The Long-Term Implications of Current Defense Plans and Alternatives: Detailed Update for Fiscal Year 2006

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The Long-Term Implications of Current Defense Plans and Alternatives:

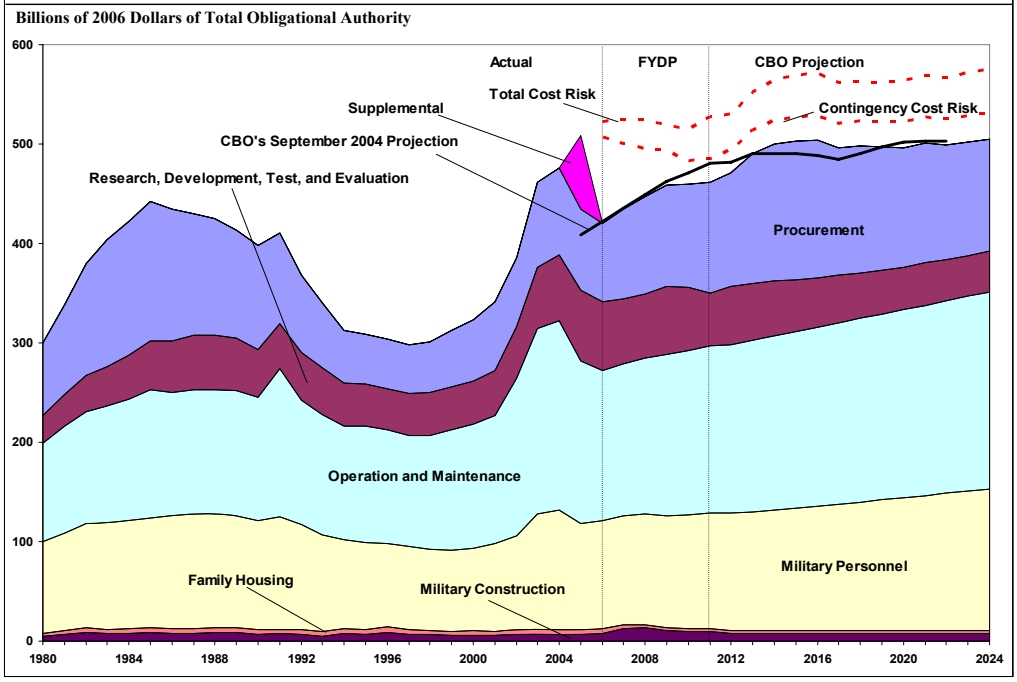
Detailed Update for Fiscal Year 2006

Congressional Budget Office
Congress of the United States

- This presentation updates the analysis contained in the Congressional Budget Office's (CBO's) September 2004 Web document *The Long-Term Implications of Current Defense Plans: Detailed Update for Fiscal Year 2005* to account for changes incorporated in the President's budget for fiscal year 2006 and in the 2006 Future Years Defense Program (FYDP). In addition to those updates, the briefing incorporates data displays for projections of two alternatives to that FYDP—one emphasizing military transformation and one emphasizing evolutionary upgrades to existing military systems. The briefing is a companion piece to CBO's October 2005 publication *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006.*
- This presentation does not incorporate changes to the FYDP resulting from Congressional action on the President's 2006 budget request.
- Charts in this detailed update use the concepts of "steady state" and "half-life" for the Department of Defense's (DoD's) investment plans and weapon systems. Those concepts are explained more fully in Box 1-3 of CBO's January 2003 study *The Long-Term Implications of Current Defense Plans.* (The projections in that report are based on the 2003 FYDP.)
- The updated displays in this presentation differ in some instances from those in previous briefings. In some cases, CBO has altered the display format to include additional historical data. In other cases, CBO has corrected its historical database of procurement quantities and spending. (For example, this update includes corrected procurement spending for Army helicopters during the 1980s.) CBO also, in many instances, departs from previous briefings by using different color schemes for the displays.
- Because of changes in CBO's methodology, not all of the charts presented in CBO's previous studies are updated in this presentation. In a similar manner, some charts in this presentation show new information not corresponding to any display in previous studies.
- All budgetary projections in this presentation are in billions of 2006 dollars. Numbers in the text may not sum to totals because of rounding. See the appendix at the end of the briefing for an explanation of selected acronyms and abbreviations.

Figure 1-1a Updated

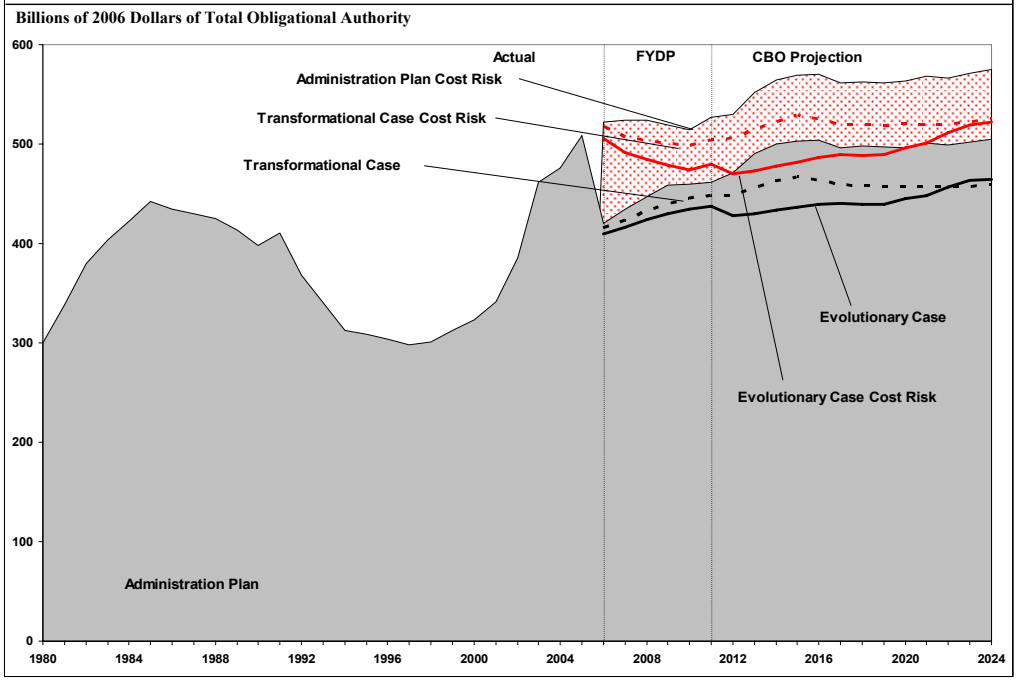
Past and Projected Spending for Defense



- This chart updates Figure 1-1 of CBO's September 2004 Web document *The Long-Term Implications of Current Defense Plans: Detailed Update for Fiscal Year 2005*. It shows total obligational authority (TOA) for the Department of Defense for the 1980-2024 period. Defense TOA grew rapidly between the early and mid-1980s, reaching a peak of $443 billion in 1985. (All funds are in 2006 dollars.) TOA then generally declined during the late 1980s and into the 1990s, reaching a low of about $299 billion in 1997 before rising thereafter to $342 billion by 2001. Defense TOA has grown even more rapidly in recent years as U.S. forces have become engaged in operations in Afghanistan and Iraq. In 2005, DoD's TOA reached $509 billion, including $74 billion in supplemental funding.
- The 2006 FYDP—on which CBO based the projections shown in this presentation—anticipated that defense resources (excluding supplemental appropriations) would rise from $420 billion for 2006 to $461 billion for 2011.
- If the program in the 2006 FYDP was carried out as currently envisioned, the demand for defense resources, excluding supplemental resources for contingencies, would average $497 billion a year between 2012 and 2024, CBO projects—or about $77 billion more than the 2006 request.
- CBO also made "cost-risk" projections (shown by the dashed red lines in the figure). CBO projects that defense resource demands including cost risk will average about $522 billion a year through 2011 and about $563 billion between 2012 and 2024. Those amounts are about 17 percent and 13 percent higher, respectively, than the amounts without cost risk. Assumptions underlying the cost-risk projections include the following:
    - Costs for weapons programs grow as they have since the Vietnam War; and
    - The United States continues to conduct military operations overseas as part of the global war on terrorism.

Figure 1-1b

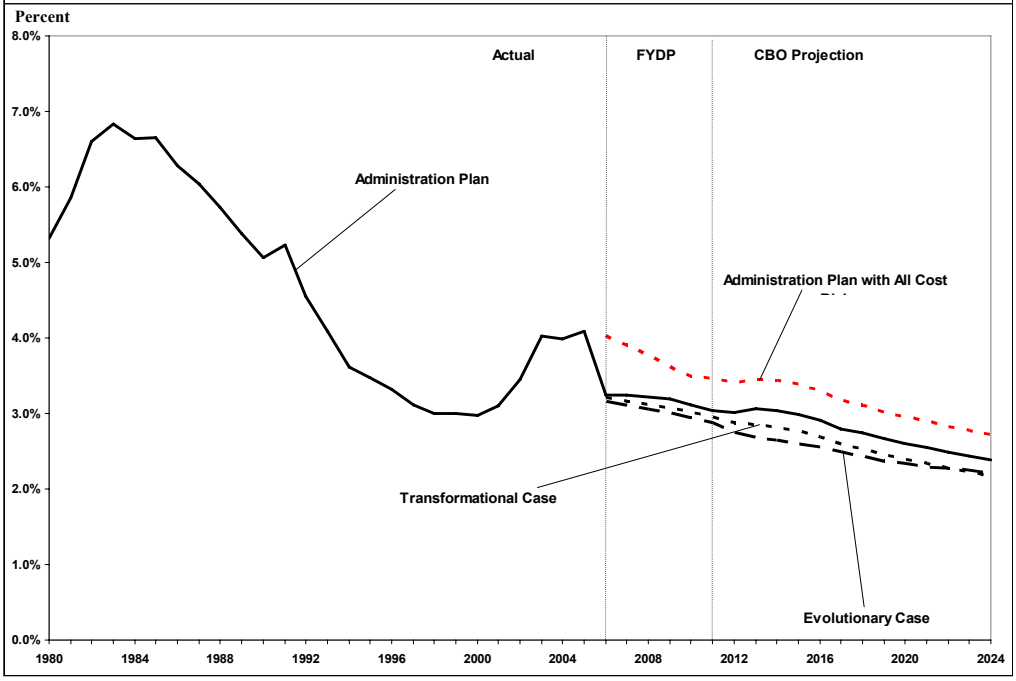
CBO's Evolutionary and Transformational Alternatives: Spending for Defense



- This chart displays CBO's projections of the resource implications of its transformational and evolutionary alternatives to DoD's current plans. (The differences in content between those alternatives and CBO's projections of the implications of the 2006 FYDP are summarized in Table 1 of CBO's *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006.)*
- The evolutionary and transformational alternatives developed by CBO explore whether it might be possible to reduce those long-term demands for defense resources by adopting different approaches to modernizing U.S. military forces.
- Under the evolutionary alternative, the average annual demand for defense resources over the 2006-2024 period would be $438 billion, which is about 9 percent less than CBO's projection of the resources necessary to carry out DoD's current plans during the same period.
- Under the transformational alternative, the annual demand for defense resources would average $451 billion, which is about 6 percent less than CBO's projection of the resource implications of DoD's current plans.

Figure 1-2

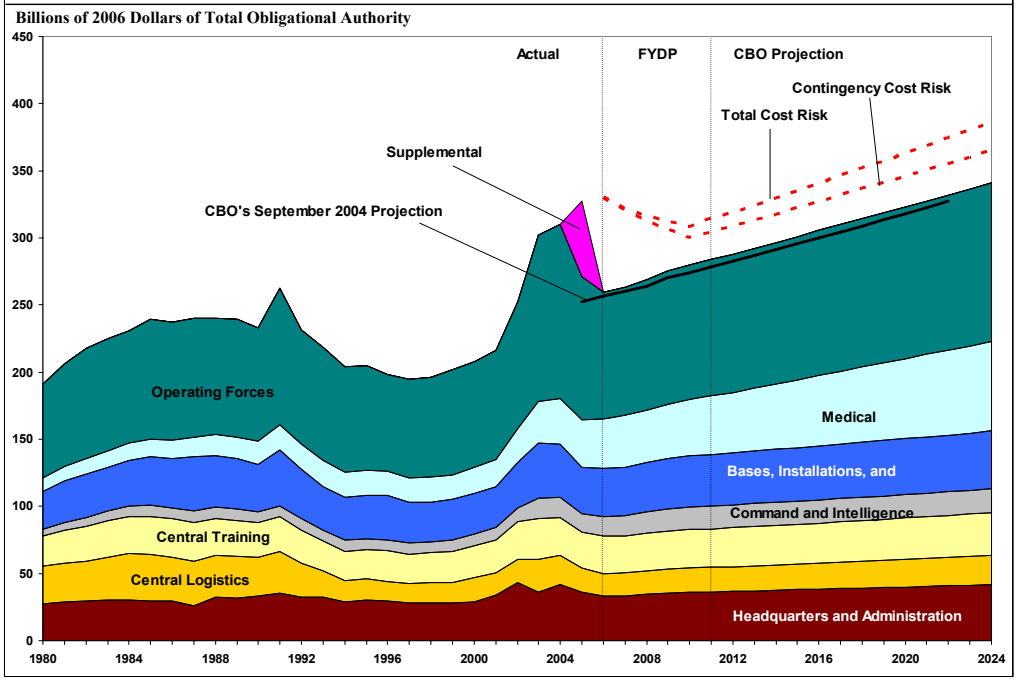
Spending for Defense as a Share of Gross Domestic Product



- This chart updates Figure 1-2 of CBO's September 2004 Web document. It compares past and projected spending for DoD with the size of the U.S. economy.
- DoD's spending measured as a share of gross domestic product (GDP) grew through the early 1980s, reaching a high point in 1983. Its share of GDP declined thereafter, reaching a low point in 1999.
- Defense spending's share of GDP has grown through 2005, but thereafter it begins a gradual and steady decline. That drop occurs because projected real (inflation-adjusted) increases in GDP outpace projected increases in defense outlays under all three of the alternatives—with and without cost risk—that CBO considered.

