and FY 2017, the Army's total spending on RDT&E has declined by a compound annual rate of -0.67 percent, while the Navy's grew by 1.8 percent; the Air Force's, by 2.33 percent; and DoD-wide spending, by 1.23 percent. As compared to RDT&E spending in FY 2001, the total RDT&E funding requested for FY 2017, adjusted for inflation, is 10 percent lower for the Army at \$7.6 billion, 33 percent higher for the Navy at \$17.6 billion, 45 percent higher for the Air Force at \$28.1 billion, and 22 percent greater for the defense-wide request at \$19.0 billion (see Figure 28). In FY 2017, excluding classified RDT&E funding, the Air Force makes up the largest share of DoD's overall RDT&E request at 38 percent, while the Navy and Marine Corps constitutes 24 percent; defense-wide accounts, 27 percent; and the Army, 7 percent.

The Services' total RDT&E funding averaged substantially higher in the FY 2001–FY 2021 period (as projected) than in the previous FY 1975–FY 1995 buildup and drawdown in real terms. This is particularly true for the Air Force, with an average annual funding level of \$27.2 billion in the current budget cycle as compared to an annual average funding level of \$19.8 billion over the previous budget cycle. The Air Force's RDT&E funding levels are likely supported by a growth in classified RDT&E. However, the FY 2017 FYDP projects sharp declines in RDT&E funding for the Army and the Navy over the next five years (see Figure 29). In FY 2021, the Army's RDT&E funding is projected to be \$6.7 billion in FY17 dollars, just over their most recent low point of RDT&E funding in FY 1996. Similarly, the Navy's RDT&E funding in FY 2021 is projected to decline sharply to \$11.8 billion, or just half of the recent high point of \$23 billion in FY 2007, and just slightly above the recent low of \$11.3 billion in FY 1998.

Despite these fluctuations in overall funding amounts, the proportion of the Services' budget spent on RDT&E has remained essentially flat between FY 2001 and FY 2017 (see Figure 30).

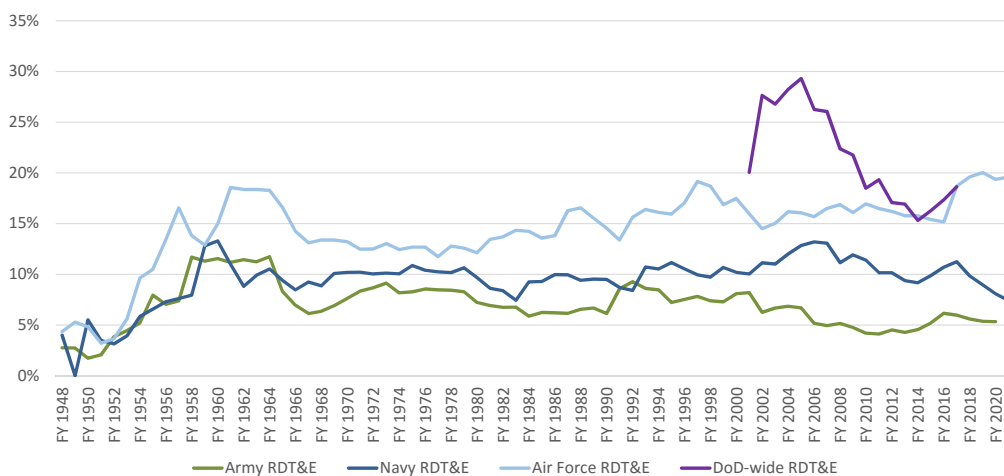
**FIGURE 29: DISCRETIONARY DEFENSE BUDGET AUTHORITY FOR RDT&E BY SERVICE (FY 1948–FY 2017)**



USD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

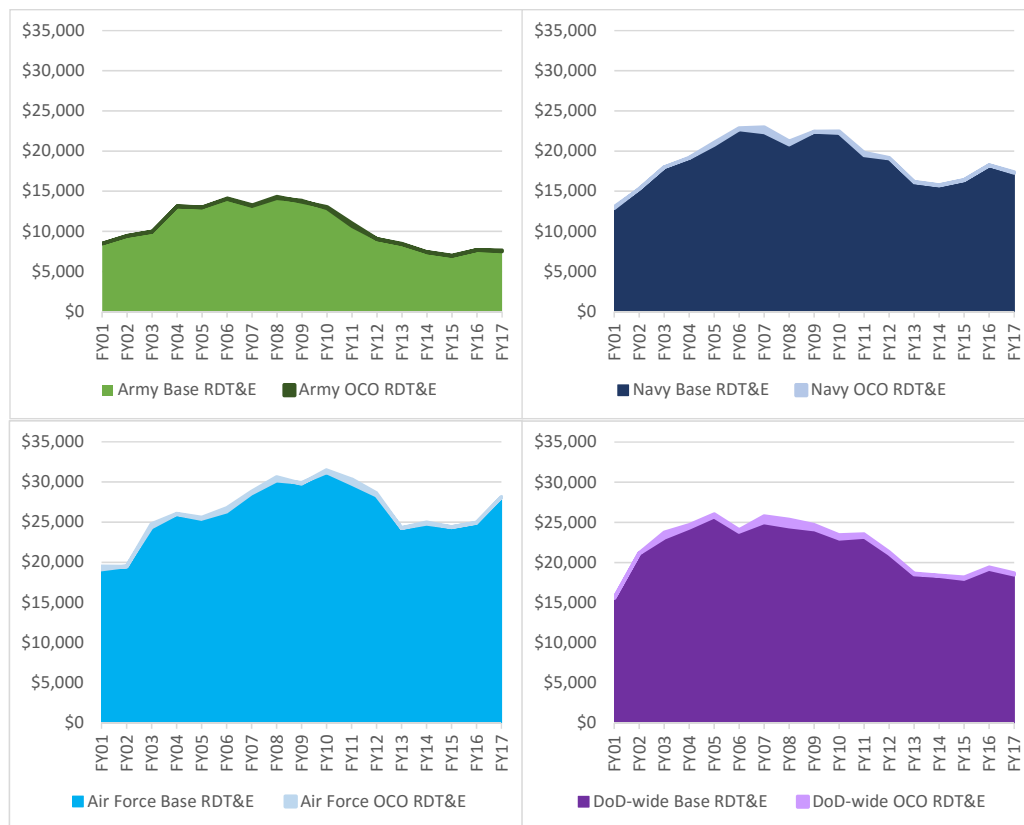
Due to limitations in the data, defense-wide spending by appropriations title is only available from 2001 onwards

**FIGURE 30: PERCENTAGE DISCRETIONARY DEFENSE BUDGET AUTHORITY FOR RDT&E BY SERVICE (FY 1948–FY 2017)**



USD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1



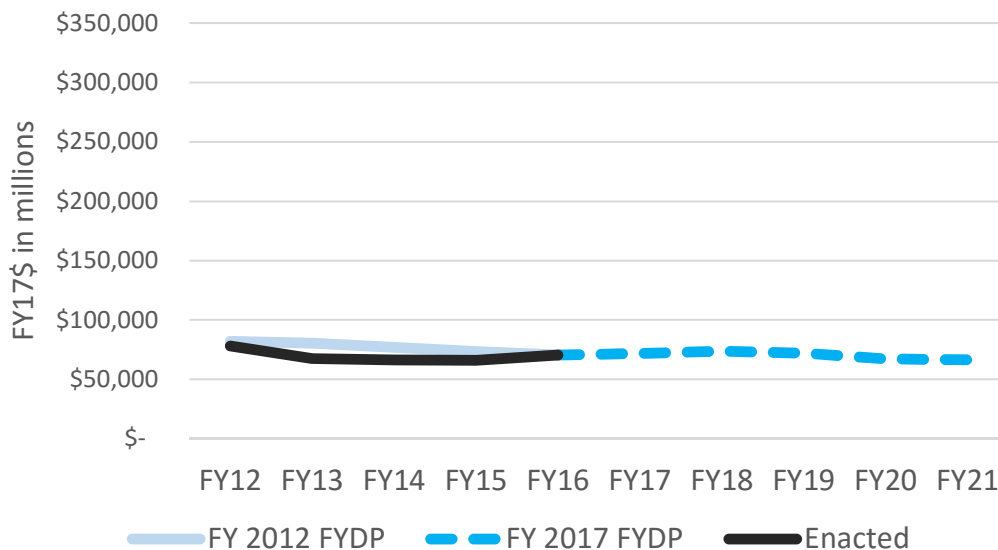
**FIGURE 31: SERVICE RDT&E FUNDING IN OCO AND BASE BUDGET (FY 2001–FY 2017)**

USD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1; FY17 dollars in millions

Very little RDT&E funding has been in OCO. Per direction from OMB, the use of OCO funding for RDT&E needs is limited to instances where there is a specific need in-theatre, and it will take twelve months or less from the research to application on the battlefield.<sup>46</sup>

Compared to other areas in the budget, RDT&E was largely protected from the impacts of the FY 2013 sequester and the limitations on defense spending imposed by the BCA caps. After adjusting for inflation, RDT&E spending across the FY 2012 FYDP (FY 2012–FY 2016) would have totaled \$383.8 billion. However, the enacted procurement spending totaled \$348.7 billion, a difference of \$35 billion, or 9 percent. The FY 2017 FYDP calls for a total of \$351.4 billion on RDT&E, a slight increase over the funding enacted for FY 2012–FY 2016 (see Figure 32).

46 OMB, “Criteria for War/Overseas Contingency Operations Funding Requests.”

**FIGURE 32: FY 2012 PLANNED RDT&E FUNDING VS. ENACTED FUNDING**


OUUSD Comptroller: FY17 Greenbook, Tables 1-9, 6-8

## Operation and Maintenance

### Overview

In the FY 2017 budget, \$205.9 billion is requested in the base budget for operation and maintenance, with an additional \$45 billion requested in the OCO account. The Air Force has requested \$57.2 billion; the Army, \$63.3 billion; the Navy, \$47.6 billion; and the Marine Corps, \$7.5 billion. The defense-wide O&M request is \$75.3 billion. The Defense Health Program accounts for 13 percent of the total O&M request for FY 2017 at \$32.5 billion, while classified programs make up about 6.8 percent, or \$16.9 billion. Across the total defense budget, the \$250.9 billion requested for O&M is \$2.1 billion greater than the FY 2016 enacted defense budget in real terms—a 0.9 percent increase.

In absolute terms, base discretionary O&M funding has risen at a compound annual growth rate of 2.73 percent between FY 2001 and FY 2017, faster than any other appropriation category. Between FY 2007–FY 2021, DoD will request about \$563.4 billion in discretionary budget authority for procurement (in FY17 dollars; see Table 10). Consistently high operational tempos and the growing cost of O&M in both absolute and relative terms have strained the Services.

**TABLE 10: PROJECTED O&M DISCRETIONARY BUDGET AUTHORITY BY SERVICE  
(FY 2017–FY 2021)**

<i>FY17\$ in billions</i>	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
Army	\$63.15	\$47.08	\$46.59	\$45.93	\$45.55	<b>\$248.30</b>
Navy	\$54.74	\$48.91	\$48.69	\$48.85	\$48.93	<b>\$250.11</b>
Air Force	\$56.87	\$47.43	\$47.19	\$47.19	\$46.96	<b>\$205.94</b>
Defense-wide	\$76.14	\$71.45	\$73.80	\$74.47	\$74.46	<b>\$370.10</b>
<b>Total</b>	<b>\$250.90</b>	<b>\$214.89</b>	<b>\$216.27</b>	<b>\$216.27</b>	<b>\$215.89</b>	<b>\$1,114.15</b>

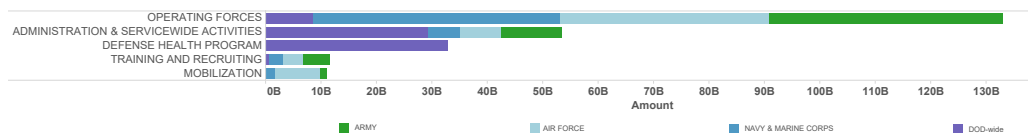
OMB: FY17 Budget, OMB Budget Database

## Major Areas

For the Services, O&M falls into four activities:

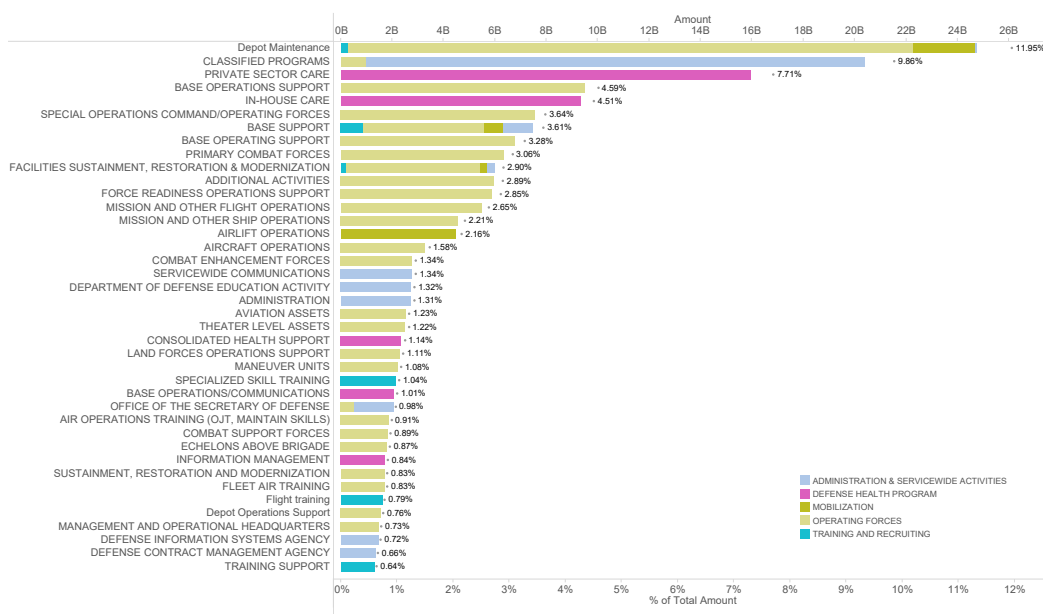
- **Operating forces**, which provides funding for day-to-day ground, air, and ship operations, combat installations, combat support elements, and efforts to train and support the readiness of combat elements;
- **Mobilization**, which maintains a capability to deploy forces, including forward presence, airlift, sealift, prepositioning, and mobility efforts;
- **Training and recruiting**; and
- **Administration and servicewide activities**, which funds administration, logistics, communications, security, and other support functions.