Figure 2-1 Updated

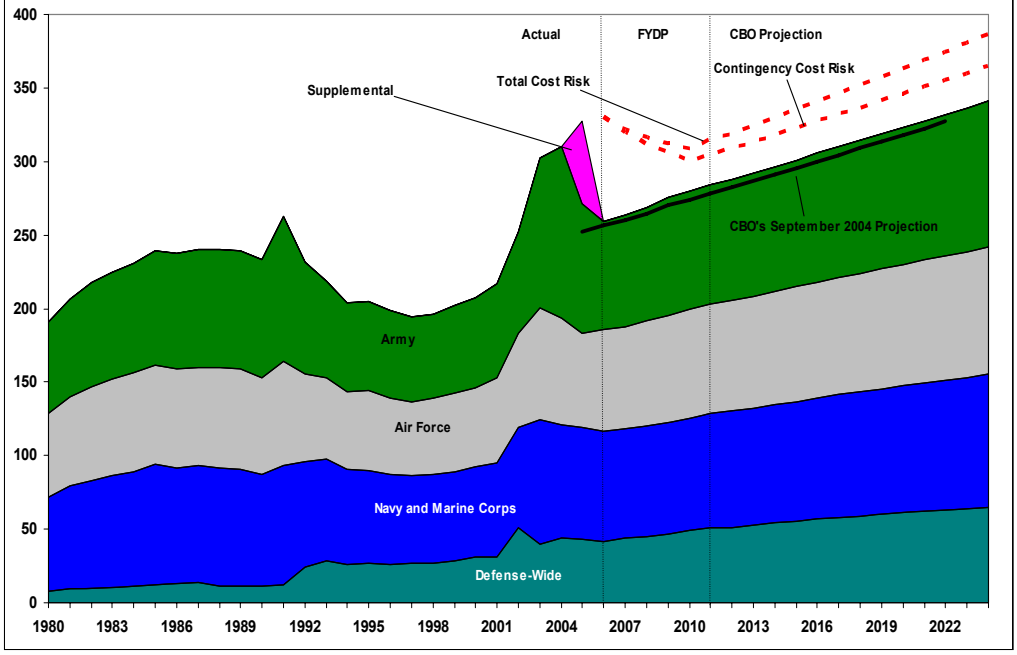
Spending for Operation and Support, by Functional Category



- This chart updates Figure 2-1 of CBO's September 2004 Web document. The operation and support (O&S) budget, which accounts for about 65 percent of defense spending, pays for DoD's day-to-day operations as well as for military and civilian payrolls. CBO projects that O&S spending without cost risk will reach $341 billion in 2024.
- Most of the projected increase in O&S spending results from the growing cost of medical benefits for military personnel and from rising wages for both military and civilian personnel.
- As the dashed red lines in the figure show, growth in the demand for O&S resources could be greater than DoD anticipates. CBO estimates that the O&S budget with cost risk may reach $386 billion in 2024. The cost risks include:
    - Continued involvement in contingency operations associated with the global war on terrorism, such as those in Afghanistan, Iraq, and elsewhere (that cost risk decreases from $71 billion in 2006 to $24 billion in 2024);
    - Faster-than-expected growth of DoD's health care costs ($12 billion of cost risk in 2024); and
    - A permanent increase of 30,000 in the Army's end strength ($3 billion of cost risk in 2024).
- CBO created subcategories of O&S spending based on force and infrastructure codes used within DoD.
- Increases in military and civilian pay account for all of CBO's projected spending growth in every subcategory except "Operating Forces" (see Figure 2-4 Updated) and "Medical" (see Figure 2-5 Updated). CBO projects that those pay levels will grow at the same rate as the employment cost index (ECI), a measure of the average pay level in the U.S. civilian economy.

Figure 2-2 Updated

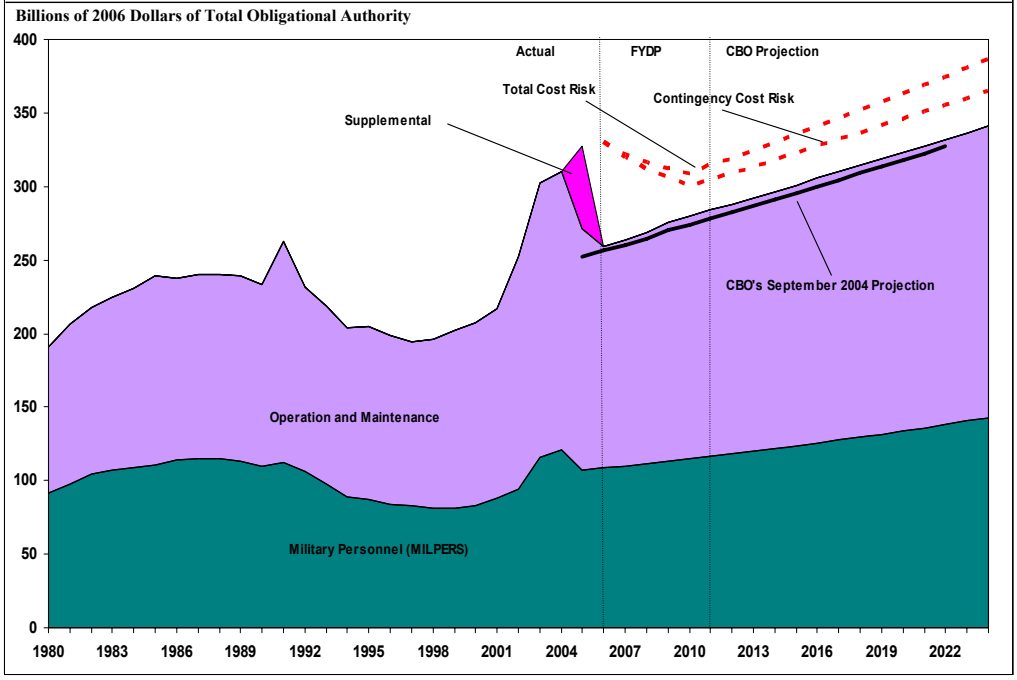
Spending for Operation and Support, by Military Department



- This chart updates Figure 2-2 of CBO's September 2004 Web document. Between 2006 and 2011, the Departments of the Army, Navy, and Air Force will receive approximately 29, 28, and 26 percent of the O&S budget, respectively. Defensewide activities (labeled "Other DoD" in the figure), which include the Defense Health Program, make up the rest of the O&S budget.
- CBO projects that for every department, average annual O&S spending will grow by between 1.2 percent and 1.9 percent from 2012 to 2024.
- The Army has received the largest proportion of supplemental contingency funding for current operations.

Figure 2-3a Updated

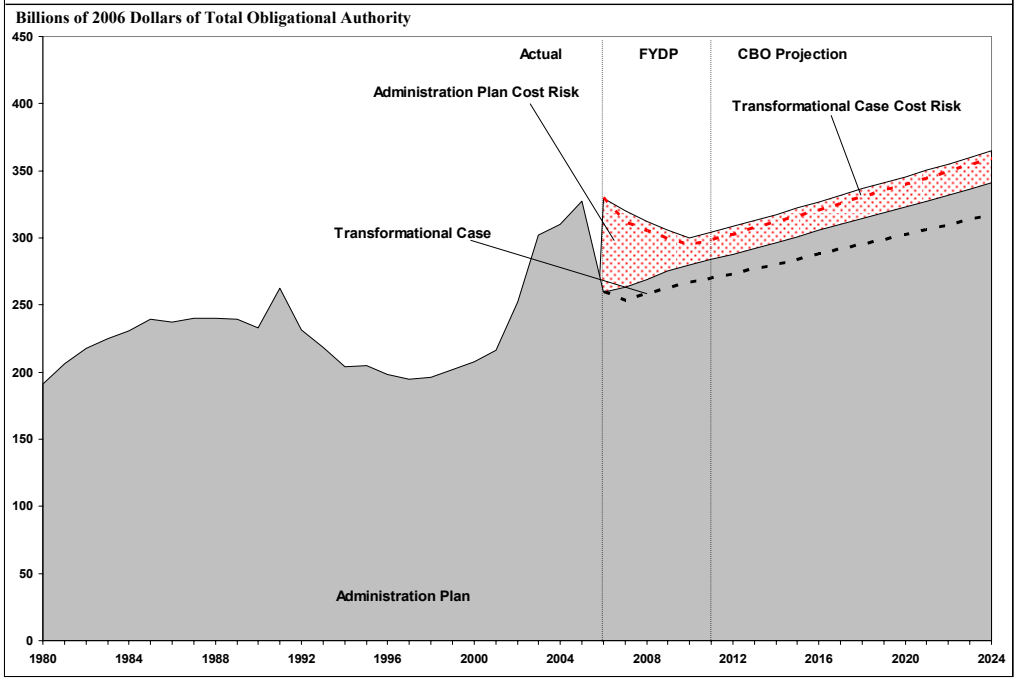
Spending for Operation and Support, by Account



- This chart updates Figure 2-3 of CBO's September 2004 Web document. CBO projects that military personnel spending will increase from $118 billion in 2012 to $143 billion in 2024, an average annual growth rate of 1.6 percent. That growth is attributable to two factors:
  - CBO's assumption, which is consistent with DoD's planning documents, that military pay raises must keep pace with the ECI; and
  - CBO's assumption, which is consistent with that of DoD's actuaries, that medical accrual costs will steadily increase. Those costs are intended to fund future medical spending for military retirees and dependents when they reach age 65.
- Operation and maintenance (O&M) spending will increase from $170 billion in 2012 to $198 billion in 2024, CBO projects, for an average annual growth rate of 1.3 percent. Most of that growth stems from:
  - The assumption that DoD must provide civilian employees with pay raises equivalent to the ECI; and
  - Increasing medical costs associated with the Defense Health Program.
- Most supplemental contingency funding for operations in Iraq, Afghanistan, and elsewhere is allocated to the O&M category.

Figure 2-3b

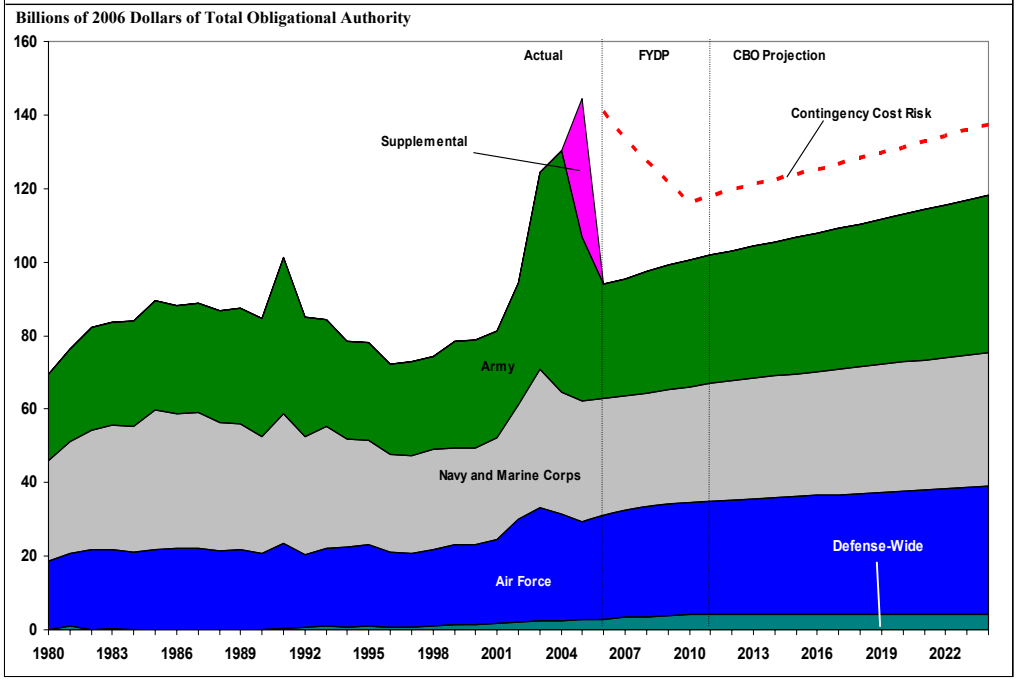
CBO's Transformational Alternative: Spending for Operation and Support



- This chart displays CBO's projections of the O&S funding associated with its transformational and evolutionary alternatives to DoD's current plans. (The differences in content between those alternatives and CBO's projections of the resource implications of the 2006 FYDP are summarized in Table 1 of CBO's *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006.)*
- There is no significant difference between CBO's projection of the O&S resource demands for carrying out DoD's current plans and its projection of the O&S demands associated with its evolutionary alternative. CBO's projection indicates that under current plans, the average annual demand for O&S resources will be $301 billion over the period from 2006 to 2024.
- Under the transformational alternative, the average annual demand for O&S resources over the 2006-2024 period would be $284 billion, which is about 5 percent less than CBO's projection of the O&S resources necessary to carry out DoD's current plans during the same period.

Figure 2-4 Updated

Spending for Operating Forces, by Military Department

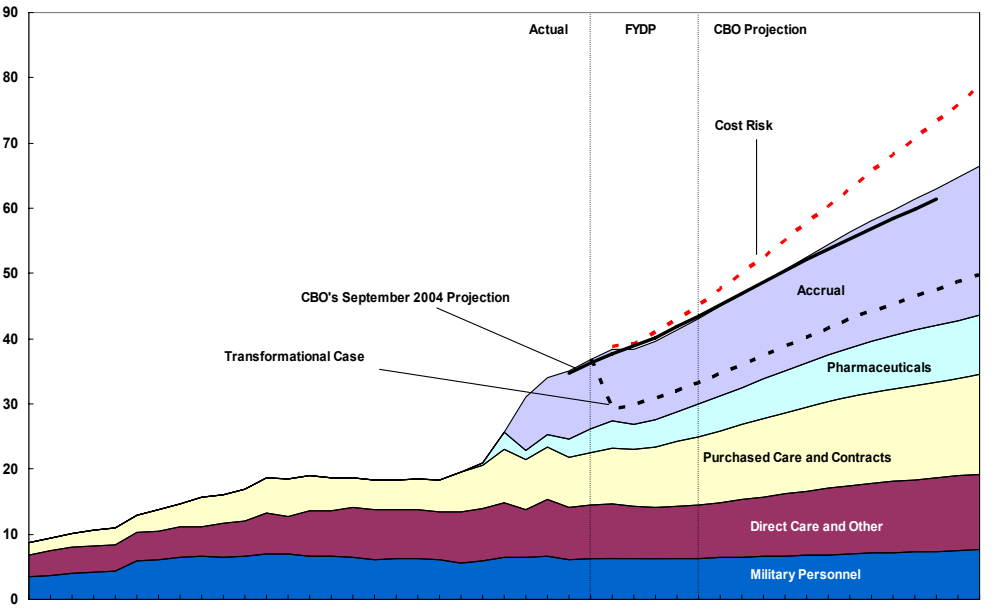


- This chart updates Figure 2-4 of CBO's September 2004 Web document. The O&S subcategory "Operating Forces" pays for military and support units assigned to combatant commands.
- CBO projects that the Operating Forces subcategory will experience $6 billion of spending growth in addition to pay increases. That extra growth results from:
    - Continuing long-term trends of rising O&M costs per active-duty service member in the Army and Marine Corps ground forces;
    - Increased O&M costs for aging weapon systems; and
    - New weapon systems that are more complex and have higher O&M costs than the systems they replace.
- By CBO's estimates, the Operating Forces subcategory receives about two-thirds of all supplemental contingency funding. Therefore, CBO has allocated about two-thirds of contingency cost risk to that subcategory.

Figure 2-5 Updated

Spending for the Military Medical System, by Category

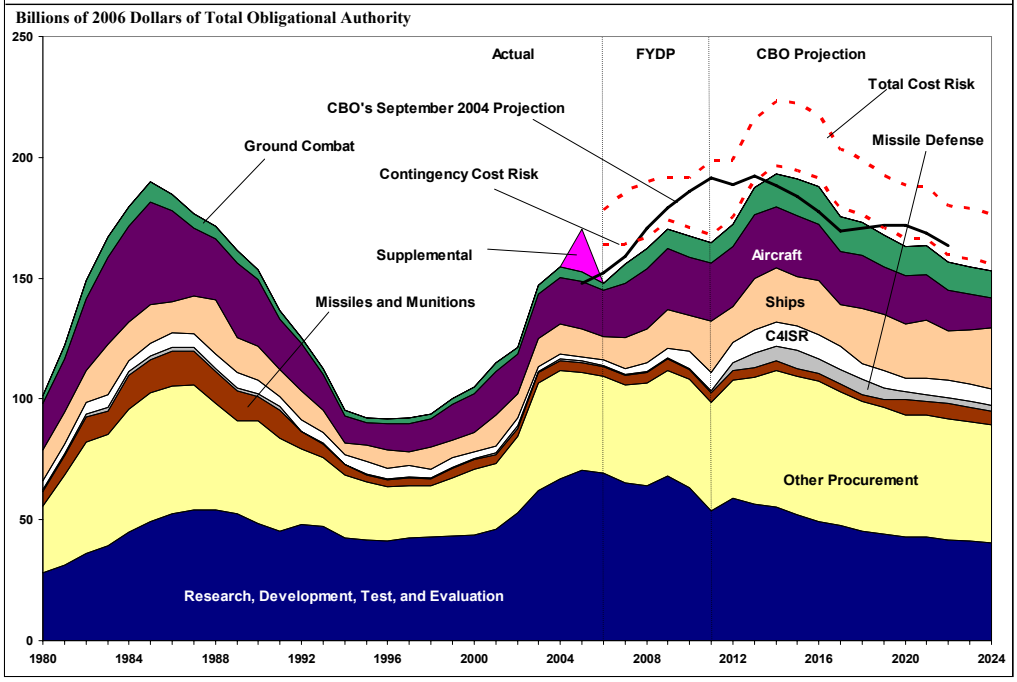
Billions of 2006 Dollars of Total Obligational Authority



- This chart updates Figure 2-5 of CBO's September 2004 Web document. CBO estimates that total real medical spending will increase by 80 percent, from $37 billion in 2006 to more than $66 billion by 2024. Real medical spending including cost risk could more than double, exceeding $79 billion by 2024, CBO projects.
- Accrual payments for beneficiaries who are age 65 or older will make up more than 40 percent of the increase in medical spending. CBO's projection indicates that by 2024, accrual payments will be more than twice as large in real terms as they are currently, reaching a total of nearly $23 billion.
- Pharmaceuticals make up the fastest-growing category of medical spending. Real drug expenditures without cost risk will nearly triple, CBO estimates, climbing from $3.6 billion in 2006 to $9.1 billion in 2024; expenditures including cost risk will nearly quadruple, rising to $12.7 billion in 2024.
- Purchased care and private-sector contracts are projected to grow by 89 percent in real terms, from $8 billion in 2006 to $15.2 billion in 2024. Spending in that category including cost risk could increase by 130 percent in real terms, reaching $18.5 billion in 2024.
- The category that comprises the military's direct-care system and other medical spending is projected to grow by 43 percent in real terms, from $8.2 billion in 2006 to $11.6 billion in 2024. If costs grew more quickly than DoD has anticipated, spending in that category could rise by 109 percent in real terms, reaching $17 billion in 2024.
- CBO anticipates that spending for uniformed medical personnel will grow in real terms by only 20 percent by 2024, paralleling the rate of growth of spending for other types of military personnel. CBO expects real spending in the military personnel category to grow from $6.4 billion in 2006 to $7.6 billion in 2024.
- Under CBO's transformational alternative, the introduction of increased deductibles and copayments for military dependents and retirees would reduce medical spending—compared with its level under the Administration's plan—by about 25 percent by 2024.

Figure 3-1a Updated

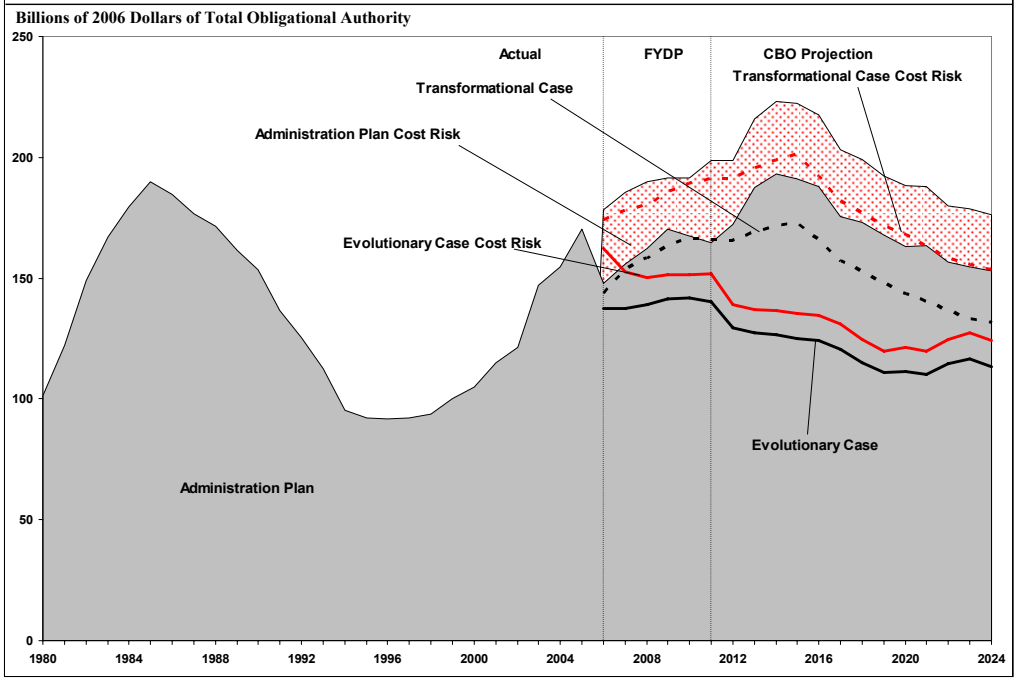
Spending for Investment, by Budget Account and Weapon Type



- This chart updates Figure 3-1 of CBO's September 2004 Web document. It provides a breakout of the more than one-third of DoD's budget (about $148 billion in 2006) allocated to investment, which funds development and procurement of DoD's weapon systems.
- The 2006 FYDP anticipated that investment spending would grow to $165 billion by 2011—about 11 percent more than the spending expected for 2006. On the basis of that plan, CBO projects that if weapons costs do not grow as they have historically, investment resources will continue to increase, reaching about $193 billion by 2014, and then decline. Over the 2012-2024 period, those resources would average about $172 billion a year.
- Investment demands in CBO's current projection peak one year later than they did in CBO's September 2004 projection (2014 versus 2013). That change resulted primarily from delays—relative to CBO's previous assumptions—in the Air Force's planned schedules for executing several of its space programs.
- If the costs of weapons grow in the future as they have over the past 30 years, resource requirements for planned purchases in 2011 could equal $199 billion, or about 21 percent more than they would without cost growth. In that case, funding during the 2012-2024 period could average almost $199 billion, or about 16 percent more than it would without cost growth.

Figure 3-1b

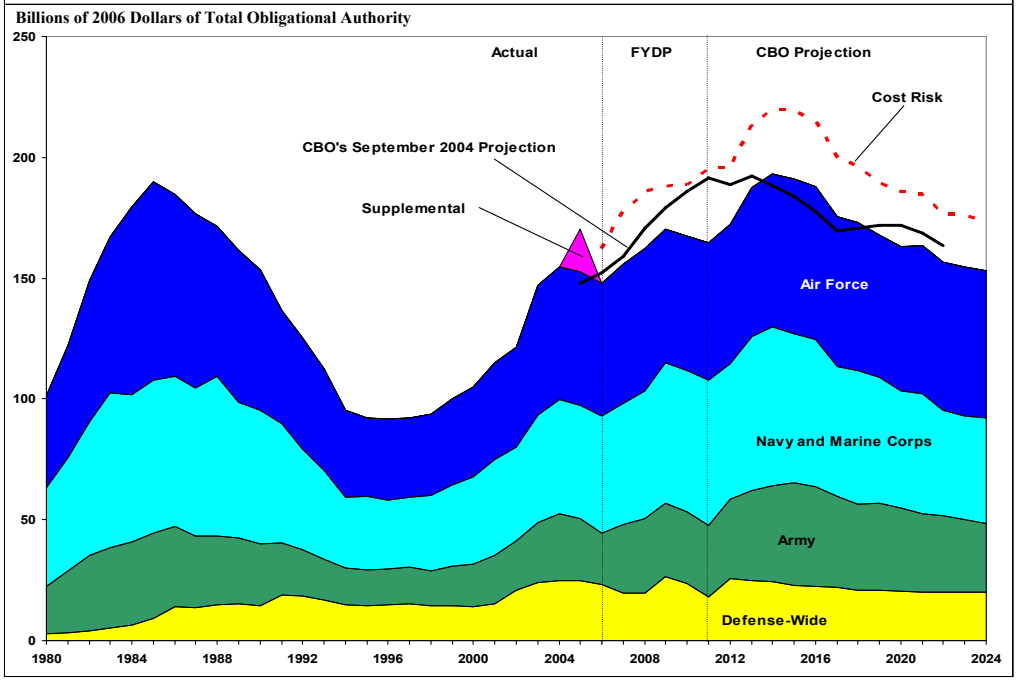
CBO's Evolutionary and Transformational Alternatives: Spending for Investment



- This chart displays CBO's projections of the implications for investment resources under its transformational and evolutionary alternatives to DoD's current plans. (The differences in content between those alternatives and CBO's projections of the implications of the 2006 FYDP are summarized in Table 1 of CBO's *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006.)*
- Under CBO's projection of the implications of DoD's current plans, the average annual demand for investment resources (excluding cost risk) would be $169 billion over the period from 2006 to 2024. That demand with cost risk would average $196 billion annually.
- Under the evolutionary alternative, the average annual demand for investment resources over the 2006-2024 period would be $125 billion. With cost risk, that demand would average $137 billion annually.
- Under the transformational alternative, the average annual demand for investment resources over the 2006-2024 period would be $155 billion. That demand with cost risk would average $179 billion annually.