Across DoD, funding for operating forces makes up the greatest share of overall O&M funding requested for FY 2017 at \$132.9 billion, or 53 percent of the total (see Figure 33). Funding within operating forces is widely spread across different accounts, but the largest are depot maintenance at \$21.9 billion (18 percent), base operations support at \$9.5 billion (7.9 percent), and special operations command and operating forces at \$7.5 billion (6.3 percent). Mobilization accounts for \$11 billion, or 4.4 percent, principally for Air Force airlift operations (\$4.5 billion) and depot maintenance (\$2.4 billion). Training accounts for \$11.5 billion (4.6 percent). Specialized skill training accounts for \$2.2 billion, or 28 percent, while flight training accounts for 21.6 percent at \$1.6 billion, training support for 17 percent at \$1.3 billion, and recruiting and advertising for 13.8 percent at \$1 billion. Overall, administration and servicewide activities account for \$53.5 billion, or 21.4 percent of DoD's total O&M request for FY 2017.

**FIGURE 33: REQUESTED O&M FUNDING BY BUDGET ACTIVITY AND SERVICE (FY 2017)**


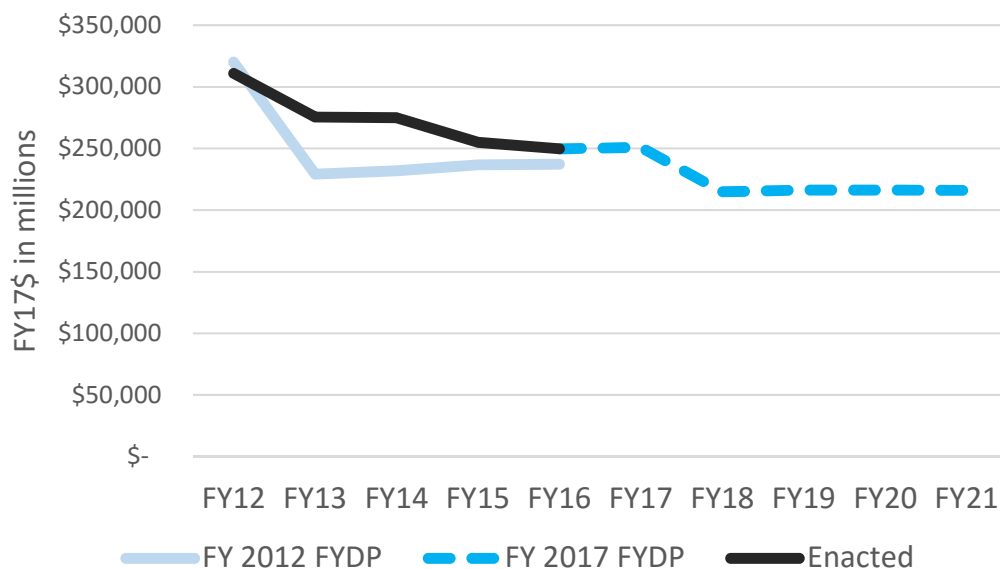
Data from VisualDoD; analysis in Tableau

Across DoD, within the different O&M activities for FY 2017, depot maintenance was the activity with the largest budget share at \$24.7 billion, followed by classified programs at \$20.4 billion, private sector care at \$15.9 billion, base operations support at \$9.5 billion, and in-house care at \$9.3 billion (see Figure 34).

**FIGURE 34: REQUESTED O&M FUNDING BY APPROPRIATION TITLE FOR (FY 2017)**


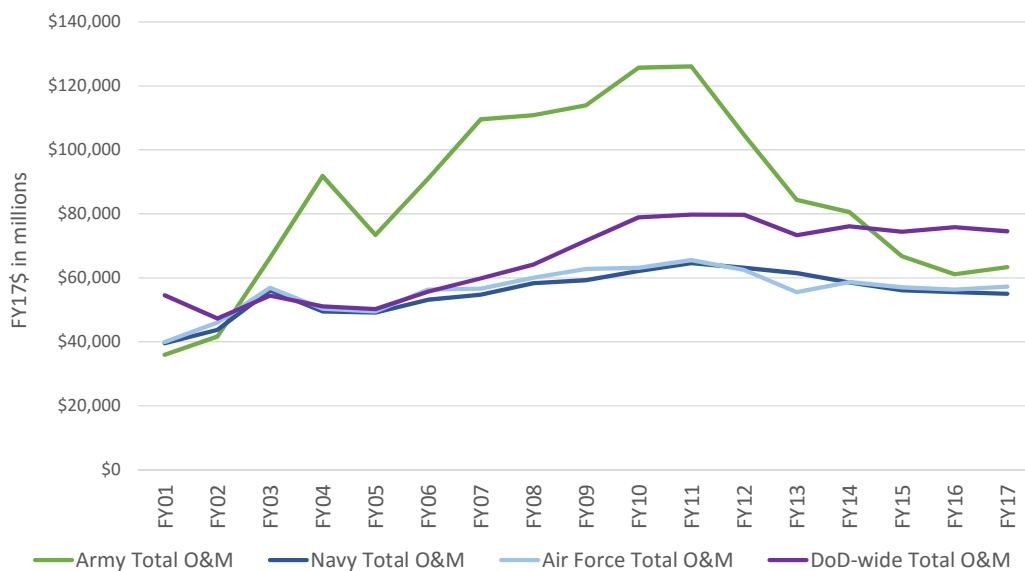
Data from VisualDoD; analysis in Tableau

After adjusting for inflation, funding for O&M across the FY 2012 FYDP (FY 2012–FY 2016), including both base and OCO funding, was projected to total \$1,255.2 billion. The enacted funding was 9 percent higher across the FYDP, totaling \$1,366.1 billion and a difference of \$100.9 billion. The FY 2017 budget calls for a lower rate of O&M spending across the FYDP at a total of \$1,114.1 billion, driven in part by reductions in force structure and end strength (see Figure 35).

**FIGURE 35: FY 2012 PLANNED O&M FUNDING VS. ENACTED FUNDING**

OUSD Comptroller: FY17 Greenbook, Tables 1-9, 6-8

### Recent O&M Trends

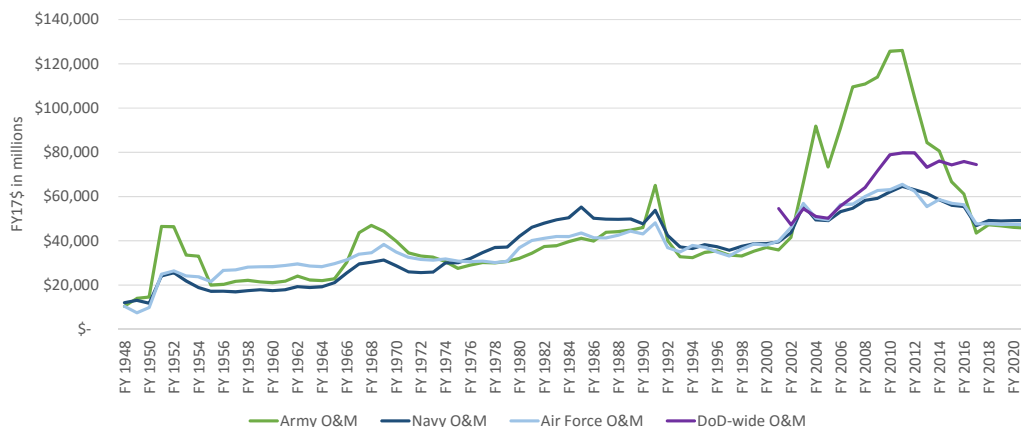
**FIGURE 36: TOTAL O&M BUDGET AUTHORITY BY SERVICE (FY 2001–FY 2017)**

OUSD Comptroller: FY17 Greenbook, Table 2-1

Between FY 2001 and FY 2017, the Army's base spending on O&M has grown by a compound annual rate of 1.47 percent; the Navy's, by 1.37 percent; the Air Force's, by 1.32 percent; and DoD-wide spending, by 7.07 percent. Including war funding, between FY 2001 and FY 2017 the Army's total spending on O&M grew at a compound annual growth rate of 3.61 percent; the Navy's, by 2.09 percent; the Air Force's, by 2.27 percent; and defense-wide, by 1.97 percent. Overall, as compared to O&M spending in FY 2001, the total O&M funding requested for FY 2017 adjusted for inflation is 76 percent higher for the Army at \$63.3 billion, 39 percent higher for the Navy at \$55.0 billion, 43 percent higher for the Air Force at \$57.2 billion, and 37 percent greater defense-wide at \$74.5 billion (see Figure 36). In FY 2017, the defense-wide share is the largest of DoD's overall O&M request at 30 percent. The Army's share is 25 percent of the total O&M request; the Air Force's, 23 percent; the Navy's, 19 percent; and Marine Corps', 3 percent.

The Services' total O&M funding (war funding and base budget), is substantially higher in the FY 2001–FY 2021 period (as projected) than in the previous FY 1975–FY 1995 buildup and drawdown in real terms. The Air Force's O&M funding averaged \$53.7 billion annually in the current budget cycle— a difference of \$10 billion annually compared to \$43.7 billion in the prior budget cycle. Similarly, the Air Force's O&M funding profile is an average of \$15.6 billion greater annually—41 percent more than it was in the FY 1975–FY 1995 budget cycle. The Army's O&M funding is also dramatically larger, averaging \$76.8 billion annually between FY 2001–FY 2021, or nearly double the average O&M funding in FY 1975–FY 1995. Defense-wide spending was not broken out as a separate appropriation type until FY 2001, but averages \$66 billion in the current budget cycle, as projected (see Figure 37). In addition to substantially greater real funding, the proportion of each Service's budget spent on O&M is also rising (see Figure 38). For each Service, the growth in O&M spending has outpaced the growth in their topline budgets between FY 2001–FY 2017.

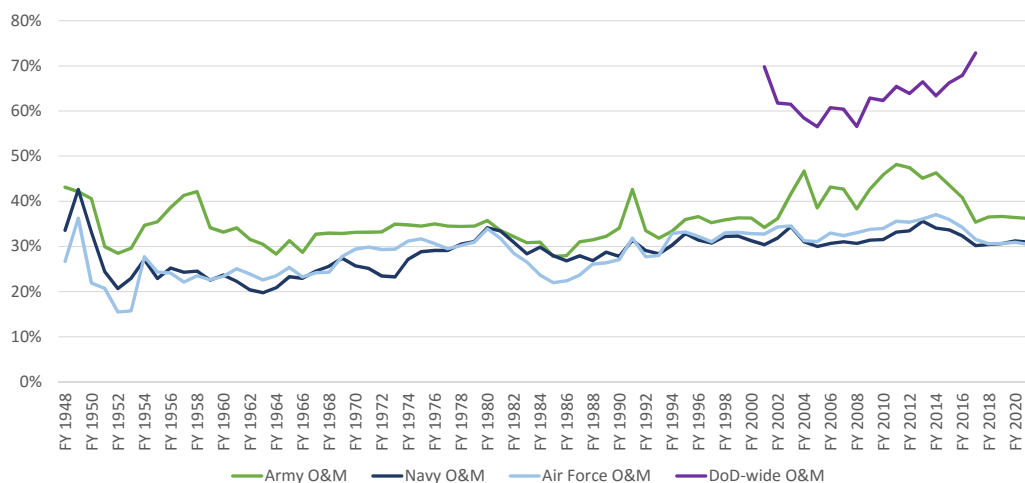
**FIGURE 37: DISCRETIONARY DEFENSE BUDGET AUTHORITY FOR O&M BY SERVICE (FY 1948–FY 2017)**