Figure 3-2 Updated

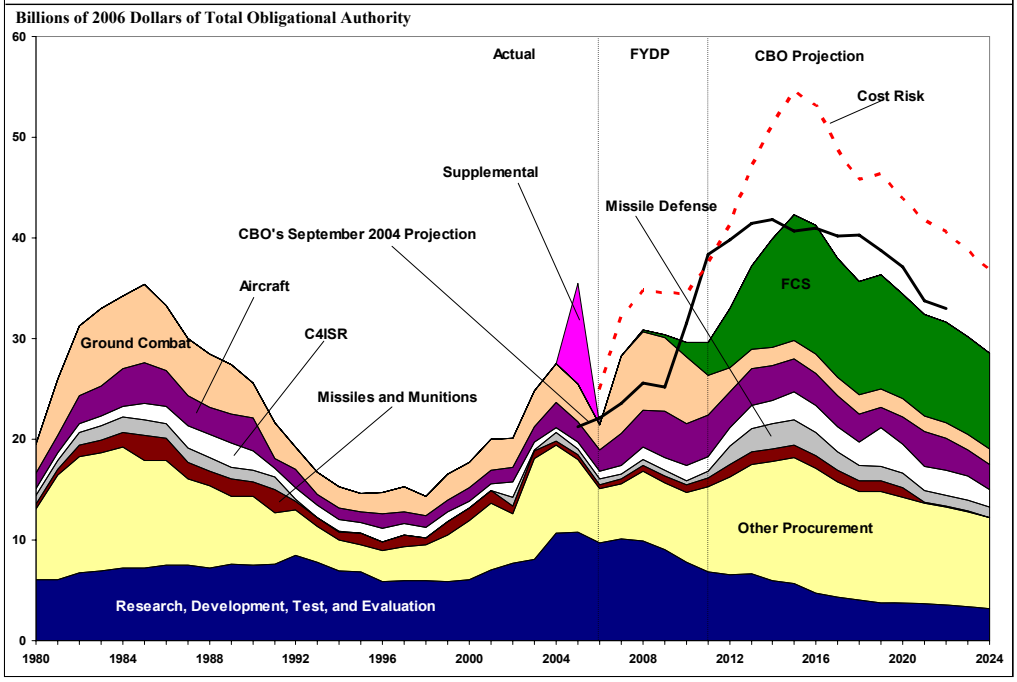
Spending for Investment, by Military Department



- This chart updates Figure 3-2 of CBO's September 2004 Web document. During the period from 1980 to 2004, DoD's investment resources were distributed as follows:
  - Army investment averaged $23 billion, or 17 percent of total DoD investment;
  - Navy and Marine Corps investment averaged $46 billion, or 34 percent of the total;
  - Air Force investment averaged $51 billion, or 38 percent of the total; and
  - Investment in other DoD activities averaged $14 billion, or 10 percent of the total.
- During the period from 2006 to 2011, DoD anticipates allocating its investment resources as follows:
  - Army investment would average $28 billion, or 18 percent of total DoD investment;
  - Navy and Marine Corps investment would average $55 billion, or 34 percent of the total;
  - Air Force investment would average $57 billion, or 35 percent of the total; and
  - Investment in other DoD activities would average $22 billion, or 14 percent of the total.
- During the period spanned by CBO's projection (2012 to 2024), DoD's investment resources would be distributed as follows:
  - Army investment would average $35 billion, or 21 percent of total DoD investment;
  - Navy and Marine Corps investment would average $61 billion, or 36 percent of the total;
  - Air Force investment would average $54 billion, or 31 percent of the total; and
  - Investment in other DoD activities would average $22 billion, or 13 percent of the total.

Figure 3-3a Updated

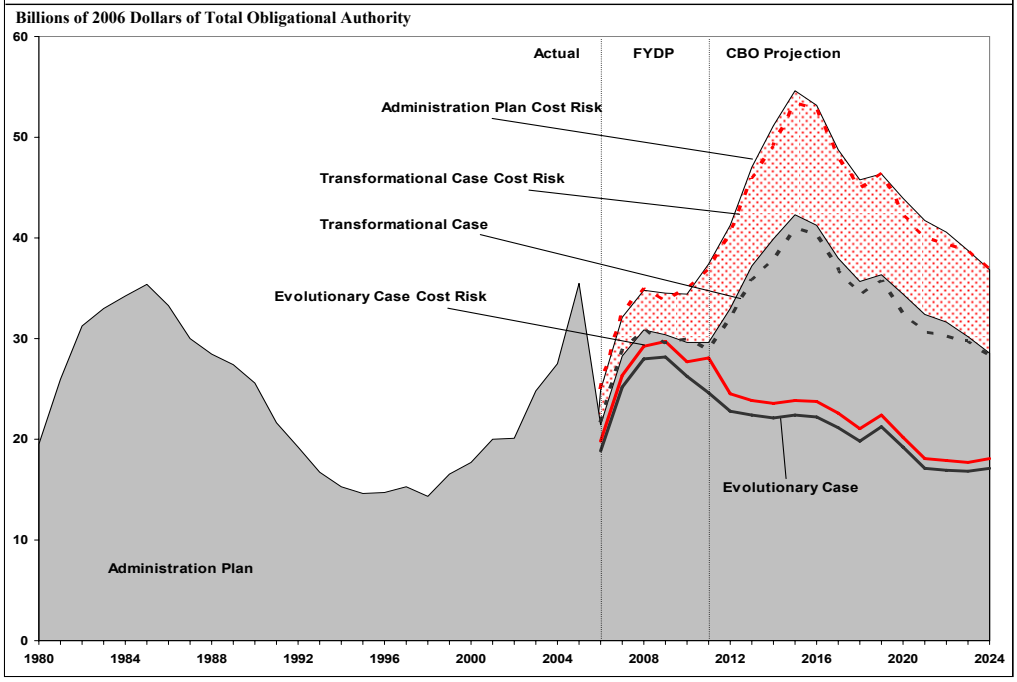
Past and Projected Spending for Army Investment



- This chart updates Figure 3-3 of CBO's September 2004 Web document. It depicts the Army's past overall level of investment and future investment plans.
- On the basis of those plans, CBO projects that the Army's investment spending will exceed its previous (1985) peak of $35 billion in 2013, reach a new peak of $42 billion in 2015, and then decline to about $29 billion by 2024.
- CBO's projection of the Army's annual investment spending from 2012 to 2024 averages about $35 billion. Peak demand for Army investment resources has shifted relative to CBO's previous projection, primarily as a result of delays in the Army's schedule for developing and fielding the Future Combat Systems (FCS).

Figure 3-3b

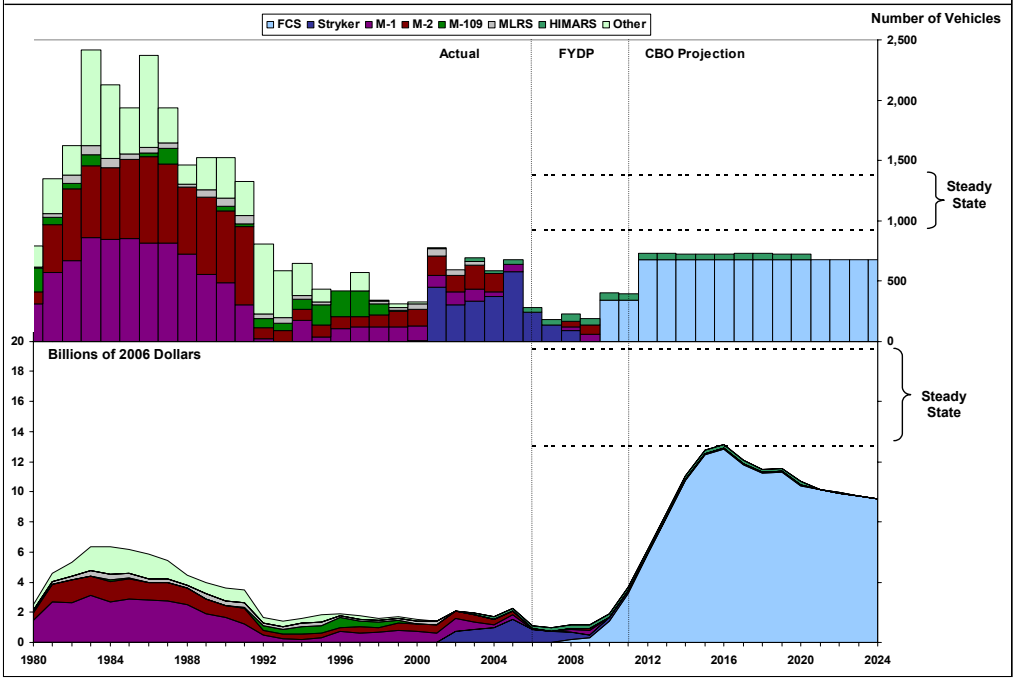
CBO's Evolutionary and Transformational Alternatives: Spending for Army Investment



- This chart displays CBO's projections of the implications for investment resources under its transformational and evolutionary alternatives to the Army's current plans. (The differences in content between those alternatives and CBO's projections of the implications of the 2006 FYDP are summarized in Table 2 of CBO's *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006.)*
- Under CBO's projection of the implications of DoD's current plans, the average annual demand for Army investment resources (excluding cost risk) would be $33 billion over the period from 2006 to 2024. That demand with cost risk would average $41 billion annually.
- Under the evolutionary alternative, the average annual demand for Army investment resources over the 2006-2024 period would be $22 billion. (The large difference between demand under the evolutionary alternative and under CBO's projection of DoD's current plans is due to the cancellation of the Future Combat Systems program under the evolutionary alternative.) With cost risk, the demand for Army investment resources under this alternative would average $23 billion annually.
- Under the transformational alternative, the average annual demand for investment resources over the 2006-2024 period would be $32 billion. (The transformational alternative would retain the Future Combat Systems program.) That demand with cost risk would average $41 billion annually.

Figure 3-4a Updated

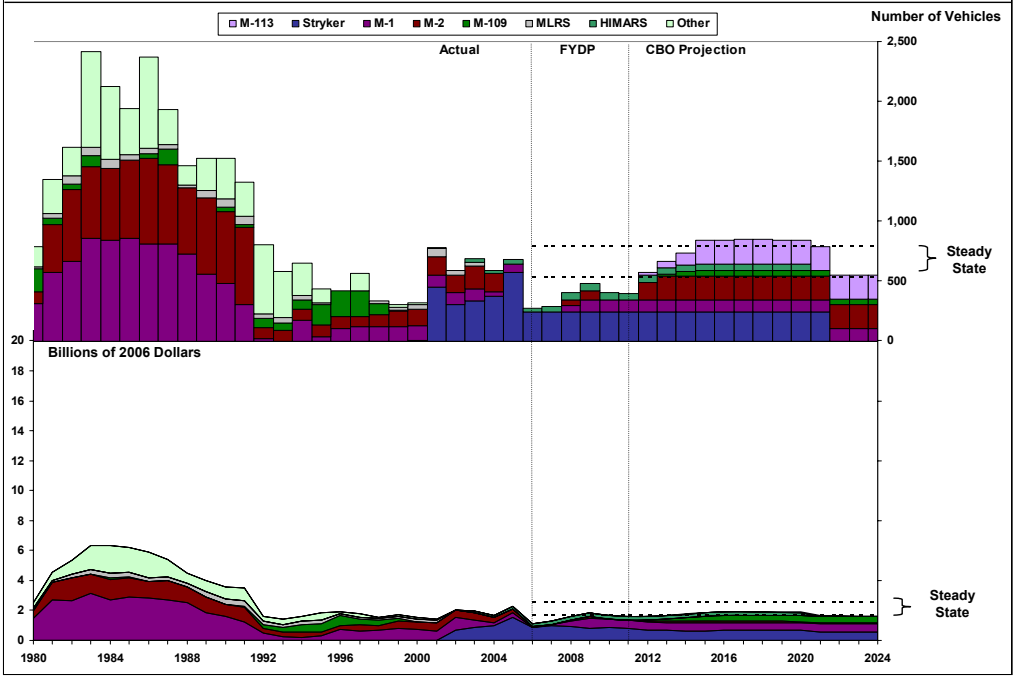
Procurement of Army Ground Combat Vehicles Under DoD's Current Plans



- This chart updates Figure 3-4 of CBO's September 2004 Web document. It shows past and projected purchases of ground combat vehicles for the Army as measured by number of vehicles (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- The "Other" category includes such vehicles as the M-88 recovery vehicle, the field artillery ammunition supply vehicle, and the M-113 armored personnel carrier.
- Purchases of ground combat vehicles during the 1990s averaged 480 per year, or roughly one-third of the upper end of the range of steady-state purchases needed to sustain the fleet indefinitely.
- Under DoD's current plans and CBO's projections of their implications, the FCS program—a key element of the Army's transformation plans—would:
    - Purchase the first FCS vehicles for the Army's brigades in 2010; and
    - Purchase enough FCS vehicles to equip two brigades a year beginning in 2012.
- The projected annual procurement rate of almost 700 FCS vehicles would not be sufficient to maintain the combat vehicle fleet in a steady state.
- The Army's current plans differ from its 2005 plans in that they delay procurement of the first full brigade of FCS equipment from 2009 to 2010.
- CBO's projections for procurement of Army ground combat vehicles were based on the December 2004 Selected Acquisition Report (SAR) for the FCS program. Since that time, DoD has issued a new SAR showing that the program's costs have increased by about 50 percent.

Figure 3-4b

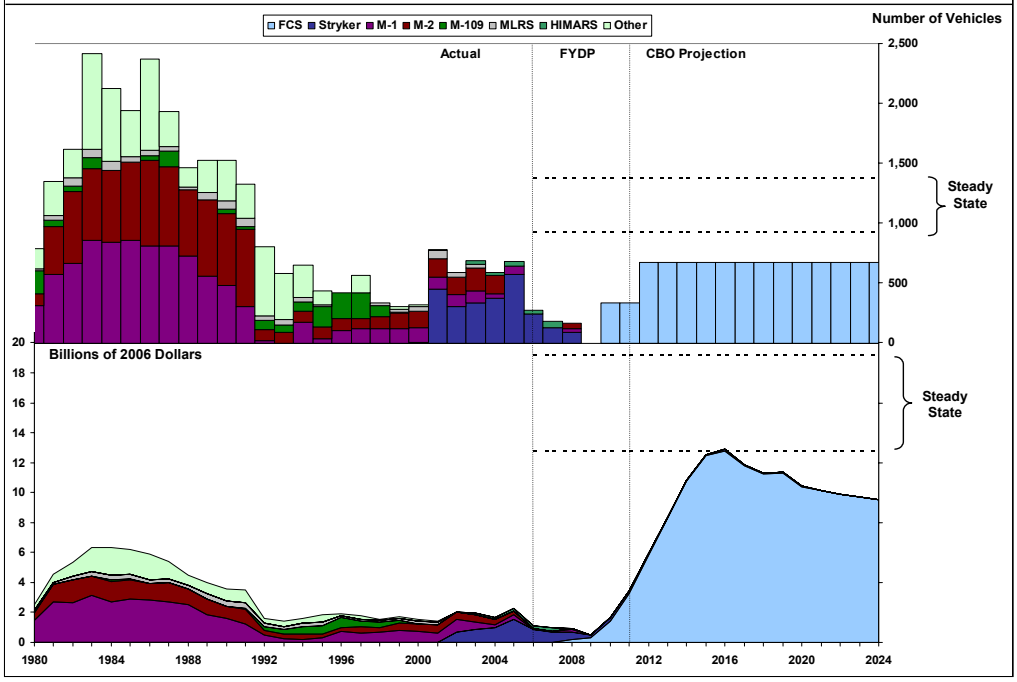
Procurement of Army Ground Combat Vehicles Under CBO's Evolutionary Alternative



- This chart shows past and projected purchases of ground combat vehicles for the Army under CBO's evolutionary alternative as measured by number of vehicles (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- In contrast to DoD's current plans to procure vehicles as part of the Future Combat Systems program, the ground combat vehicles purchased under CBO's evolutionary case would be upgraded versions of existing equipment, including M-1 Abrams tanks and M-2 Bradley fighting vehicles.
- Because the costs for those upgrades would be lower than current estimates of the costs for FCS vehicles, average annual procurement of ground combat vehicles under the evolutionary case would be $1.7 billion, or 77 percent less than under CBO's projection of the Army's current plans.

Figure 3-4c

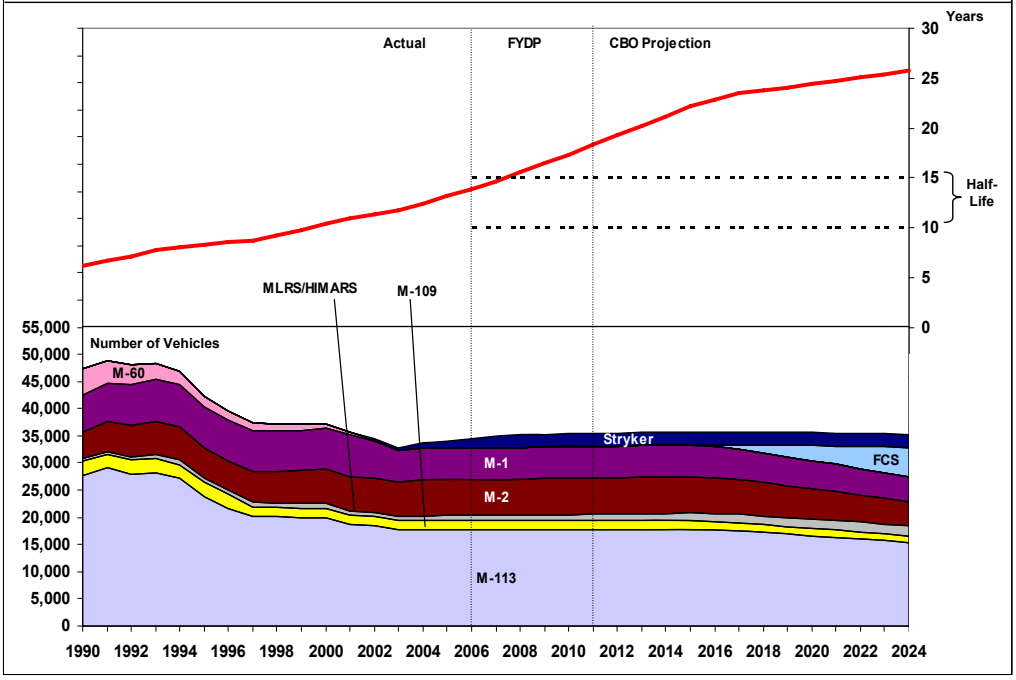
Procurement of Army Ground Combat Vehicles Under CBO's Transformational Alternative



- This chart shows past and projected purchases of ground combat vehicles for the Army under CBO's transformational alternative as measured by number of vehicles (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the transformational case, the Army would forgo upgrades to its existing ground combat vehicles and allow its current systems to continue aging as the Future Combat Systems were procured.
- Relative to the Army's current plans, that change would save an average of about $180 million annually over the period from 2012 to 2024.

Figure 3-5a Updated

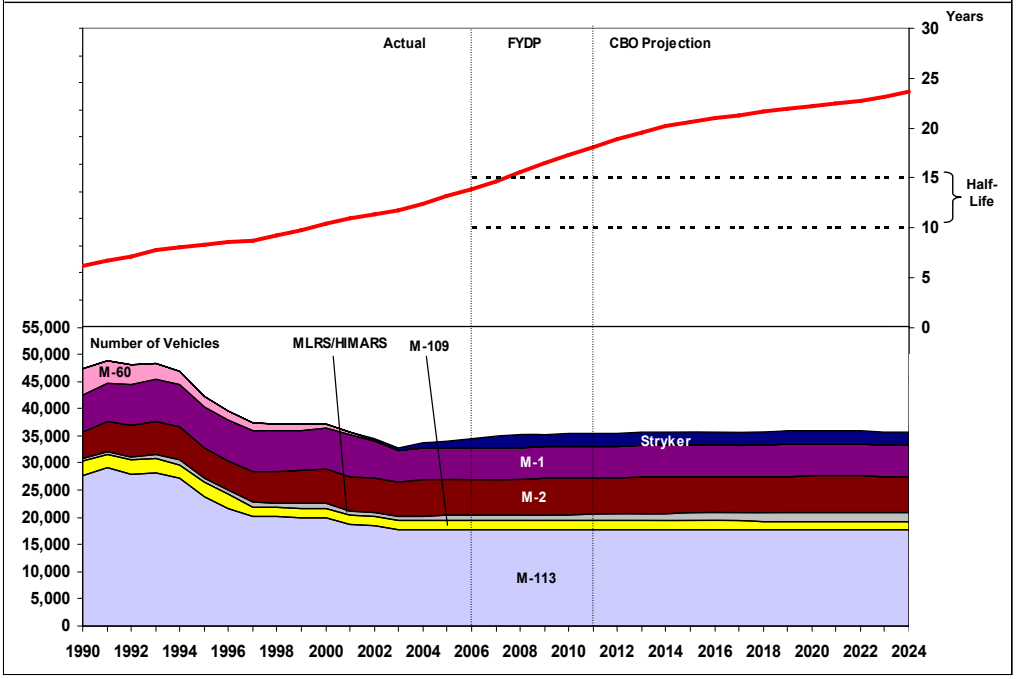
Age and Inventory of Army Ground Combat Vehicles Under DoD's Current Plans



- This chart updates Figure 3-5 of CBO's September 2004 Web document. It shows the average age of the Army's fleet of ground combat vehicles (the top part of the chart) and inventories of the various vehicle types (the bottom part of the chart). The inventories cover the total number of vehicles that the Army now retains and that have not been retired. Those inventories are larger than the numbers of vehicles, including spares, that are needed to equip the Army's active and reserve units. For example, CBO estimates that the Army's total inventory of M-1 Abrams tanks exceeds by about 40 percent the number of tanks it would need to equip its units if they were all converted to a modular design.
- The Army has not purchased enough combat vehicles during the past 14 years to prevent its ground combat fleet as a whole from aging. Indeed, the fleet's average age has risen almost steadily since 1990. It is currently about 13 years—roughly double what it was in 1990.
- Deliveries of new vehicles will be insufficient to affect such aging until FCS vehicles begin to enter the fleet in 2012, at which point the fleet's average age will begin to rise less rapidly. After that, the age of the fleet will continue to increase because the planned rates for procuring Future Combat Systems will be lower than the steady-state procurement rates that would arrest aging for the Army's entire inventory of ground combat vehicles—including vehicles that are not needed to equip its forces.

Figure 3-5b

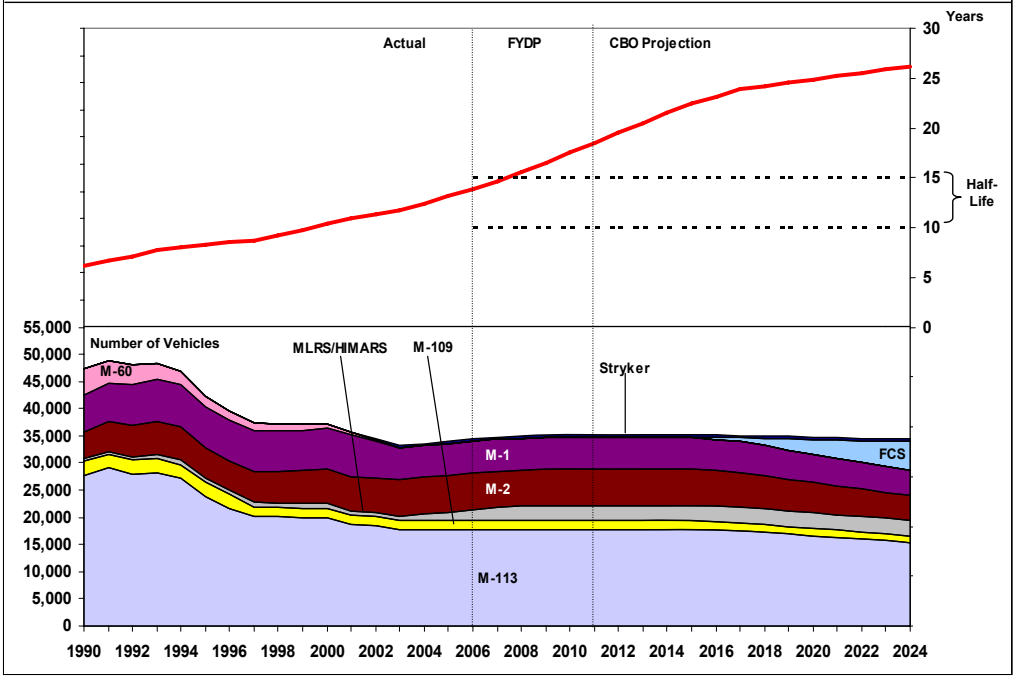
Age and Inventory of Army Ground Combat Vehicles Under CBO's Evolutionary Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Army's ground combat vehicles under CBO's evolutionary alternative. Under that case, the Army would purchase upgraded versions of existing equipment, including M-1 Abrams tanks and M-2 Bradley fighting vehicles, at the same rates as those planned for procurement of FCS vehicles. Therefore, aging trends would be essentially the same under DoD's current plans and CBO's evolutionary alternative.

Figure 3-5c

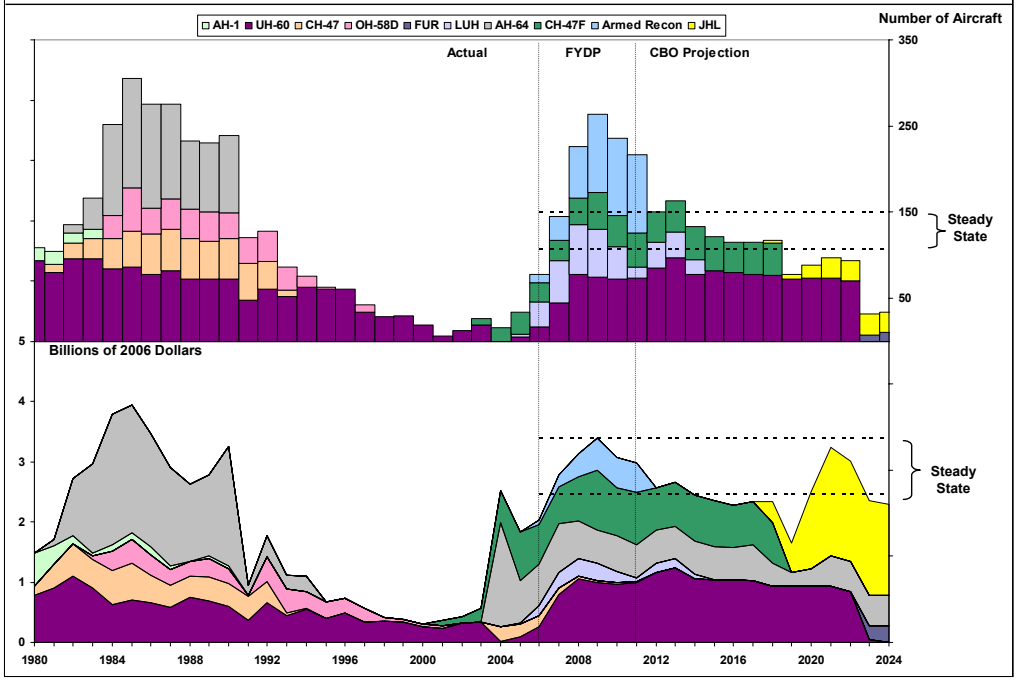
Age and Inventory of Army Ground Combat Vehicles Under CBO's Transformational Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Army's ground combat vehicles under CBO's transformational alternative. Under that case, the Army would purchase FCS vehicles, but it would forgo the (modest) purchases it had planned of upgraded versions of existing equipment, including M-1 Abrams tanks and M-2 Bradley fighting vehicles. As a result, under the transformational alternative, the average age of the Army's ground combat vehicles would rise to 26 years by 2024 rather than to 25 years.