OUSD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

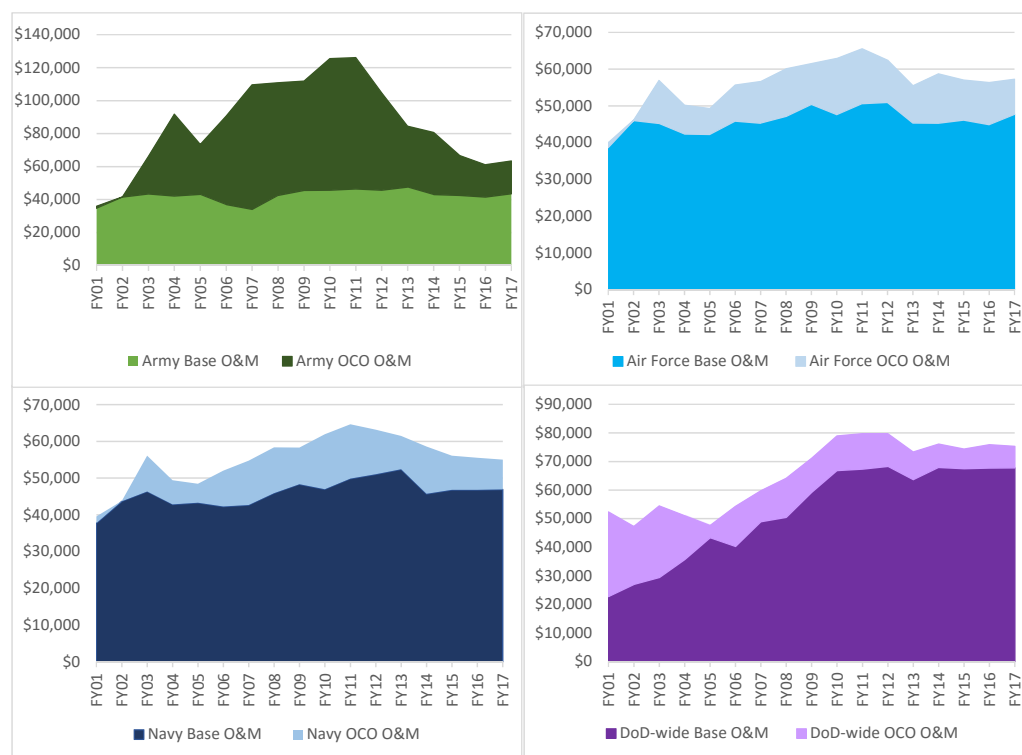
Due to limitations in the data, defense-wide spending by appropriations title is only available from 2001 onwards

**FIGURE 38: PERCENTAGE DISCRETIONARY DEFENSE BUDGET AUTHORITY FOR O&M BY SERVICE (FY 1948-FY 2017)**



USD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

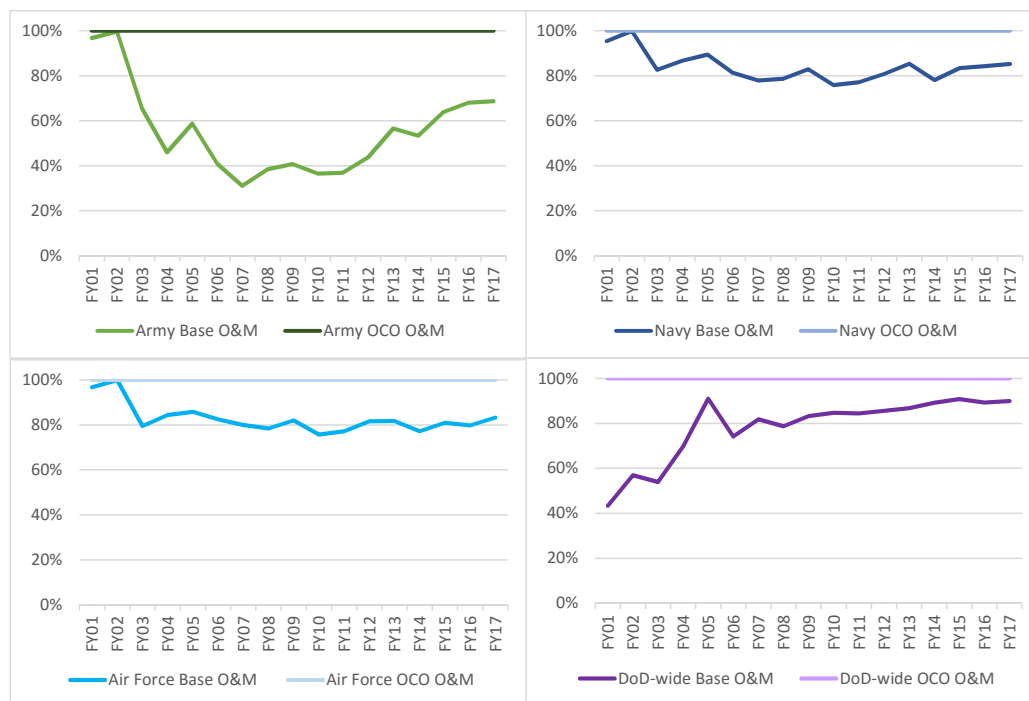
**FIGURE 39: SERVICE O&M FUNDING IN OCO AND BASE BUDGET (FY 2001-FY 2017)**



USD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1; FY17 dollars in millions

The Services have different profiles of reliance on OCO for O&M funding. For the Army, reliance on OCO funding for O&M needs rose dramatically, peaking in FY 2011, consistent with the wars in Iraq and Afghanistan (see Figure 39). Despite a sharp drawdown in Army OCO O&M funding (from \$79.7 billion in FY 2011 to \$19.8 billion in FY 2017), the Army still relies on OCO funding for about 30 percent of its total O&M funding (see Figure 40). For both the Navy and the Air Force, OCO O&M rose more gradually, in tandem with base budget O&M funding. Despite a modest drawdown in both base and OCO O&M funding, both Services still rely on OCO O&M funding for about 17 percent and 20 percent of their overall FY 2017 O&M budget request, respectively. By contrast, while defense-wide O&M received more OCO funding than base budget funding in FY 2001, defense-wide OCO O&M funding needs were rapidly transferred into the defense-wide O&M base budget. In FY 2017, OCO funding accounts for 11 percent of total defense-wide O&M funding requested.

**FIGURE 40: PERCENTAGE OF SERVICE O&M FUNDING AS OCO AND BASE BUDGET (FY 2001-FY 2017)**



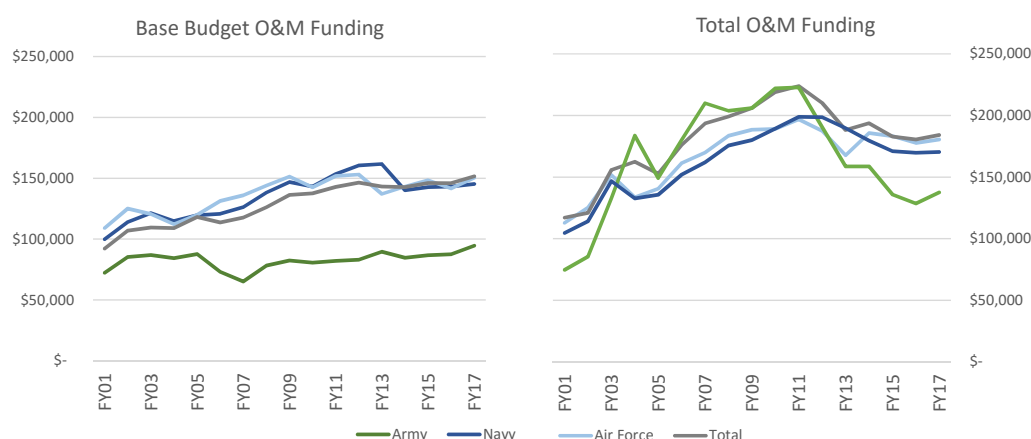
OUSD Comptroller FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

The relative growth of O&M funding compared to other categories of funding is more clearly seen when controlling for the number of personnel (or force structure) that the O&M supports. Between FY 2001 and FY 2007, total base budget O&M funding rose from \$117.1 billion to \$205.9 billion—a compound annual growth rate of 2.73 percent. Over the same time period, the size of the total active-duty force (including full-time Guard and Reserve personnel) went



from 1.45 million to 1.39 million, a 0.4 percent decline. The amount of base budget O&M funding per active-duty servicemember grew swiftly from \$92,242 in FY 2001 to \$151,590 in FY 2017. When including OCO O&M funding, O&M funding per servicemember rose from \$117,115 to \$184,176 over the same time frame. Within the Services, the Air Force's total O&M costs per servicemember are highest, rising from \$112,860 per servicemember in FY 2001 to \$180,558 in FY 2017, or a 3 percent annual increase (see Figure 41).

**FIGURE 41: BASE BUDGET AND TOTAL O&M FUNDING PER ACTIVE-DUTY SERVICEMEMBER BY SERVICE (FY 2001–FY 2017)**

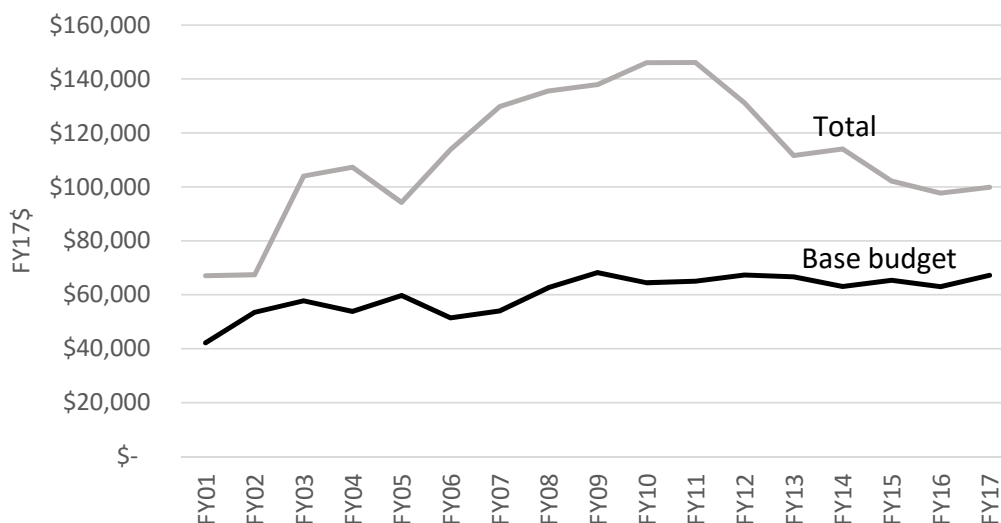


USD Comptroller: FY17 Greenbook, Table 2-1; FY17 dollars

Rising O&M costs have been a major concern, as they are perceived as “must pay” bills for necessities such as training and fuel, which then crowd out less immediate spending in other areas, like procurement. However, in addition to including the funds necessary to operate, train, and recruit the force, the O&M category includes the Defense Health Program and pay for civilian DoD personnel. Between FY 2001 and FY 2017, spending on the Defense Health Program has risen at a compound annual growth rate of 5.77 percent, while civilian pay has risen at an annual rate of 1.17 percent. In the FY 2017 request, DHP and civilian pay account for a total of 61 percent of DoD’s base budget O&M funding. Base O&M spending without the DHP and civilian pay, which better reflects DoD’s actual operating costs, has risen at 2.5 percent annually. In total, DHP and civilian pay funding has risen from \$72.6 billion in FY 2001 to \$114.5 billion in FY 2017. This rise is due in part to the creation of the TRICARE for Life program in 2001 to allow retirees and their dependents access to military health insurance, which increased DoD’s health care costs. Between FY 2001 and FY 2017, the ratio of procurement funding to O&M funding (less civilian pay and defense health program expenses) has declined from 137:100 to 112:100—although higher than the recent low of 98:100 in FY 2013. Over that timeframe, DoD base O&M costs per servicemember (excluding DHP and civilian pay funding) rose from \$42,190 to \$67,279, while total O&M costs per servicemember (excluding DHP and civilian pay funding) rose from \$67,063 to \$99,865, a 50 percent increase (see Figure 42). One possible explanation for this increase in O&M costs per servicemember is the rising costs

of materials and services necessary to support the force. However, O&M costs are not spread evenly across the force—certain activities require more O&M spending to support, and the marginal increase in O&M costs per individual servicemember is not a smooth gradient. An approach to determining the drivers of O&M cost growth would be to evaluate changes in the O&M costs of maintaining a given force structure, holding force structure constant.

**FIGURE 42: DOD O&M FUNDING PER SERVICEMEMBER LESS DEFENSE HEALTH AND CIVILIAN PAY (FY 2001–FY 2017)**



OUSD Comptroller: FY17 Greenbook, Table 2-1

## Personnel

### Overview

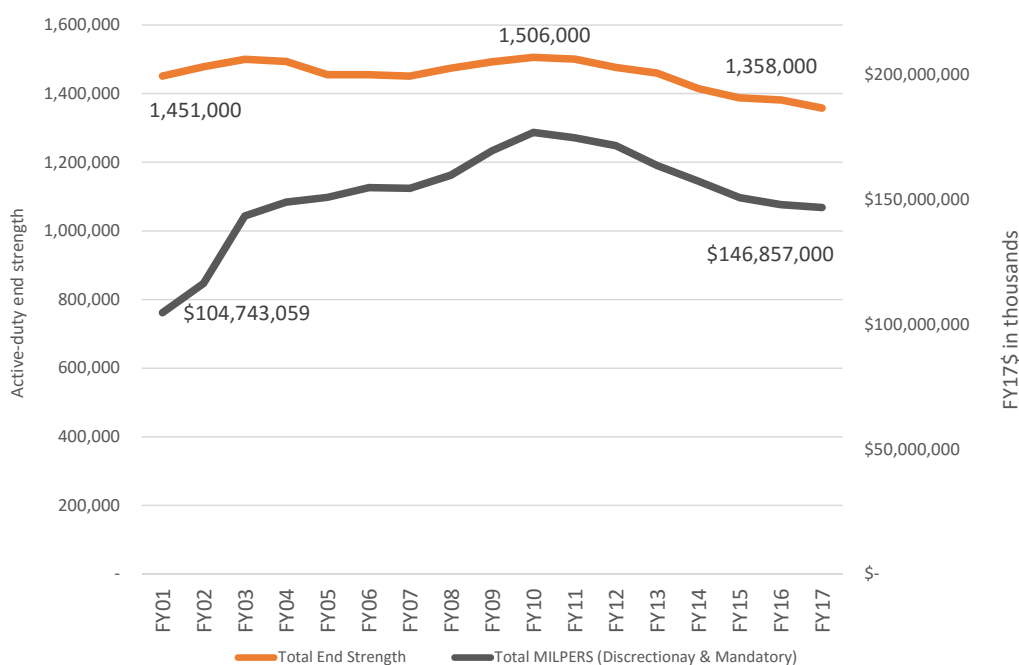
In the FY 2017 budget, \$135.3 billion in discretionary funding is requested in the base budget for MILPERS with an additional \$3.6 billion requested in the OCO account. The Air Force has requested \$35.2 billion; the Army, \$57.5 billion; and the Navy and Marine Corps, \$46.1 billion, with the Marine Corps accounting for \$7.5 billion. Across the total defense budget, the \$138.8 billion requested for military personnel is \$2.3 billion less than the FY 2016 enacted defense budget in real terms—a 1.6 percent decrease.