Figure 3-6a Updated

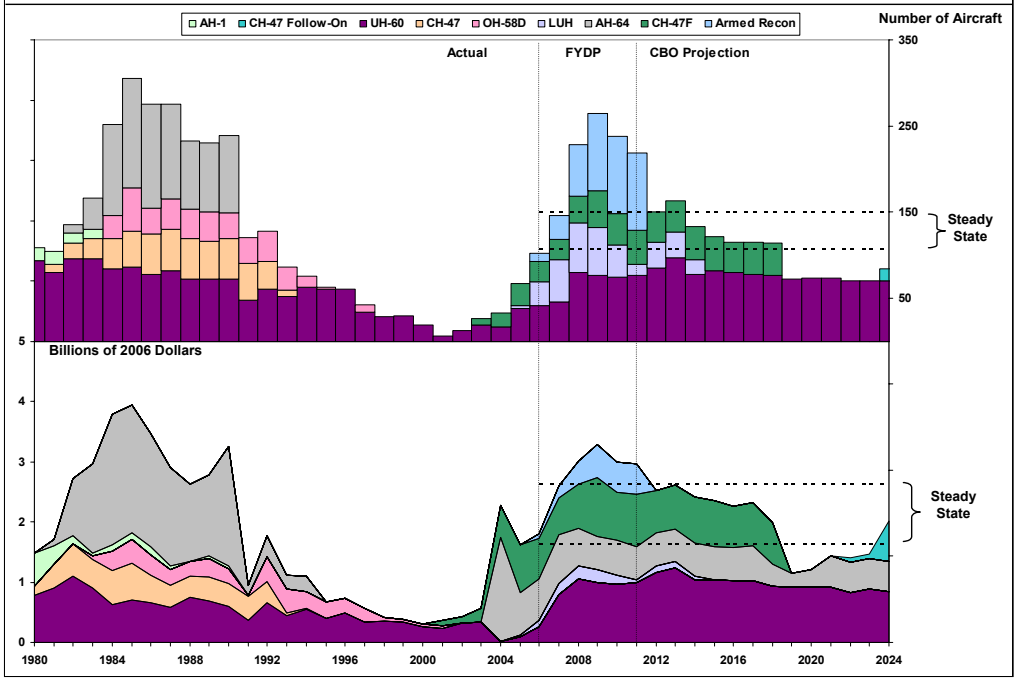
Procurement of Army Helicopters Under DoD's Current Plans



- This chart updates Figure 3-6 of CBO's September 2004 Web document. It shows past and projected purchases of helicopters for the Army as measured by number of helicopters (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- The Army plans to increase its annual purchases of new and remanufactured helicopters from 34 in 2005 to 216 by 2011, with a corresponding increase in funding during that period. Annual purchases are slated to decline after that, but they will remain relatively steady at about 93 from 2014 until 2022.

Figure 3-6b

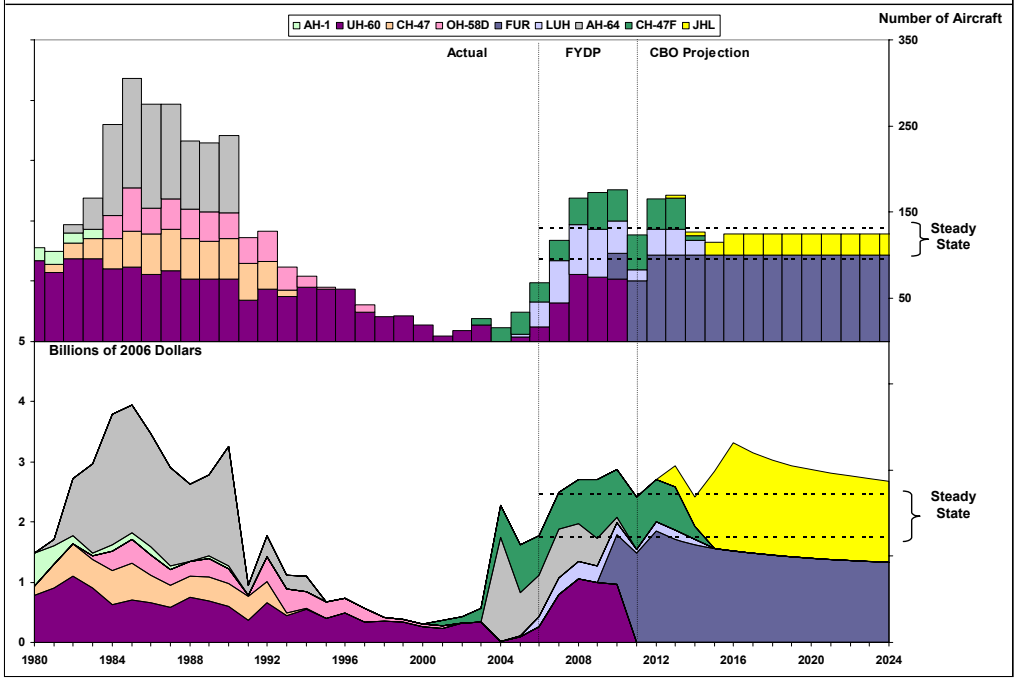
Procurement of Army Helicopters Under CBO's Evolutionary Alternative



- This chart shows past and projected purchases of helicopters for the Army under CBO's evolutionary alternative as measured by number of helicopters (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the evolutionary alternative, the Army would procure a follow-on to its existing CH-47 heavy-lift helicopter rather than a new Joint Heavy-Lift Helicopter. It would also forgo developing and purchasing a Future Utility Rotorcraft.

Figure 3-6c

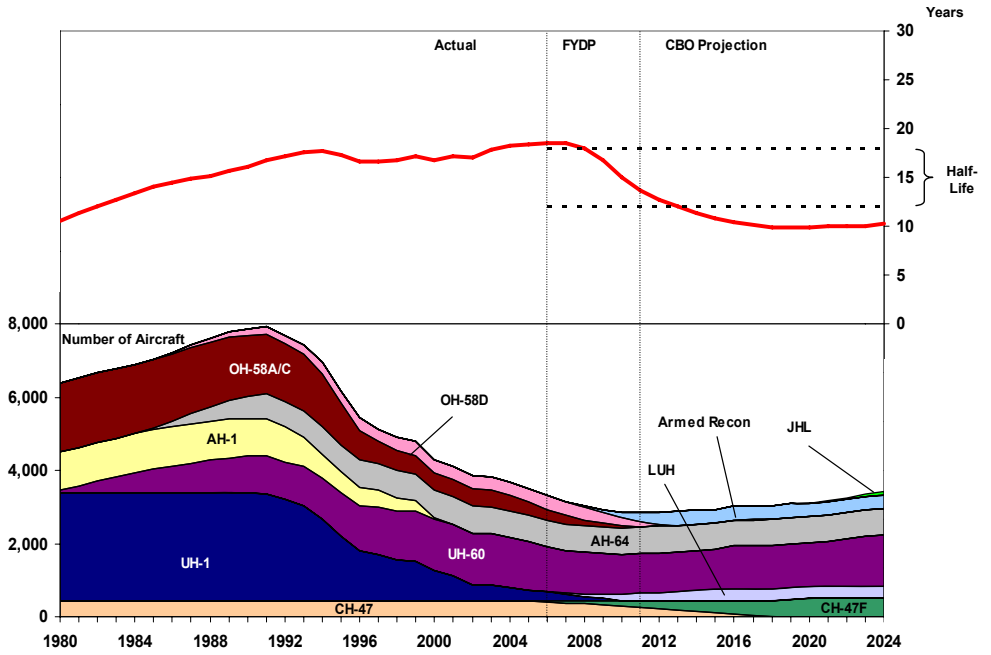
Procurement of Army Helicopters Under CBO's Transformational Alternative



- This chart shows past and projected purchases of helicopters for the Army under CBO's transformational alternative as measured by number of helicopters (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the transformational alternative, the Army would forgo procuring a new "off-the-shelf" armed reconnaissance helicopter—relying instead on unmanned aerial vehicles developed and procured as part of the FCS program to perform aerial reconnaissance. In addition, relative to current plans, the transformational alternative would accelerate procurement of both a new Future Utility Rotorcraft and a new Joint Heavy-Lift Helicopter.

Figure 3-7a Updated

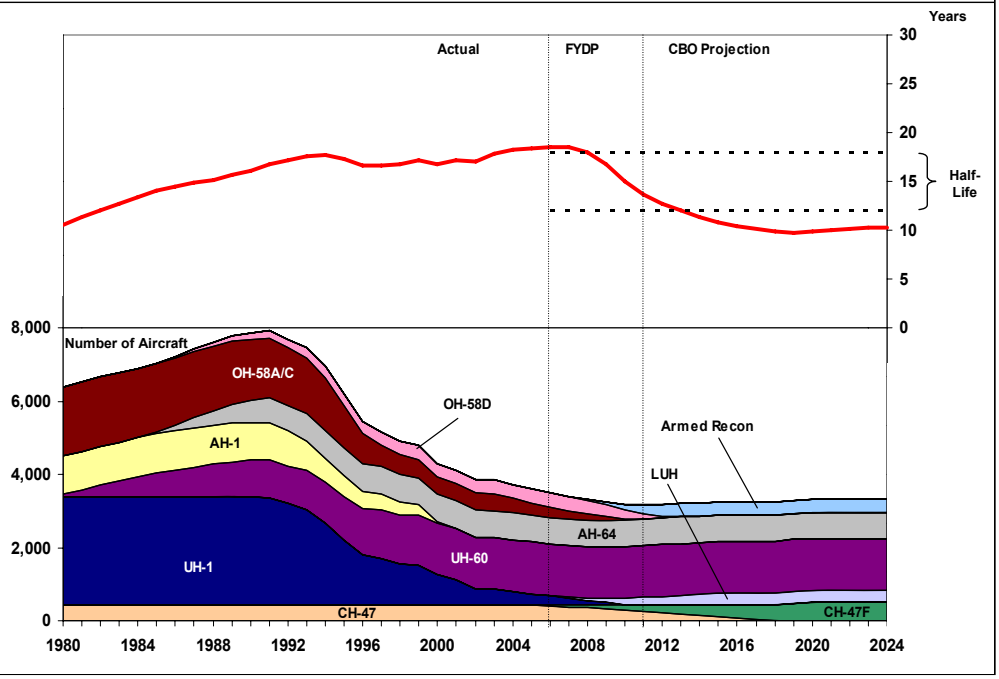
Age and Inventory of Army Helicopters Under DoD's Current Plans



- This chart updates Figure 3-7 of CBO's September 2004 Web document. It shows the average age of the Army's fleet of helicopters (the top part of the chart) and inventories of the various helicopter types (the bottom part of the chart).
- Although the Army has bought few new helicopters recently, it has retired a large number of older aircraft, reducing its total helicopter inventory to less than half of what it was in the late 1980s and early 1990s. Those retirements have allowed the average age of the helicopter fleet to remain within or close to the target half-life range.
- Beginning in about 2008, projected deliveries of new armed reconnaissance and utility helicopters will cause the average age of the fleet to stabilize, decline, and then stabilize again.

Figure 3-7b

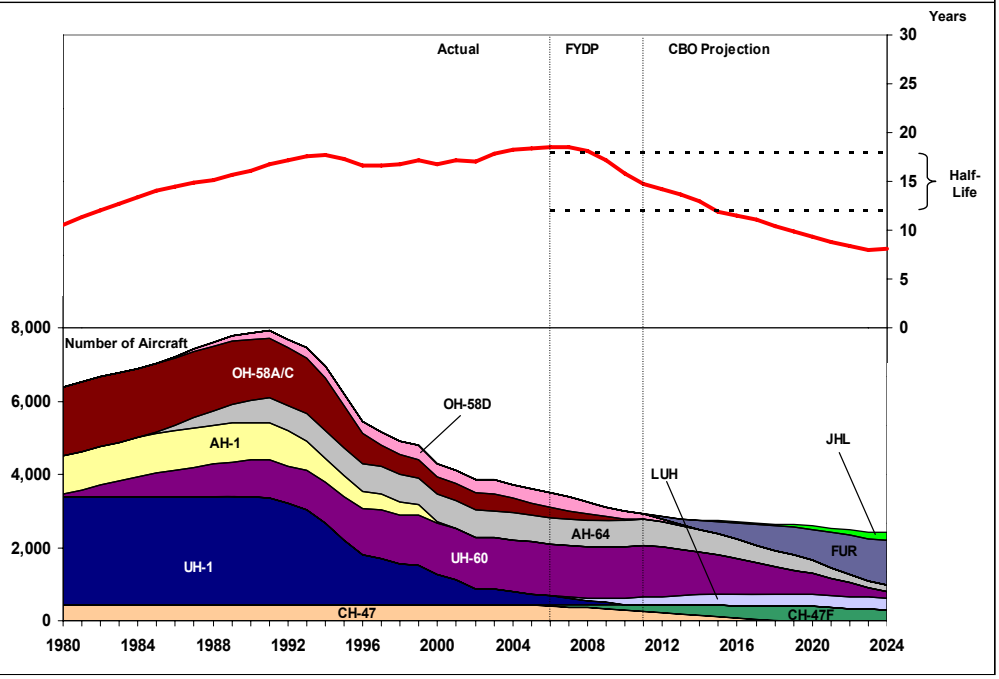
Age and Inventory of Army Helicopters Under CBO's Evolutionary Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Army's helicopters under CBO's evolutionary alternative, in which the Army would procure a follow-on to its existing CH-47 heavy-lift helicopter rather than a new Joint Heavy-Lift Helicopter.
- The aging trends projected under DoD's current plans and CBO's evolutionary alternative are similar because the projected numbers of helicopters to be purchased are similar under the two cases.

Figure 3-7c

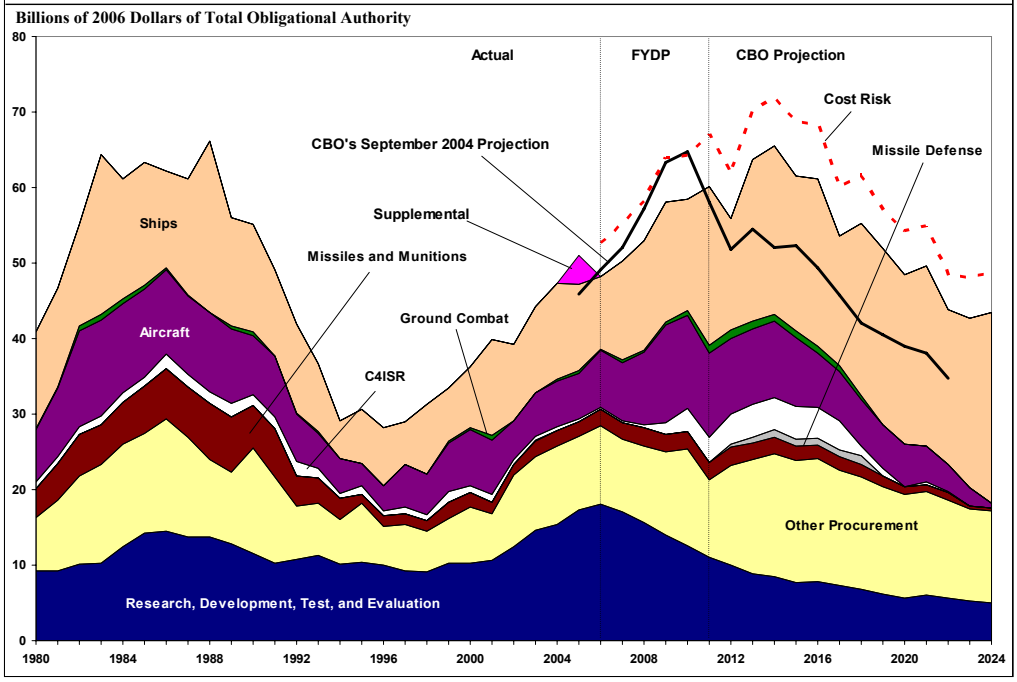
Age and Inventory of Army Helicopters Under CBO's Transformational Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Army's helicopters under CBO's transformational alternative, which would forgo procuring a new "off-the-shelf" armed reconnaissance helicopter and rely instead for airborne reconnaissance on unmanned aerial vehicles to be developed and procured as part of the FCS program. The transformational alternative would also accelerate—relative to current plans—procurement of both a new Future Utility Rotorcraft and Joint Heavy-Lift Helicopter.
- Because the transformational alternative would speed up purchases of new helicopters—particularly the Future Utility Rotorcraft—by comparison with current plans and would begin to retire the Army's Apache attack helicopters, the average age of the Army's helicopter fleet would decline steadily through 2024 rather than reach a plateau in about 2018.

Figure 3-9a Updated

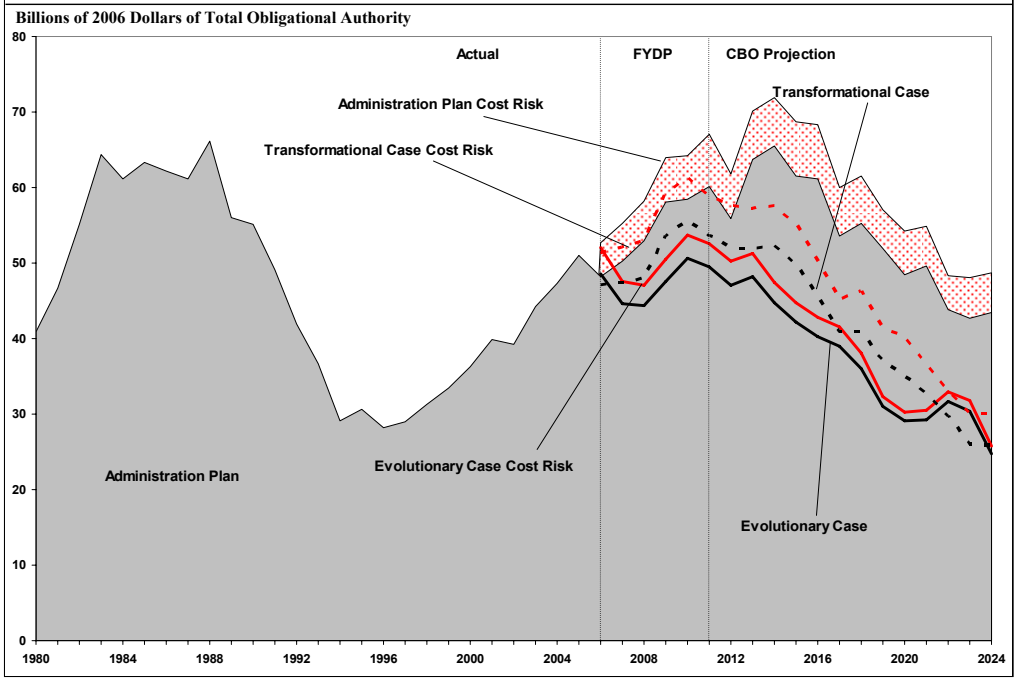
Past and Projected Spending for Navy and Marine Corps Investment



- This chart updates Figure 3-9 in CBO's September 2004 Web document. Under DoD's current plans, the Navy would increase investment from $48 billion in 2006 to a peak of about $66 billion in 2014. After that, investment resources would gradually decline—to $43 billion by 2024—averaging about $54 billion a year between 2012 and 2024.
- If costs grew as they have in the past, however, the Navy's investment spending could rise to a peak of about $72 billion in 2014, average $60 billion a year between 2012 and 2024, and then fall back to about $49 billion annually by the end of the period.
- Under the President's budget, the Navy's planned annual shipbuilding would grow from four to 12 ships between 2006 and 2011. Under the 2005 FYDP, the Navy had planned to buy 48 ships during the 2005-2009 period. Under the 2006 FYDP, the Navy plans to buy 49 ships from 2006 to 2011.
- For 2006, the President has requested one surface combatant, one attack submarine, one amphibious ship, and one support ship.
- The Marine Corps's plans for purchases through its procurement account have changed little from the 2005 to the 2006 FYDP. The service proposes to invest heavily in ground combat vehicles (such as the new Expeditionary Fighting Vehicle and the Future Light Combat Vehicle) to replace its current inventory of aging equipment, a plan that would require substantial resources over the next 20 years.

Figure 3-9b

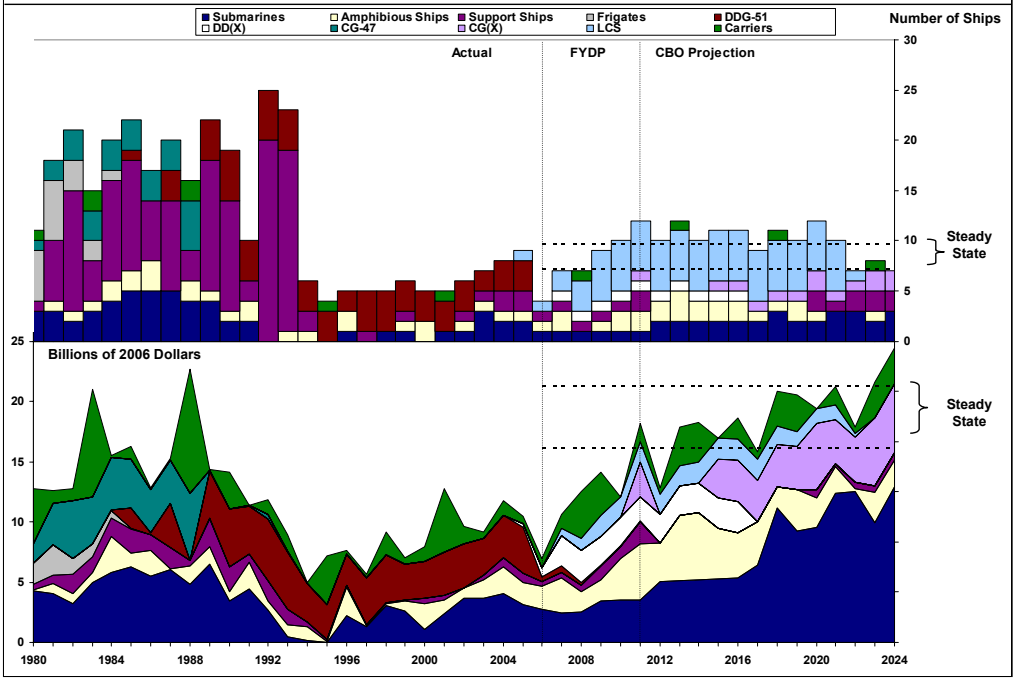
CBO's Evolutionary and Transformational Alternatives: Spending for Navy and Marine Corps Investment



- This chart displays CBO's projections of the implications for investment resources of its transformational and evolutionary alternatives to the Navy's and Marine Corps's current plans. (The differences in content between those alternatives and CBO's projections of the implications of the 2006 FYDP are summarized in Table 3 of CBO's *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006.)*
- Under CBO's projections of the implications of DoD's current plans, the average annual demand for Navy and Marine Corps investment resources (excluding cost risk) would be $54 billion over the period from 2006 to 2024. That demand with cost risk would average $60 billion annually.
- Under the evolutionary alternative, the average annual demand for Navy and Marine Corps investment resources over the 2006-2024 period would be $40 billion. With cost risk, that demand would average $42 billion annually.
- Under the transformational alternative, the average annual demand for investment resources over the 2006-2024 period would be $43 billion. That demand with cost risk would average $48 billion annually.

Figure 3-10a Updated

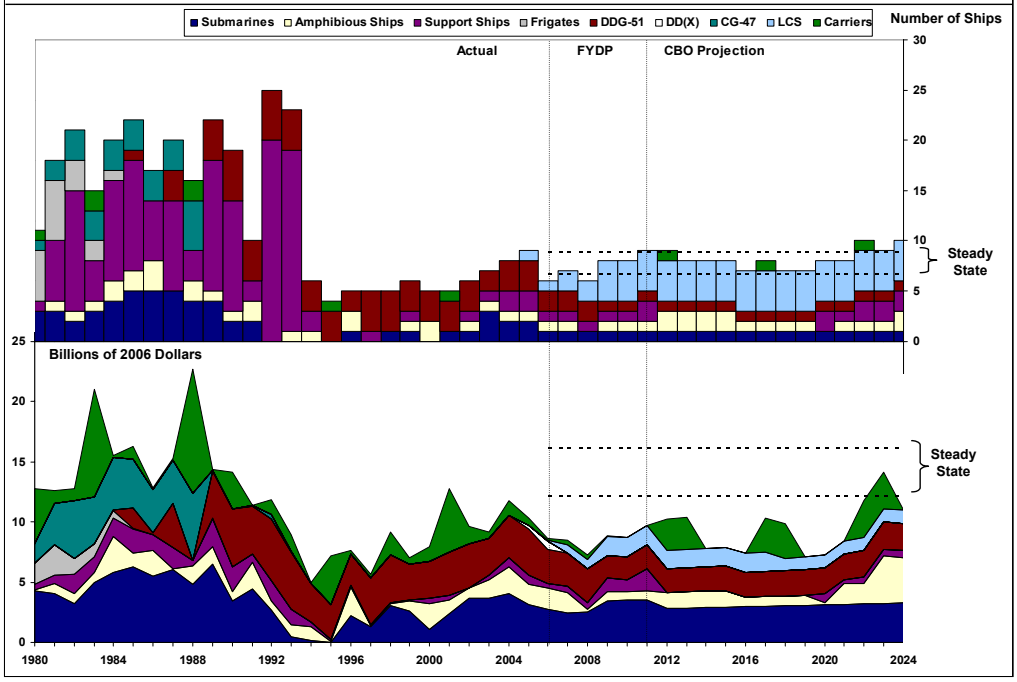
Procurement of Battle Force Ships Under DoD's Current Plans



- This chart updates Figure 3-10 of CBO's September 2004 Web document. It shows past and projected purchases of battle force ships for the Navy as measured by number of ships (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- CBO's projection anticipates a boost in ship purchases because of the Navy's plan to enlarge the fleet from about 280 ships today to almost 300 ships by 2024. Most of the planned expansion would occur in the surface combatant force, with the purchase of 73 littoral combat ships (LCSs).
- Planned increases in the capabilities of LHA(R) and MPF(F) amphibious ships would also contribute to higher levels of funding for shipbuilding.
- The Navy anticipates that the CVN-21 aircraft carrier class will cost, on average, about $2 billion more per ship than the Nimitz class that the CVN is replacing.
- Under the 2005 FYDP, the Navy planned to buy one DD(X) destroyer in 2005, two each in 2007 and 2008, and three in 2009. Under the 2006 FYDP, the Navy plans to buy one DD(X) per year between 2007 and 2011. It also plans to buy 21 LCSs between 2006 and 2011.
- Attack submarine purchases under the 2006 FYDP would continue at one per year through 2011 but increase to two per year thereafter.