DoD also has mandatory spending related to personnel costs—namely accrual payments into the military retirement fund for current servicemembers. In FY 2017, DoD has requested \$7.4 billion for these mandatory payments.

In absolute terms, base discretionary MILPERS funding has risen at a compound annual growth rate of 1.65 percent between FY 2001 and FY 2017. Including war funding,

discretionary spending on MILPERS has declined by \$32.5 billion, or 19 percent, between its peak of \$171.8 billion in FY 2010 and the FY 2017 request. Over the same time frame, the total number of active-duty personnel has declined by 135,000; active-duty and full-time Guard and Reserve personnel fell from 1,506,000 to 1,358,000, or by about 10 percent (see Figure 43). Between FY 2007–FY 2021, DoD will request about \$679.7 billion in discretionary budget authority for personnel, second only to funding for O&M (in FY17 dollars; see Table 11). This figure only includes spending in the military personnel appropriations category and does not include other DoD spending on personnel, including the cost of the Defense Health Program and civilian pay, or costs outside of DoD, including the costs of the Veterans' Administration or the unfunded liability costs for servicemembers' retirement paid by the Treasury.

**FIGURE 43: TOTAL MANDATORY AND DISCRETIONARY MILITARY PERSONNEL FUNDING AND TOTAL ACTIVE-DUTY END STRENGTH (FY 2001–FY 2017)**



OMB: FY10 Budget, Table 26-1; FY11, FY12, and FY13 Budget, Table 32-1; FY14 Budget, Table 31-1; FY15, FY16, and FY17 Budget, Table 28-1; OUSD Comptroller: Greenbook Table 7-5  
Includes Guard and Reserve pay and full-time Guard and Reserve end-strength

**TABLE 11: PROJECTED MILPERS DISCRETIONARY BUDGET AUTHORITY BY SERVICE  
(FY 2017–FY 2021)**

<i>FY17\$ in billions</i>	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
Army	\$57.5	\$54.7	\$54.1	\$54.3	\$54.4	<b>\$275.1</b>
Navy	\$46.1	\$45.9	\$46.1	\$46.2	\$46.4	<b>\$230.7</b>
Air Force	\$35.2	\$34.6	\$34.6	\$34.6	\$34.8	<b>\$173.9</b>
<b>Total</b>	<b>\$138.8</b>	<b>\$135.3</b>	<b>\$134.7</b>	<b>\$135.2</b>	<b>\$135.6</b>	<b>\$679.7</b>

OMB: FY17 Budget, OMB Budget Database; FY17 dollars

DoD's costs per active-duty servicemember have been rising consistently and accelerated after FY 2001. Between FY 2001 and FY 2017, the DoD's military personnel costs for active-duty personnel (excluding Guard and Reserve pay and personnel) have increased from \$58,240 per servicemember to \$132,243 per servicemember. A large proportion of this increase is due to the growing cost of the Defense Health Program (funded in O&M). In 2001, Congress created the TRICARE for Life program, which gave retirees and their dependents access to the defense health system, with a concurrent increase in DHP costs. Since FY 2001, DHP costs have increased from \$14,149 to \$27,913 per active-duty servicemember, driven by the creation of TRICARE for Life, growing healthcare costs, higher prescription drug costs, greater health care expenses for military retiree beneficiaries, and the costs of care for wounded servicemembers. However, excluding DHP costs, MILPERS costs per active-duty servicemember (again, excluding Guard and Reserve costs and personnel) have also grown by 53 percent over the FY 2001–FY 2017 time frame, increasing from \$64,529 in FY 2001 to \$98,605 in FY 2017 (see Figure 44). This increase is partly driven by increases in military salaries above the Employment Compensation Index, as well as increases in danger and hazard pay and basic allowance for housing costs. Overall costs of military personnel and DHP spending per active-duty servicemember (excluding Guard and Reserve personnel and pay), has grown from \$78,014 to \$124,872 per servicemember.

As in past years, the FY 2017 budget includes proposals to slow the costs of military compensation. DoD proposed a 1.6 percent pay raise for servicemembers for FY 2017. DoD has also submitted various proposals over the past several years to change the military health system, TRICARE, which have largely been dismissed by Congress. However, there may be somewhat greater interest in changes to the military health system in FY 2017 or beyond following the January 2015 report of the Congressionally directed Military Compensation and Retirement Modernization Commission, which recommended substantial changes to and privatization of the military health system.<sup>47</sup> The FY 2017 proposals would shift the current

47 Military Compensation and Retirement Modernization Commission, *Report of the Military Compensation and Retirement Modernization Commission, Final Report* (Washington, DC: DoD, January 29, 2015), available at <http://www.mcrmc-research.us/02%20-%20Final%20Report/index.html>.

three-tier TRICARE system into one that offers a choice between an HMO-like and a PPO-like plan (TRICARE Select and TRICARE Choice), with incentives to utilize the under-used Military Treatment Facilities. Active-duty servicemembers would continue to receive care at no cost, while active-duty family members would have a choice between a no-cost in-network HMO-type plan (TRICARE Select) and a PPO-like plan with modest co-pays for in-network providers and cost sharing for out-of-network providers (TRICARE Choice). These changes to TRICARE would also increase pharmacy co-pays and establish an annual enrollment fee for retirees choosing to enroll in TRICARE for Life. Currently provided at no cost, TRICARE for Life fees for a family would begin at 0.5 percent of gross retired pay (capped at \$150 in FY 2017) and gradually rise to 2.5 percent of gross retired pay (capped at \$632 in FY 2021). Individual enrollment would be half those costs, rising from a maximum fee of \$75 in FY 2017 to a maximum of \$316 in FY 2021. DoD estimates that these changes would save a total of \$500 million in FY 2017 and \$6.9 billion over the next five years.<sup>48</sup>

In the FY 2016 defense policy bill, Congress made major changes to DoD's retirement plan by largely adopting the blended retirement plan proposed by the Military Compensation and Retirement Modernization Commission. As adopted, the new retirement plan applies to servicemembers who enter service after January 1, 2018, as well as servicemembers with less than twelve years of service who opt in. The current retirement plan provides no benefits to servicemembers who fail to serve twenty years before retiring and leaving the Service. But upon completion of twenty years, servicemembers are eligible for retirement benefits of at least 50 percent of base pay with an additional 2.5 percent per year of service after twenty. This benefit was payable immediately in a "cliff-vesting" structure. The majority of servicemembers, both enlisted and officers, retire within one to three years of becoming eligible.

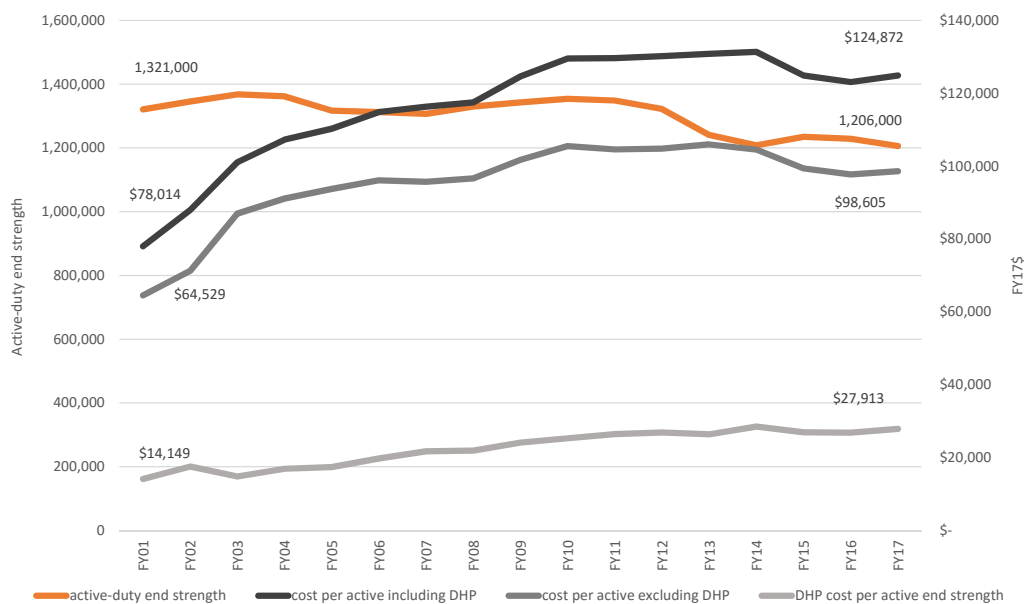
The new retirement plan lowers retirement benefits to 40 percent of base pay, with the multiplier for additional years lowered to 2.0 percent. In effect, this is a partial revival of the old "Redux" retirement plan that was created in 1986. In tandem with the defined benefit of retirement pay, Congress established a defined contribution plan. Similar to a 401(k) or a government Thrift Savings Plan (TSP), DoD will now contribute 1 percent of a servicemember's base pay into a Thrift Savings Plan and match servicemembers' voluntary contributions up to an additional 4 percent. This allows for a total possible government contribution of 5 percent of a servicemember's salary. This plan will vest after two years, allowing the 83 percent of enlisted servicemembers and 50 percent of officers who do not serve a full twenty years to receive some retirement benefits from their service. The new plan is intended to increase the equitability of military compensation and reduce the incentive to remain in the force long enough to receive the full benefit only to retire shortly afterwards. Servicemembers will also receive a continuation bonus at the twelve-year mark and be able to take a portion of their retirement benefits as

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48 Office of the Under Secretary of Defense (Comptroller), Chief Financial Officer, *Department of Defense Fiscal Year 2017 Budget Request: Defense Budget Overview*, p. 6-6.

a lump sum if they choose.<sup>49</sup> DoD proposed some changes to the revamped modernization in their FY 2017 budget submission, such as allowing flexibility in determining the twelve-year continuation pay, extending TSP contributions through the end of a servicemember's career, and increasing the matching from 4 percent to 5 percent. Most significantly, DoD proposes more than doubling the vesting time for the TSP portion of the plan to five years, from the current two years.<sup>50</sup> This change would mean that servicemembers who serve only one term of enlistment, including many enlisted Army and Marine Corps servicemembers, would not receive any retirement benefits at all.

**FIGURE 44: ACTIVE-DUTY END STRENGTH AND MILITARY PERSONNEL COSTS (FY 2001–FY 2017)**



OMB: FY10 Budget, Table 26-1; FY11, FY12, and FY13 Budget, Table 32-1; FY14 Budget, Table 31-1; FY15, FY16, and FY17 Budget, Table 28-1; OUSD Comptroller: Greenbook Table 7-5

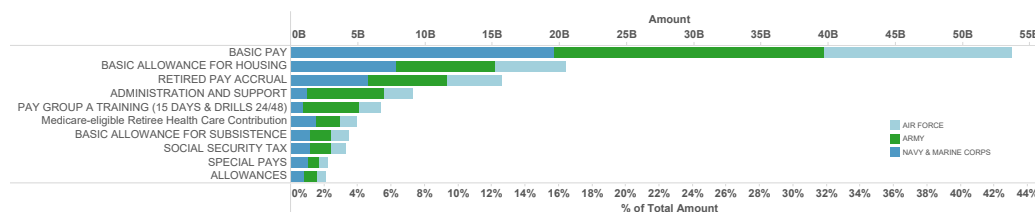
49 Kristy Kamarek, *Military Retirement: Background and Recent Developments*, RL34751 (Washington, DC: Congressional Research Service, April 6, 2016), available at <https://www.fas.org/sgp/crs/misc/RL34751.pdf>.

50 Office of the Under Secretary of Defense (Comptroller), Chief Financial Officer, *Department of Defense Fiscal Year 2017 Budget Request: Defense Budget Overview*, p. 6-7.

## Major Areas

Funding within the MILPERS category supports a range of military personnel expenses, including basic pay, the basic allowance for housing, retired pay accrual, administrative costs, military healthcare accrual, and the basic allowance for subsistence. Within the military personnel appropriation, basic pay is the largest share in FY 2017 at 40 percent, or \$53.7 billion, followed by the basic allowance for housing share at 15 percent, or \$20.5 billion, and retired pay accrual at 12 percent, or \$15.7 billion, of military personnel funding (see Figure 45). Other benefits including the defense health program, family housing, DoD-run schools, commissary subsidiaries, and childcare are funded outside of the military personnel appropriations title.

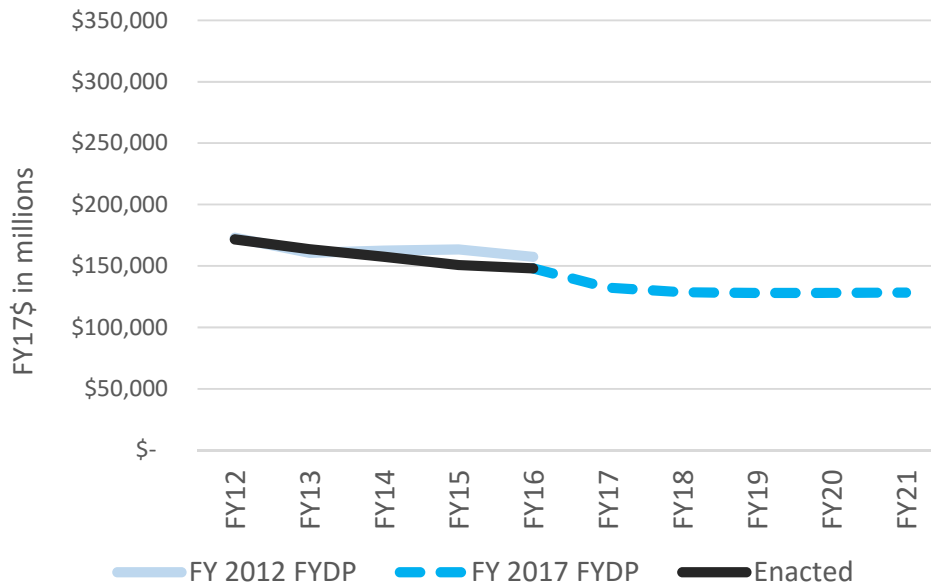
**FIGURE 45: REQUESTED MILITARY PERSONNEL FUNDING BY APPROPRIATION TITLE AND SERVICE (FY 2017)**



Data from VisualDoD; analysis in Tableau

Military personnel spending across the FY 2012 FYDP (FY 2012–FY 2016) would have totaled \$817.1 billion, while active-duty end strength was projected to decline from 1,408,000 to about 1,371,000 over the same time frame. However, the enacted military personnel spending totaled \$791.6 billion, a difference of \$25.5 billion, or 3 percent. Projected spending on military personnel in the FY 2017 FYDP is substantially lower than the total of the FY 2012 FYDP at \$645.9 billion—21 percent lower. The FY 2017 FYDP supports an active-duty end strength of 1,281,900 in FY 2017 with some additional drawdowns in the Army until it reaches a planned 450,000 active-duty personnel level by the end of FY 2018 (down from a planned force of 460,000 in FY 2017). The lower MILPERS funding projected in the FY 2017 FYDP as compared to the FY 2012 FYDP reflects the smaller active-duty force, as the cost per service-member is greater than in FY 2012 (see Figure 46).

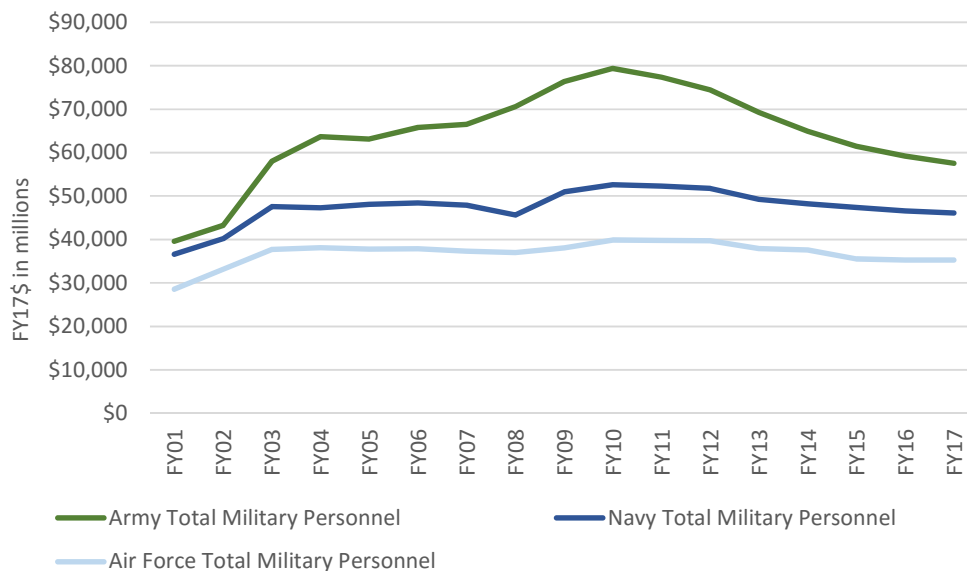
**FIGURE 46: FY 2012 PLANNED MILITARY PERSONNEL FUNDING VS. ENACTED FUNDING)**



OUSD Comptroller: Greenbook Tables 1-9, 6-8

## Recent Military Personnel Trends

**FIGURE 47: TOTAL MILITARY PERSONNEL BUDGET AUTHORITY BY SERVICE (FY 2001-FY 2017)**



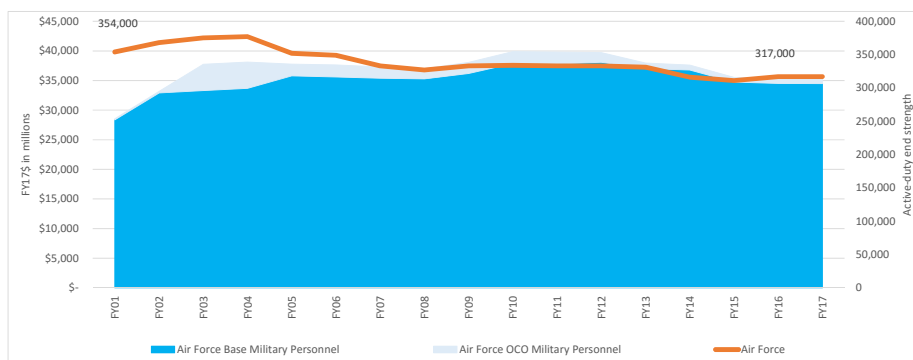
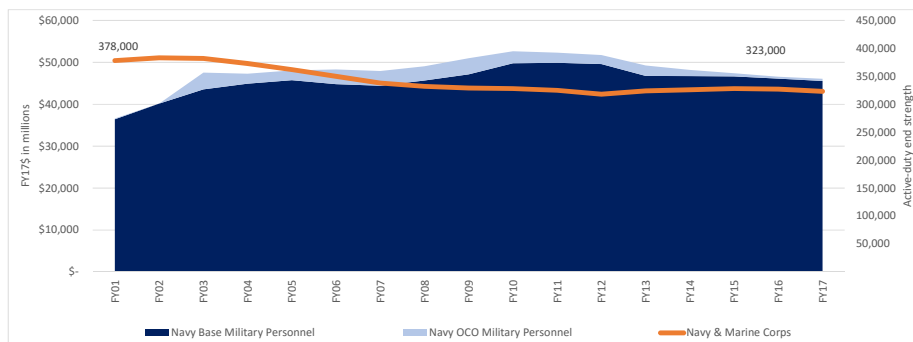
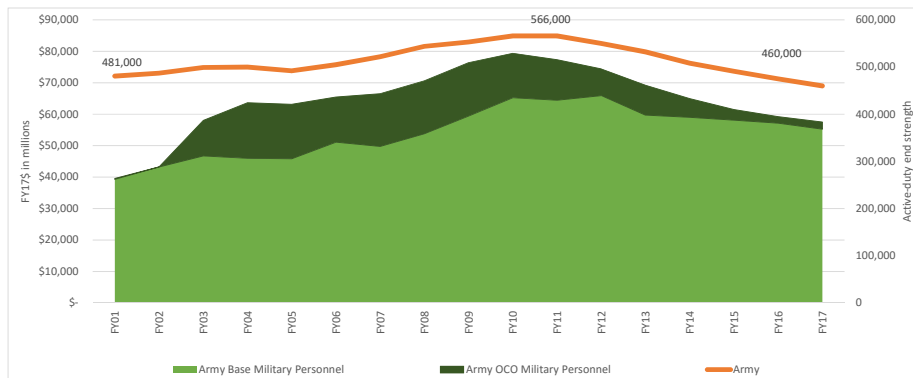
OUSD Comptroller: Greenbook Table 2-1



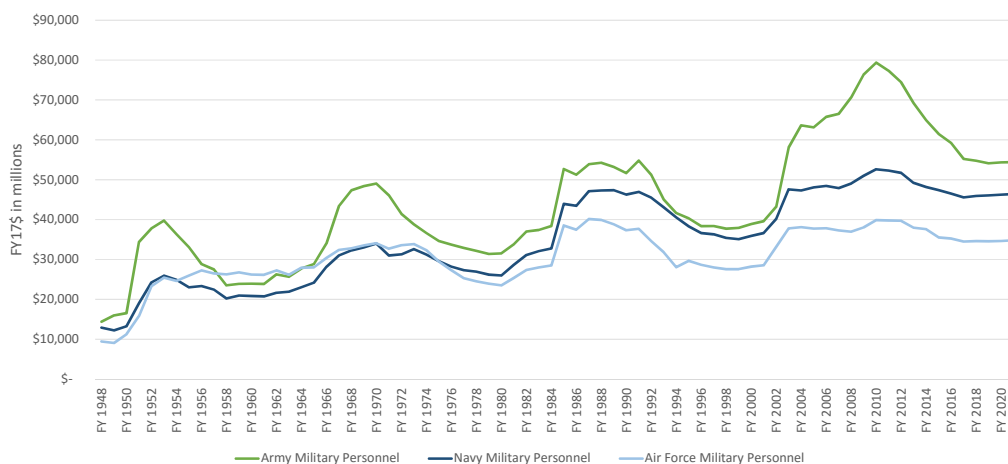
While the initial increase in the Army's military personnel costs between FY 2001 and FY 2012 is due to an 85,000 increase in active-duty end strength, the Army has subsequently drawn down the size of the force to below its FY 2001 level. However, the Army's military personnel costs are still nearly 50 percent greater than in FY 2001, reflecting large increases in the cost per troop.

Compared to FY 2001, the Army's active-duty end strength in FY 2017 will be 21,000 fewer, but the Army's military personnel costs will be 41 percent greater. Similarly, the end strength of the Navy and Marine Corps is 15 percent lower, but military personnel costs are 25 percent higher; the Air Force's active-duty end strength is 10 percent lower, but costs are 23 percent higher (see Figure 48). Between FY 2001 and FY 2017, the Army's base budget funding for military personnel has grown by a compound annual rate of 2.15 percent, the Navy's grew by 1.41 percent, and the Air Force's grew by 1.23 percent. As compared to FY 2001, the discretionary military personnel funding requested for FY 2017 adjusted for inflation is 45 percent higher for the Army at \$57.5 billion, 26 percent higher for the Navy at \$45.5 billion, and 23 percent higher for the Air Force at \$35.2 billion (see Figure 49 and Figure 47). In FY 2017, the Army's personnel request is 41 percent of overall personnel costs, the Navy's is 33 percent, and the Air Force's is 25 percent. The Services' total military personnel costs (including discretionary and mandatory funding), are higher in the FY 2001–FY 2021 period (as projected) than in the previous FY 1975–FY 1995 buildup and drawdown in real terms—and substantially higher for the Army (see Figure 49). Although the proportion of the Air Force and Navy's budgets devoted to military personnel costs is stable, this funding supports a smaller active-duty end strength (see Figure 50).

**FIGURE 48: MILITARY PERSONNEL FUNDING AND ACTIVE-DUTY END STRENGTH (FY 2001-FY 2017)**

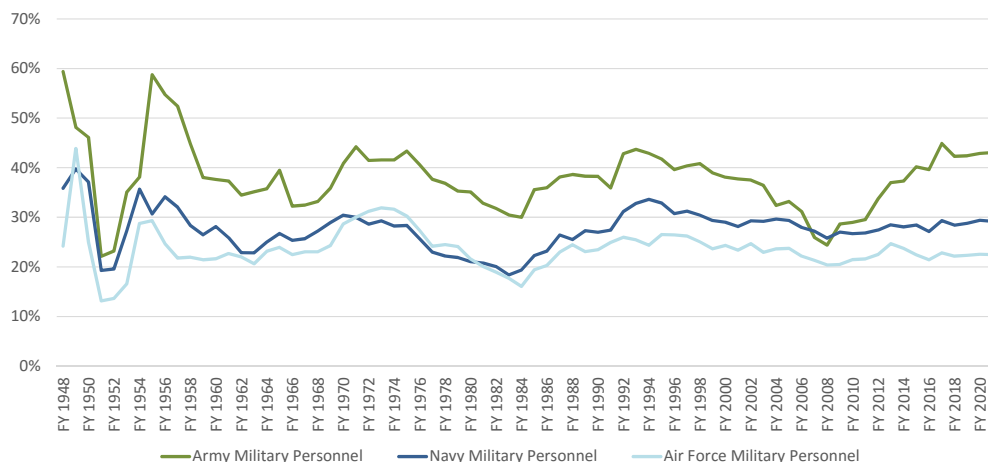


**FIGURE 49: DISCRETIONARY DEFENSE BUDGET AUTHORITY FOR MILITARY PERSONNEL BY SERVICE (FY 1948-FY 2017)**



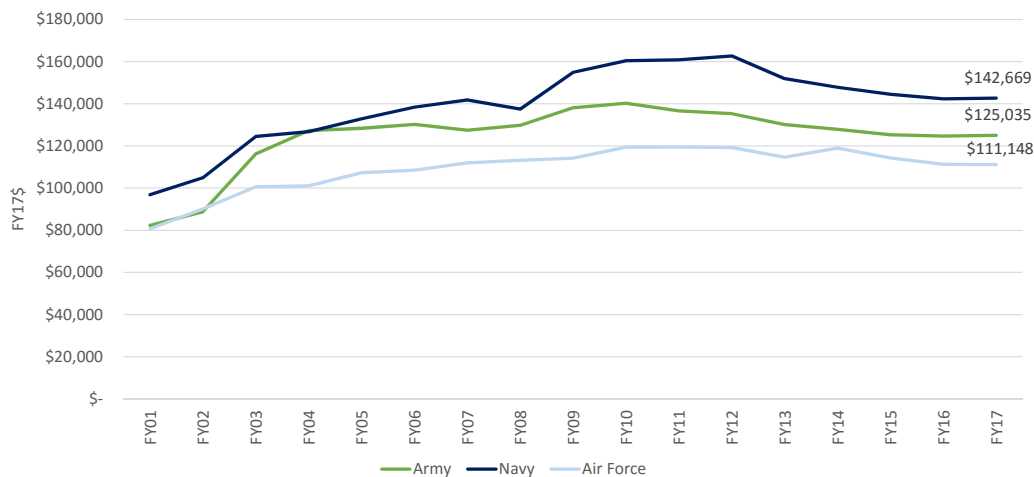
USD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1  
There is no funding for military personnel in defense-wide accounts

**FIGURE 50: PERCENTAGE DISCRETIONARY DEFENSE BUDGET AUTHORITY FOR MILITARY PERSONNEL BY SERVICE (FY 1948-FY 2017)**



USD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1  
There is no funding for military personnel in defense-wide accounts

The Services also have different cost profiles for their servicemembers. In FY 2017, the Navy will spend \$142,669 in military personnel funds per servicemember; the Army, \$135,035; and the Air Force, \$111,148 (see Figure 51).

**FIGURE 51: MILITARY PERSONNEL FUNDING PER SERVICEMEMBER (FY 2001–FY 2017)**

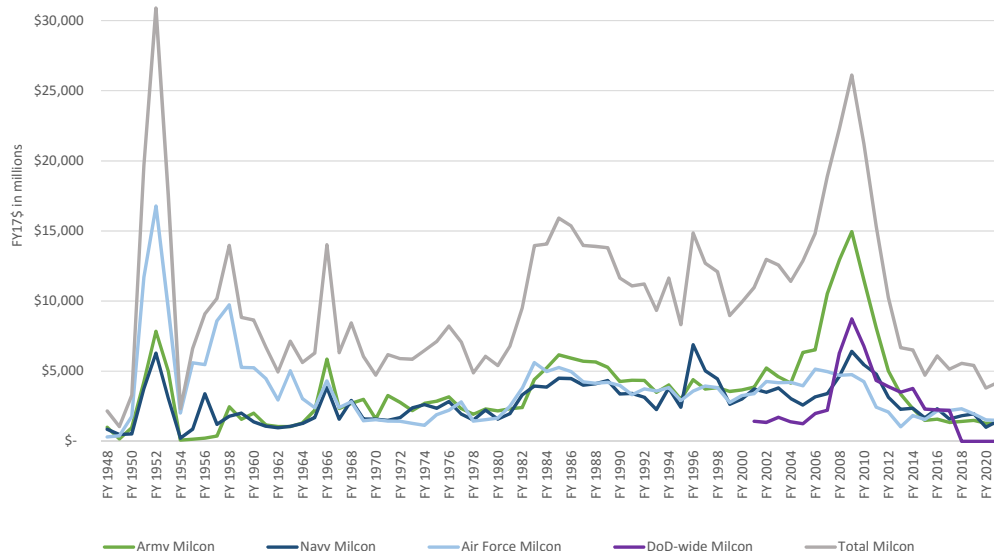
OUSD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

## Military Construction and Family Housing

Military construction (MILCON) and family housing are a part of DoD's budget but are authorized in the Military Construction and Veterans Affairs bills instead of in the NDAA. In FY 2017, DoD is requesting \$6.1 billion in the base budget for military construction and \$1.3 billion for family housing for a total of \$7.4 billion. DoD is also requesting \$0.2 billion for military construction in the OCO budget for a total of \$6.3 billion—\$0.7 billion less than the \$7 billion enacted in the FY 2016 budget, or a 10 percent reduction. Military construction funds support the ongoing maintenance and renovation of military real property including buildings, structures, and infrastructure like runways and roads. In addition to paying for DoD servicemembers to obtain housing by renting or purchasing private housing stock through the Basic Allowance for Housing (part of the military personnel appropriations title), DoD operates family housing on base, in barracks, and in areas where there is insufficient private housing stock.

Funding for military construction has fluctuated wildly since FY 1948. Higher levels of MILCON funding in recent years have been driven by the FY 2005 Base Realignment and Closure (BRAC) round. DoD has proposed conducting another BRAC round to divest excess infrastructure in their budget every year between FY 2013 and FY 2017 (after the completion of the FY 2005 BRAC), citing excess capacity in the current and projected force structure levels, but have met sharp resistance from the Congress.

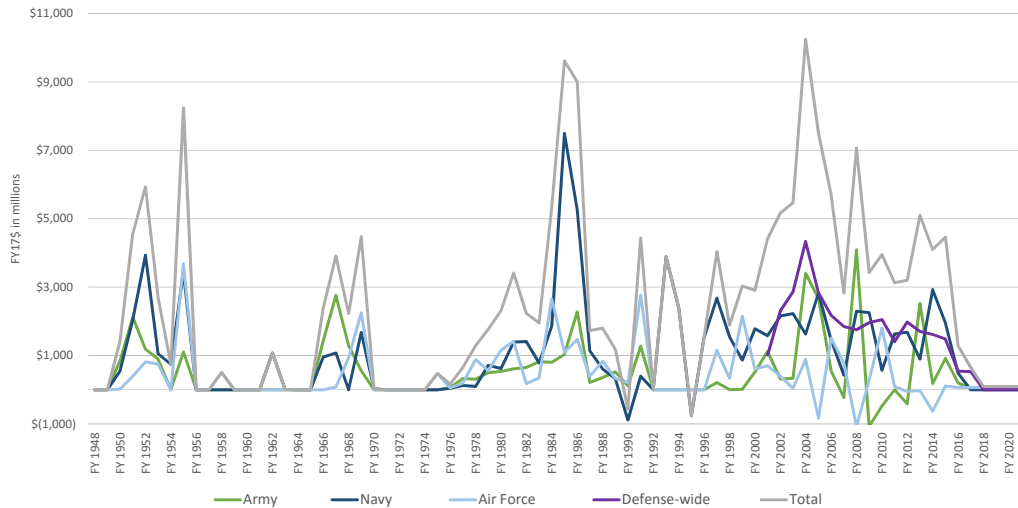
**FIGURE 52: MILCON AND FAMILY HOUSING BUDGET AUTHORITY BY SERVICE  
(FY 1948–FY 2017)**



OUSD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

## Revolving and Management Funds

The Department of Defense operates a number of revolving and management funds. These funds effectively operate as self-funded lines of credit. Frequently, they offer services utilized by the military Services that are organized and run at the DoD-wide level for efficiency including energy, supply chain management, telecom acquisitions, and funds to support financial services. They receive appropriated funds as necessary, but they also charge the Services for the services that they provide. The Navy, Army, and Air Force also operate their own working capital funds, principally for supply management and maintenance. Because many of these funds are operated as internal revolving or working capital funds that require appropriations on initial startup or if costs are much higher than expected, requiring top-up funding, the funding profile of this appropriations title is highly erratic (see Figure 53).

**FIGURE 53: BUDGET AUTHORITY FOR REVOLVING AND MANAGEMENT FUNDS  
(FY 1948–FY 2017)**

OUSD Comptroller: FY17 Greenbook, Tables 6-10, 6-19, 6-20, 6-21, 2-1

## Defense-Related Funding outside of the DoD Budget

Within the federal budget, national defense funding is encompassed in the 050 budget function. The BCA budget caps apply to the 050 function overall. While funding for the Department of Defense makes up the bulk of 050 funding—generally 95.5 percent—some 050 national defense funding goes to other agencies. Within function 050, there are sub-functions for DoD (051), the Department of Energy’s nuclear weapons work (053), and other defense-related activities (054). In FY 2017, the Department of Defense (budget subfunction 051) requested a total of \$582.7 billion in discretionary funding (\$523.9 billion in base budget authority and \$58.8 billion in OCO funding) as well as \$7.9 billion in mandatory funding, principally accrual payments for the concurrent receipts of certain disability and retirement pays. In addition to the Department of Defense, the Department of Energy carries out defense activities related to nuclear weapons. The FY 2017 budget requests a total of \$19.3 billion in discretionary funding for nuclear weapons-related work in budget subfunction 053 as well as \$1.1 billion in mandatory funding, mostly for occupational illness payments to former nuclear weapons employees. Finally, some activities of the FBI (\$5 billion); the Department of Homeland Security including the National Protection and Programs Directorate, which focuses on threats to physical and cyber infrastructure (\$1.53 billion); the Coast Guard (\$340 million); the Federal Emergency Management Agency (\$62 million); the intelligence community management account (\$534 million); and the CIA’s retirement and disability fund (\$500 million) are funded under budget subfunction 054, other defense-related activities. Those other defense-related activities total \$2.8 billion in discretionary spending and \$584 million

in mandatory spending in the FY 2017 request.<sup>51</sup> Overall, the FY 2017 request for budget function 050, national defense, includes \$604.8 billion in discretionary funding and \$9.6 billion in mandatory funding for a total of \$614.4 billion.

In addition to the national defense 050 budget function, funding for veterans' benefits and services and Treasury payments of unfunded military retirement liabilities could also be considered defense-related. For FY 2017, the total Department of Veterans Affairs budget request was \$178.7 billion, of which \$104.1 billion was requested for benefit programs and \$69.4 billion for the Veterans Health Administration. There are also numerous other, smaller programs serving veterans throughout the federal government, such as funds for veterans training in the Department of Labor (\$50 million).<sup>52</sup> The unfunded military retirement government liability was created at the beginning of FY 1985 when the government shifted from a system of paying for military retirements as benefits paid out to retirees to an accrual system of contributions paid to the Military Retirement Fund to finance the future retirements of current servicemembers. The Department of Defense began paying accrual payments into the Military Retirement Fund, while the government as a whole (through the Department of the Treasury) assumed the concurrent responsibility of paying for the retirements of those servicemembers who began their service before the accrual system was adopted.<sup>53</sup> In FY 2017, the government will pay an estimated \$81.2 billion in unfunded retirement payouts to retired servicemembers.<sup>54</sup>

In addition to the defense-related funding outlined above, activities carried out by the Departments of State, USAID, Homeland Security, the CIA, the Department of Agriculture and other federal agencies could be viewed as contributing to our national security. For example, the Department of State and USAID have requested \$14.9 billion in OCO funding for FY 2017 for international security and disaster assistance, anti-ISIL efforts, diplomatic security, aid to Afghanistan and Pakistan, and foreign military financing, among other efforts. The FY 2017 base budget request is \$35.2 billion. However, an analysis of other national security-related activities and spending is outside the scope of this report.

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51 OMB, Budget Analysis Branch, *Budget of the United States Government Fiscal Year 2017: Public Budget Database, Budget Authority* (Washington, DC: OMB, February 2016), available at <https://www.whitehouse.gov/sites/default/files/omb/budget/fy2017/assets/budauth.xls>.

52 OMB, Budget Analysis Branch, *Budget of the United States Government Fiscal Year 2017: Public Budget Database, Budget Authority*.

53 Kamarck, *Military Retirement*.

54 OMB, "Other Defense—Civil Programs," in *The Appendix, Budget of the United States Government, Fiscal Year 2017* (Washington, DC: U.S. Government Printing Office, 2016), p. 1127–1136, available at <https://www.whitehouse.gov/sites/default/files/omb/budget/fy2017/assets/civ.pdf>.



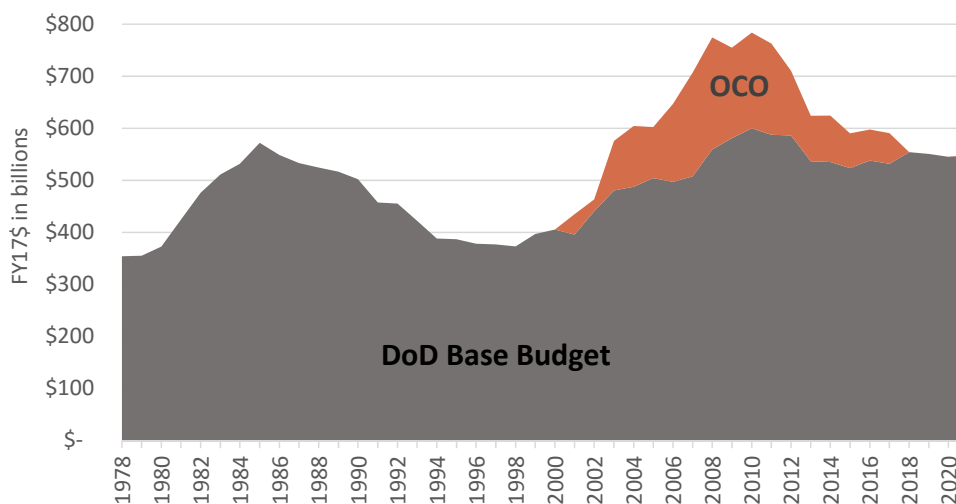


## Historical Perspectives

After adjusting for inflation, the FY 2017 defense base budget request of \$532 billion (including both discretionary and mandatory spending) is 11 percent lower than its most recent high of \$600 billion in FY 2010 and about equal to the average defense spending during the Reagan Administration.

Including war funding, the FY 2017 DoD spending request totals \$590 billion. At \$59 billion, the FY 2017 war funding request is about 10 percent of the total, down from a height of 28 percent of total DoD spending in FY 2007 and FY 2008. As war funding has declined from its peak of \$215 billion in FY 2008, the DoD base budget has increased, leaving the overall request for FY 2017 of \$590 billion slightly lower than the \$602 billion enacted in FY 2007. The total FY 2017 DoD request of \$590 billion is 25 percent lower than the FY 2010 peak of \$784 billion at the height of the wars in Iraq and Afghanistan and about 12 percent above the average spending during the Reagan Administration (see Figure 54).

**FIGURE 54: DOD BASE BUDGET AUTHORITY AND WAR FUNDING (FY 1978–FY 2021)**



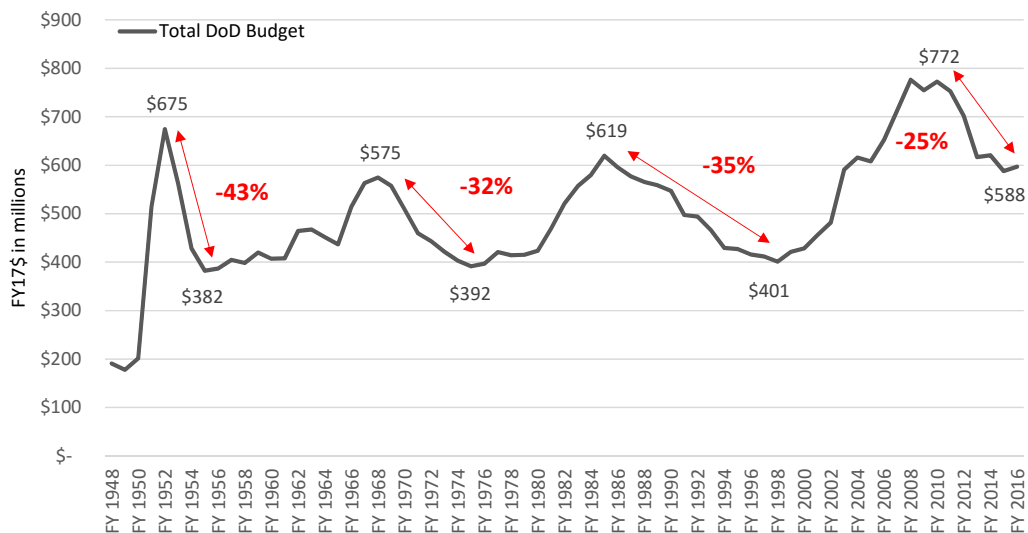
As compared to previous drawdowns following major wars or buildups in defense spending, the decline in total defense spending between FY 2010 and FY 2015 has been less in constant dollars (see Figure 55). However, the rate of the drawdown between FY 2010 and FY 2015 has been faster than any other post-war drawdown since the Korean War at a compound annual growth rate of -5.5 percent. By comparison, the annual drawdown rate after the highs of defense spending reached in the Reagan Administration was -3.24 percent (see Table 12). Although 1985–1998 drawdown was ultimately larger in dollar terms, it occurred more slowly than the 2010–2015 drawdown (see Figure 55).

**TABLE 12: COMPOUND ANNUAL GROWTH RATE OF DEFENSE BUDGET AUTHORITY DURING DEFENSE BUDGET BUILDUP AND DRAWDOWN CYCLES**

Time Period	Total Defense Spending	Procurement
1952–1955	-21.34%	-39.5%
1955–1968	5.10%	4.74%
1968–1975	-4.01%	-10.04%
1975–1985	5.93%	11.91%
1985–1998	-3.24%	-8.08%
1998–2010	6.39%	7.45%
2010–2015	-5.51%	-7.15%

OUSD Comptroller: FY17 Greenbook, Table 6-8  
Adjusted to FY17 constant dollars using the OMB chained GDP deflator

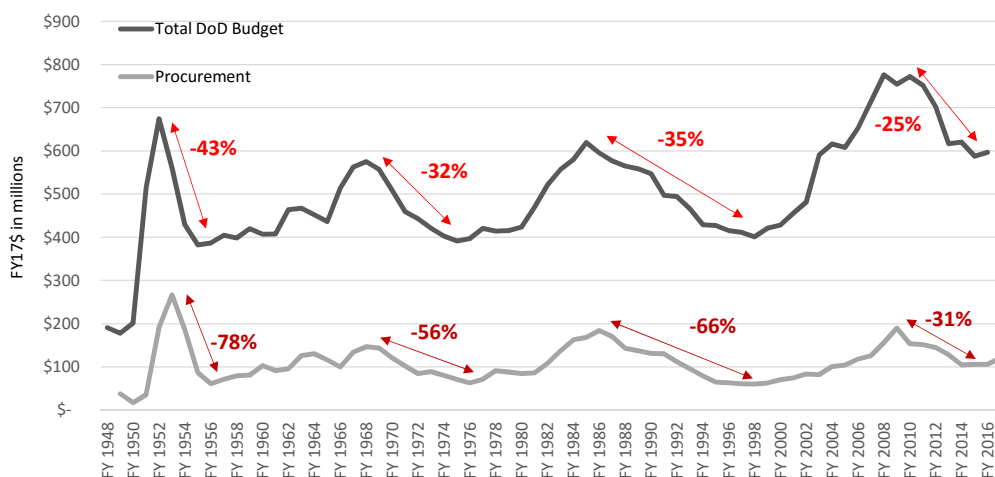
**FIGURE 55: CYCLES IN DEFENSE BUDGET AUTHORITY (FY 1948–FY 2017)**



OUSD Comptroller: FY17 Greenbook, Table 6-8  
Adjusted to FY17 constant dollars using the OMB chained GDP deflator

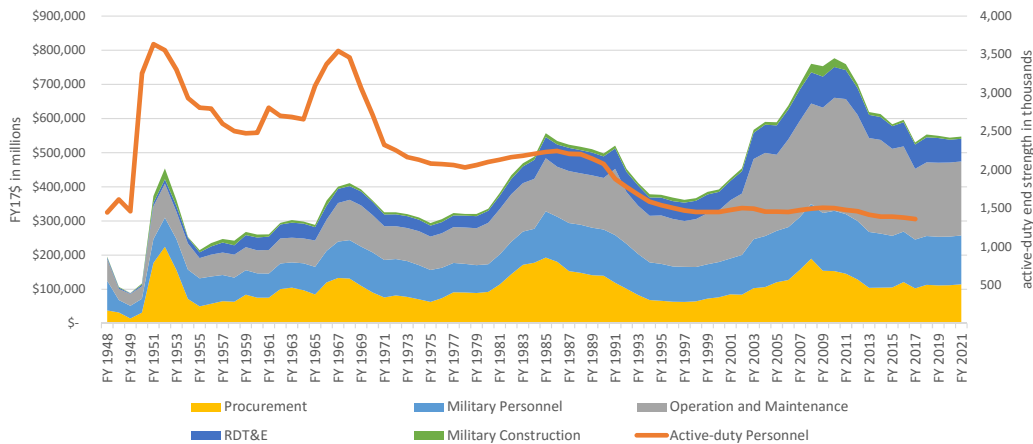
Focusing exclusively on topline total figures obscures important shifts in the composition of the defense budget across this timeframe. Procurement spending has historically both risen faster and fallen more rapidly than overall defense spending during buildups and drawdowns (see Figure 4, Figure 56, and Table 12).

**FIGURE 56: CYCLES IN DEFENSE AND PROCUREMENT (FY 1948–FY 2017)**

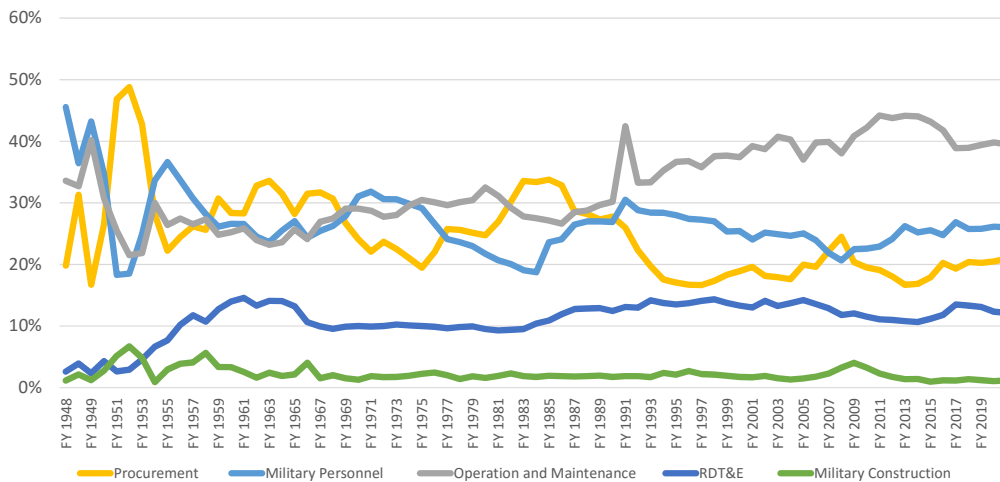


OUSD Comptroller: FY17 Greenbook, Table 6-8  
Adjusted to FY17 constant dollars using the OMB chained GDP deflator

By contrast, spending on O&M and military personnel costs has grown in both real terms and as a percentage of the defense budget, even as the number of active-duty personnel has trended downwards since the 1970s (see Figure 57 and Figure 58). Procurement makes up approximately 20 percent of the FY 2017 budget request, while military personnel accounts for 27 percent, O&M makes up 39 percent, and RDT&E makes about 11 percent. This is due, in part, to the relative ease of canceling or deferring spending on programs and systems that are no longer seen as immediately necessary, and reducing the number of personnel and lowering operation and maintenance costs is a slower process. Similarly, buying a greater quantity of weapons systems is faster than growing the size of the force. The end result is that procurement spending makes up a much smaller proportion of total defense spending than it did in the 1980s.

**FIGURE 57: DEFENSE ACTIVE-DUTY END STRENGTH AND BUDGET AUTHORITY BY TITLE (FY 1948–FY 2021)**

OUSD Comptroller: FY17 Greenbook, Tables 6-8, 7-1

**FIGURE 58: DEFENSE BUDGET AUTHORITY BY APPROPRIATIONS TITLE AS A SHARE OF THE TOTAL BUDGET (FY 1948–FY 2021)**

OUSD Comptroller: FY17 Greenbook, Table 6-8

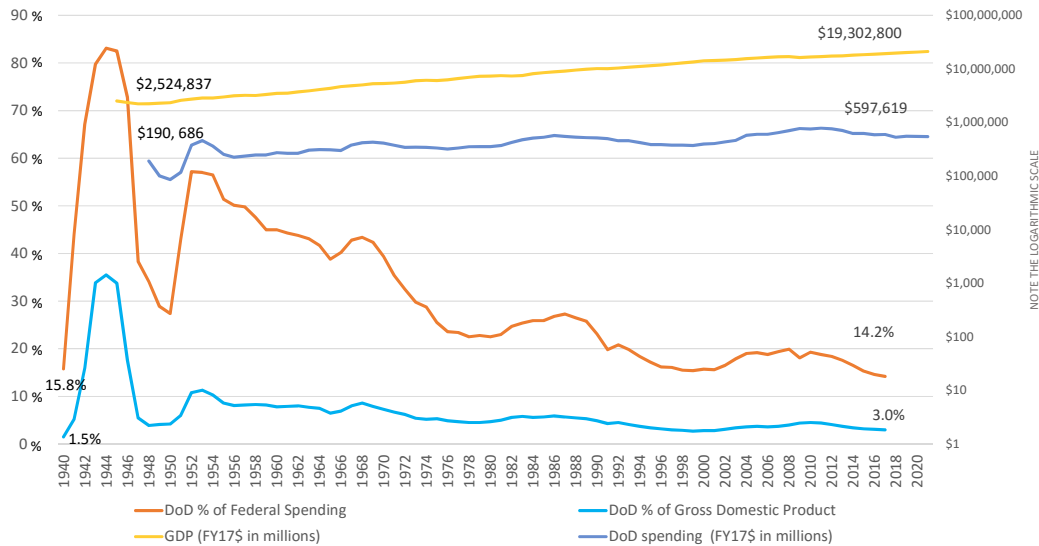
Overall, each of the services' budget authorities has roughly tracked each other over time. The steadfastness of this equal division of defense spending between the Services has lent it the appearance of an iron rule of Washington. However, this is more illusion than reality. The Services' amount of budget authority has shifted depending on changes in the external security environment and shifts in defense strategy. During the wars in Iraq and Afghanistan, the Army received a greater proportion of defense spending; however, during the drawdown in spending between FY 2010 and FY 2015, the Army lost a greater share of the defense budget

more rapidly while the Navy and the Air Force budgets declined more slowly. Despite the Army's growth and decline in defense spending, the Services' shares of the FY 2017 defense total discretionary budget request were nearly identical to their shares in FY 2001. The Army's share of total defense spending went from 24 percent to 23 percent, the Navy's stepped down from 30 percent to 29 percent, the Air Force's remained at 28 percent, and defense-wide funding rose from 18 percent to 19 percent (see Figure 59). The use of the Air Force budget as the pass-through for classified programs must be kept in mind, however, when comparing the Service's spending and budget submissions. The Air Force's budget is traditionally used as the pass-through for the classified black budget, which makes up about 10 percent of the overall FY 2017 budget, as well as the Air Force's own blue budget. Within the Air Force's nominal budget, classified programs make up approximately 20 percent.

DoD-wide spending grew dramatically between FY 2001 and FY 2017, rising from \$73.5 billion in FY 2001 to \$102.8 billion in FY 2017. However, the growth in defense-wide spending broadly tracked the growth in the services' budgets. Including both the base budget and war spending, defense-wide spending had a compound annual growth rate of 1.92 percent. The Army's budget grew at 2.23 percent, and the Air Force's grew at 2.01 percent. The Navy's budget grew the most slowly at 1.53 percent over this time frame.

**FIGURE 59: ARMY, NAVY, AIR FORCE, AND DOD-WIDE BUDGET AUTHORITY (FY 1948–FY 2021)**



**FIGURE 60: DEFENSE SPENDING AS A PERCENTAGE OF GDP, FEDERAL SPENDING, AND OVERALL (FY 1940–FY 2017)**

OUSD Comptroller: FY17 Greenbook, Table 7-7

Even as total defense spending over the past 15 years has reached historic highs in absolute terms, it represents a historically low percentage of GDP. Including war funding, the FY 2017 DoD budget request of \$597,619 billion (including both discretionary and mandatory spending) would constitute 3 percent of GDP and 14.2 percent of overall federal spending. Overall, the share of defense spending as a percentage of GDP has declined steadily since the end of the Korean War. However, this ratio does not illustrate any meaningful changes in the absolute level of defense spending. U.S. national GDP grew from \$2.2 trillion in FY 1948 to an estimated \$19.3 trillion in FY 2017 in FY17 constant dollars—a compound annual growth rate (CAGR) of 3.2 percent. By contrast, defense spending has risen from \$190 billion in FY 1948 to \$597 billion in FY 2017 for a compound annual growth rate of 1.7 percent. If anything, the decline in defense spending as a share of GDP is a testimonial to the power of compound interest and the importance of scale when discussing relative change. While it is not useful for gauging the necessity of defense spending, defense spending as a percentage of GDP or as a percentage of overall federal spending can be a useful yardstick in discussing the relative affordability of spending on defense—or any other federal program (see Figure 60).

## Conclusions

As the last budget request of the Obama Administration, the FY 2017 request largely continues the shift away from the large ground forces necessary for stability operations in Iraq and Afghanistan and towards greater investment in the high-end capabilities necessary in a new strategic era that holds the potential for great power competition. Secretary of Defense Ashton Carter has publicly listed Russia and China at the top of the list of DoD's challenges, followed by North Korea, Iran, and global terrorism.<sup>55</sup> Accordingly, the United States has renewed its focus on investing in the capabilities necessary for great power competition, with a particular focus on those that exploit U.S. advantages and impose asymmetric costs on potential adversaries. However, the investments within the FY 2017 budget reflect the tensions between investments in capability and capacity, and between a global "presence" force and a "surge capability" force. The greater costs of these advanced capabilities have prompted trade-off cuts to capacity, as illustrated by the curtailment of the Littoral Combat Ship program in favor of greater investment in undersea capabilities. However, the high costs of these advanced capabilities pose their own challenges, as demonstrated by the Air Force's decision to procure 243 F-35As over the FY 2017–FY 2021 FYDP, forty-five fewer than last year's budget anticipated procurement in FY 2017.

As in recent budgets, the FY 2017 budget projects future defense spending levels higher than the enacted Budget Control Act caps, anticipating a \$23 billion jump in defense spending in FY 2018, followed by a more gradual increase in topline funding between FY 2018–FY 2021. These anticipated increases in defense spending are baked into the outyears of the FY 2017 budget, with senior defense officials stating that DoD would need sequester relief of at least \$15 billion for FY 2018. Without this additional top-line headroom, DoD would have to consider further reductions in force structure and end strength, including possibly reducing the size of the Army's active-duty end strength below the 450,000 currently planned. Overall, DoD's planned spending exceeds the BCA caps by \$105.3 billion over the FYDP and is projected to increase after FY 2021 once the BCA caps are no longer in play.

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55 Secretary of Defense Ashton Carter, "Preview of the FY 2017 Defense Budget," briefing, Economic Club, Washington, DC, February 2, 2016.

Beyond the immediate FY 2017 budget and FYDP, the planned acquisition of major high-end systems over the next ten to twenty years, including the ramp-up of F-35 procurement, the B-21 bomber, the KC-46 tanker, various space systems, the Ohio-class replacement submarine, and a replacement for the aging Minuteman III ICBM force, will strain DoD's procurement budget—a problem termed the “acquisition bow wave.” CBO projects that acquisition costs for these major systems could exceed DoD's budget projections by about 2.3 percent over the FY 2017 FYDP, and by 7.3 percent between FY 2021–FY 2030, resulting in an additional \$4.5 and \$13.3 billion annual shortfall of acquisition costs compared to DoD's procurement plans. At the same time, rising O&M costs and personnel costs will make it more expensive to sustain the same level of force structure. DoD has been able to slightly slow personnel costs in the past four years, but has had less success in controlling O&M costs. Given the current readiness challenges and the increasing age of operational systems, O&M costs are likely to increase more rapidly in the outyears of the FYDP and beyond.

The FY 2017 challenge of meeting current threats while planning for long-term strategic challenges will also face the incoming administration in FY 2018 and beyond. Enduring budget constraints and complex strategic challenges require the next administration to keep focusing the Department on the most urgent priorities and fostering a culture of innovation and efficiency while making difficult tradeoffs between capacity and capabilities.





## LIST OF ACRONYMS

<b>AWACS</b>	Airborne Warning and Control System
<b>BRAC</b>	Base Realignment and Closure
<b>BA</b>	Budget Activity
<b>BCA</b>	Budget Control Act
<b>CSBA</b>	Center for Strategic and Budgetary Assessments
<b>CNO</b>	Chief of Naval Operations
<b>CAGR</b>	compound annual growth rate
<b>CBO</b>	Congressional Budget Office
<b>CTPF</b>	Counterterrorism Partnerships Fund
<b>DHP</b>	Defense Health Program
<b>DoD</b>	Department of Defense
<b>FY</b>	fiscal year
<b>FYDP</b>	Future Years Defense Program
<b>GDP</b>	gross domestic product
<b>GBSD</b>	Ground Based Strategic Deterrent
<b>IED</b>	improvised explosive device
<b>ISR</b>	intelligence, surveillance, and reconnaissance
<b>ICBM</b>	Intercontinental ballistic missile
<b>ITEF</b>	Iraq Train and Equip Fund
<b>ISIS</b>	Islamic State of Iraq and Syria
<b>JSTARS</b>	Joint Surveillance Target Attack Radar System
<b>MILCON</b>	military construction
<b>MILPERS</b>	military personnel
<b>NDAA</b>	National Defense Authorization Act
<b>NATO</b>	North Atlantic Treaty Organization
<b>OMB</b>	Office of Management and Budget
<b>OUSD</b>	Office of the Under Secretary of Defense
<b>O&amp;M</b>	operation and maintenance
<b>OCO</b>	Overseas Contingency Operations
<b>PB</b>	President's Budget
<b>RDT&amp;E</b>	research, development, test, and evaluation
<b>SAR</b>	Selected Acquisition Report
<b>STEF</b>	Syria Train and Equip Fund
<b>THAAD</b>	Terminal High-Altitude Area Defense
<b>TSP</b>	Thrift Savings Plan
<b>WMD</b>	weapon of mass destruction

## APPENDIX A

The graphic data and tables in this report pull its budget data from the following unclassified sources, available online:

### The Office of Management and Budget (OMB)

#### OMB Deflation Factors:

CSBA achieved deflations using the OMB chained GDP factors in OMB, *Historical Tables, Budget of the United States Government, Fiscal Year 2017* (Washington, DC: Government Printing Office, 2016), Table 10.1, “Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2021.”

<https://www.whitehouse.gov/sites/default/files/omb/budget/fy2017/assets/hist10z1.xls>

#### OMB Budget Database:

OMB, Budget Analysis Branch, *Public Budget Database, Budget Authority: Budget of the United States Government, Fiscal Year 2017* (Washington, DC: OMB, February 2016).

<https://www.whitehouse.gov/sites/default/files/omb/budget/fy2017/assets/budauth.xls>

#### OMB Budgets, Tables:

OMB, “Detailed Functional Tables,” in *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2017* (Washington, DC: Government Printing Office, 2016), Table 28-1, “Budget Authority and Outlays by Function, Category, and Program.”

[https://www.whitehouse.gov/sites/default/files/omb/budget/fy2017/assets/28\\_1.xls](https://www.whitehouse.gov/sites/default/files/omb/budget/fy2017/assets/28_1.xls)

OMB, “Detailed Functional Tables,” in *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2016* (Washington, DC: Government Printing Office, 2015), Table 28-1, “Budget Authority and Outlays by Function, Category, and Program.”

<https://www.gpo.gov/fdsys/pkg/BUDGET-2016-PER/xls/BUDGET-2016-PER-9-7-1.xls>

OMB, “Detailed Functional Tables,” in *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2015* (Washington, DC: Government Printing Office, 2014), Table 28-1, “Budget Authority and Outlays by Function, Category, and Program.”

<https://www.gpo.gov/fdsys/pkg/BUDGET-2015-PER/xls/BUDGET-2015-PER-9-7-1.xls>

OMB, “Detailed Functional Tables,” in *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2014* (Washington, DC: Government Printing Office, 2013), Table 31-1, “Budget Authority and Outlays by Function, Category, and Program.”

<https://www.gpo.gov/fdsys/pkg/BUDGET-2014-PER/xls/BUDGET-2014-PER-1-6-1.xls>

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OMB, “Detailed Functional Tables,” in *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2013* (Washington, DC: Government Printing Office, 2012), Table 32-1, “Budget Authority and Outlays by Function, Category, and Program.”

<https://www.gpo.gov/fdsys/pkg/BUDGET-2013-PER/xls/BUDGET-2013-PER-1-6-1.xls>

OMB, “Detailed Functional Table,” in *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2012* (Washington, DC: Government Printing Office, 2011), Table 32-1, “Budget Authority and Outlays by Function, Category, and Program.”

<https://www.gpo.gov/fdsys/pkg/BUDGET-2012-PER/xls/BUDGET-2012-PER-1-7-1.xls>

OMB, “Detailed Functional Table,” in *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2011* (Washington, DC: Government Printing Office, 2010), Table 32-1, “Budget Authority and Outlays by Function, Category, and Program.”

<https://www.gpo.gov/fdsys/pkg/BUDGET-2011-PER/xls/BUDGET-2011-PER-1-6-1.xls>

OMB, “Detailed Functional Tables,” in *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2010* (Washington, DC: Government Printing Office, 2009), Table 26-1, “Budget Authority and Outlays by Function, Category, and Program.”

<https://www.gpo.gov/fdsys/pkg/BUDGET-2010-PER/xls/BUDGET-2010-PER-1-6-1.xls>

## The Office of the Under Secretary of Defense (OUSD)

### OUSD Comptroller: FY17 Greenbook:

OUSD (Comptroller), *National Defense Budget Estimates for FY 2017*, FY 2017 Greenbook (Washington, DC: DoD, March 11, 2016).

[http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY17\\_Green\\_Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY17_Green_Book.pdf)

### OUSD Comptroller Defense Budget Request Overviews:

OUSD (Comptroller), Chief Financial Officer, *Department of Defense Fiscal Year 2017 Budget Request: Defense Budget Overview* (Washington, DC: DoD, February, 2016)

[http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017\\_Budget\\_Request\\_Overview\\_Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017_Budget_Request_Overview_Book.pdf)

OUSD (Comptroller), Chief Financial Officer, *Department of Defense Fiscal Year 2016 Budget Request: Defense Budget Overview* (Washington, DC: DoD, February, 2015)

[http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2016/FY2016\\_Budget\\_Request\\_Overview\\_Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2016/FY2016_Budget_Request_Overview_Book.pdf)

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OUSD (Comptroller), Chief Financial Officer, *Department of Defense Fiscal Year 2015 Budget Request: Overview, Overseas Contingency Operations Budget Amendment* (Washington, DC: DoD, November, 2014)

[http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2015/amendment/FY2015\\_OCO\\_Budget\\_Amendment\\_Overview\\_Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2015/amendment/FY2015_OCO_Budget_Amendment_Overview_Book.pdf)

OUSD (Comptroller), Chief Financial Officer, *Department of Defense Fiscal Year 2014 Budget Request: Overview, Addendum A, Overseas Contingency Operations* (Washington, DC: DoD, May, 2013)

[http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2014/amendment/FY2014\\_Budget\\_Request\\_Overview\\_Book\\_Amended.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2014/amendment/FY2014_Budget_Request_Overview_Book_Amended.pdf)

### **OUSD Comptroller: FY17 Counterterrorism Partnerships Fund:**

OUSD (Comptroller), *Department of Defense Budget Fiscal Year (FY) 2017: Counterterrorism Partnerships Fund* (Washington, DC: DoD, February 2016).

[http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017\\_CTPF\\_J-Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017_CTPF_J-Book.pdf)

### **OUSD Comptroller: FY17 European Reassurance Initiative:**

OUSD (Comptroller), *Department of Defense Budget Fiscal Year (FY) 2017: European Reassurance Initiative* (Washington, DC: DoD, February 2016).

[http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017\\_ERI\\_J-Book.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017_ERI_J-Book.pdf)

## **VisualDoD**

VisualDoD is a database service provided by subscription from McKinsey Solutions. For more details, see <http://www.mckinseysolutions.com/solutions/visualdod.aspx>.

## **The Department of Defense (DoD)**

DoD, *Annual Aviation Inventory and Funding Plan: Fiscal Years (FY) 2017–2046* (Washington, DC: DoD, March 2016).

## **The Chief of Naval Operations (CNO)**

Office of the Chief of Naval Operations (CNO), Deputy Chief of Naval Operations (Integration of Capabilities and Resources) (N8), *Report to Congress on the Annual Long-Range Plan for*

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*Construction of Naval Vessels for Fiscal Year 2017* (Washington, DC: CNO, July 2016). This is popularly known as the *30-year Shipbuilding Plan*.

### **National Defense Authorization Act (NDAA)**

National Defense Authorization Act for Fiscal Year 2017, H.R. 4909, 114th Cong. (as passed by the House, May 18, 2016).

National Defense Authorization Act for Fiscal Year 2017, S. 2942, 114th Cong. (2015–2016).  
<https://www.congress.gov/bill/114th-congress/senate-bill/2943>





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