Figure 3-10b

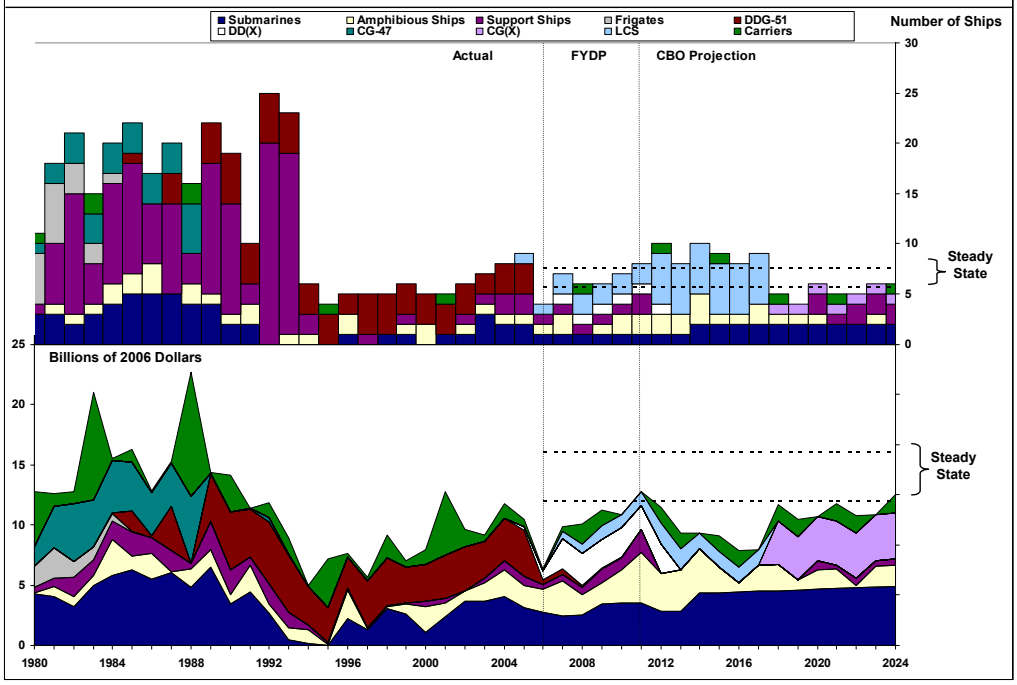
Procurement of Battle Force Ships Under CBO's Evolutionary Alternative



- Under the evolutionary alternative, CBO's projections anticipate a slight increase in battle force ships from about 280 today to 290 by 2024. Eventually, however, in the 2030s, the fleet would decline to 263 ships.
- The fleet of ballistic missile-carrying submarines would be reduced to 10 under this alternative, and the Navy would need to buy only 10 replacement subs in the 2020s and 2030s, compared with 14 under DoD's plan.
- The DD(X) and CG(X) programs would be canceled in favor of purchasing more surface combatants—a combination of LCSs and upgraded DDG-51 Arleigh Burke class destroyers. The Navy would buy DDGs at a rate of one per year through 2024.
- The Navy would also purchase one Virginia class attack submarine per year through 2024, for an eventual steady-state force of 33 attack submarines.
- The CVN-21 carrier program would be canceled; its replacement would be a large-deck conventionally powered aircraft carrier, equivalent in size to today's existing conventional carriers of about 80,000 tons. Under the evolutionary alternative, the Navy would buy the first ship of that class in 2012.
- The Navy would also cancel the MPF(F) program and instead buy new cargo ships with sea-basing capabilities to modernize the maritime prepositioning squadrons.
- Consistent with the Navy's current plans, the evolutionary alternative would reduce the number of expeditionary strike groups to eight, for a total of 25 amphibious ships. To compensate in part for eliminating the MPF(F) ships, the Navy would buy eight replacement LSDs for the LSD-41 and LSD-49 classes, which reach the end of their service lives in the 2020s.

Figure 3-10c

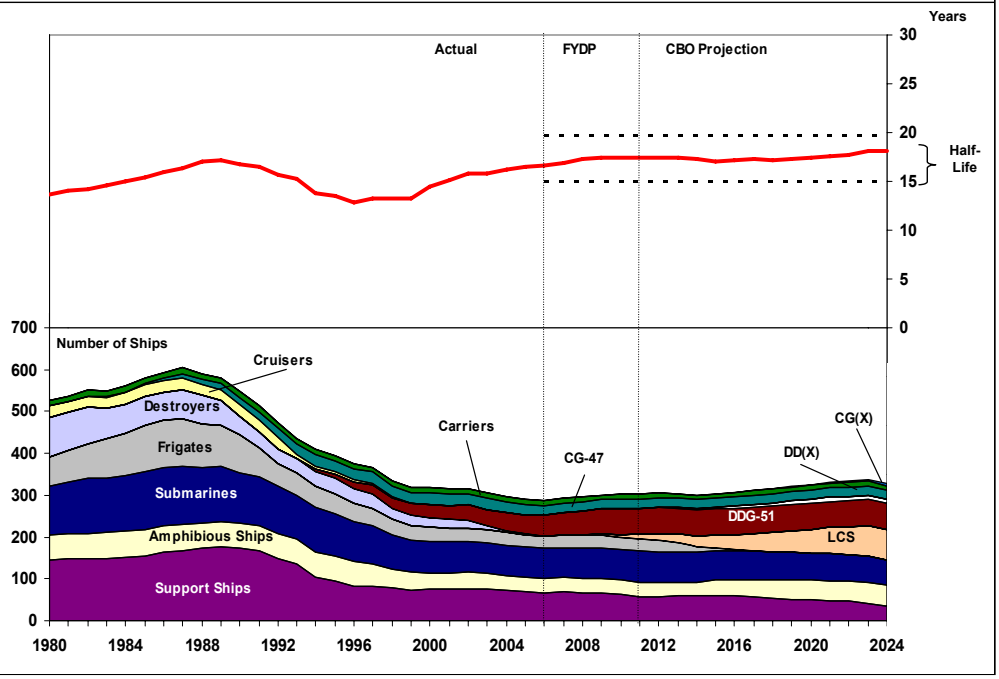
Procurement of Battle Force Ships Under CBO's Transformational Alternative



- Under CBO's transformational alternative, the Navy would at first increase the size of its fleet of battle force ships from today's levels and then return to about 280 ships by 2024. The size of the fleet would eventually fall to 242 ships in the 2030s.
- As it would under CBO's evolutionary case, the ballistic missile submarine force under the transformational alternative would decline to 10 subs by the 2030s, compared with a force of 14 today.
- The Navy would buy both the DD(X) and CG(X) in reduced numbers (six and 14, respectively). Only 42 LCSs would be purchased under this alternative, compared with 73 under the President's budget plan.
- The attack submarine force would be reduced to 39 in the steady state but would shrink by more than that for several years during the 2020s.
- The Navy under this alternative would cancel the CVN-21 carrier program and replace it with a new light carrier. However, to project power simultaneously in a larger number of places, the Navy would purchase two light carriers for every CVN-21 that was canceled, reaching an eventual fleet (in the very long run) of 20 light carriers.
- A smaller MPF(F) squadron would be purchased to provide the Navy with a sea-basing capability. In return, the number of amphibious ships in the eight expeditionary strike groups would be reduced to 17 under the assumption that the new sea-basing ships would sometimes be operating with the amphibious ships. No LSD(X)s would be purchased under the transformational alternative.

Figure 3-11a Updated

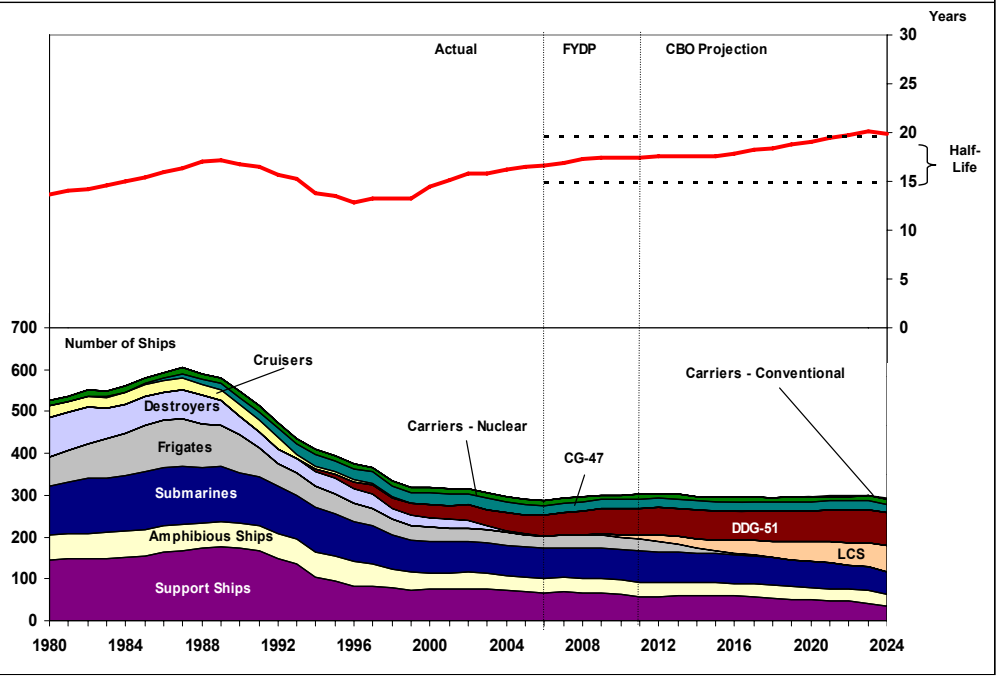
Age and Inventory of Battle Force Ships Under DoD's Current Plans



- This chart updates Figure 3-11 of CBO's September 2004 Web document. It shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Navy's battle force ships.
- Beyond 2009, the average age of the Navy's ship fleet is projected to grow slightly, from 17 years to 19 years—which is somewhat older than CBO's previous projection but within the half-life value of 15 to 20 years.

Figure 3-11b

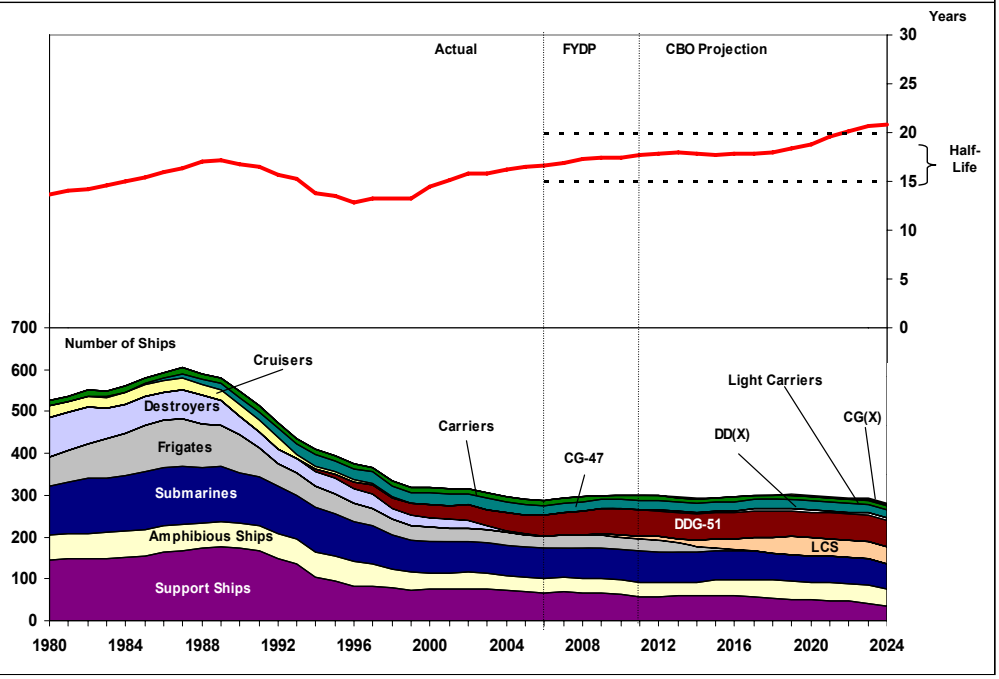
Age and Inventory of Battle Force Ships Under CBO's Evolutionary Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Navy's battle force ships under CBO's evolutionary alternative. Throughout the 2012-2024 projection period, the number of battle force ships would increase slightly, ending at 290 ships in 2024. Reductions would follow in later years as older ships were retired without being replaced.
- Under this alternative, the average age of the force would increase through 2024, rising from about 17 years today to 20 years (the upper end of the half-life range of 15 to 20 years) by 2024.

Figure 3-11c

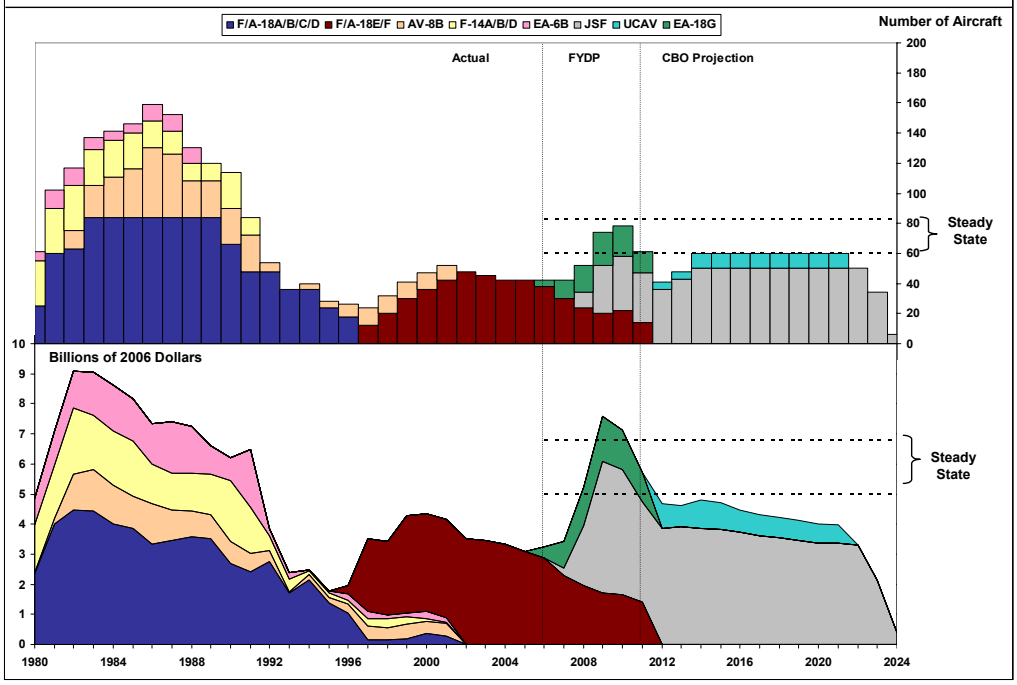
Age and Inventory of Battle Force Ships Under CBO's Transformational Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Navy's battle force ships under CBO's transformational alternative. Throughout the 2012-2024 projection period, the number of battle force ships would increase slightly and then decline to about 280 ships in 2024. Large reductions would follow in later years as many older ships were retired without being replaced.
- Under this alternative, the average age of the force would increase through 2024, rising from about 17 years today to 21 years—which would exceed the half-life range of 15 to 20 years—by 2024.

Figure 3-12a Updated

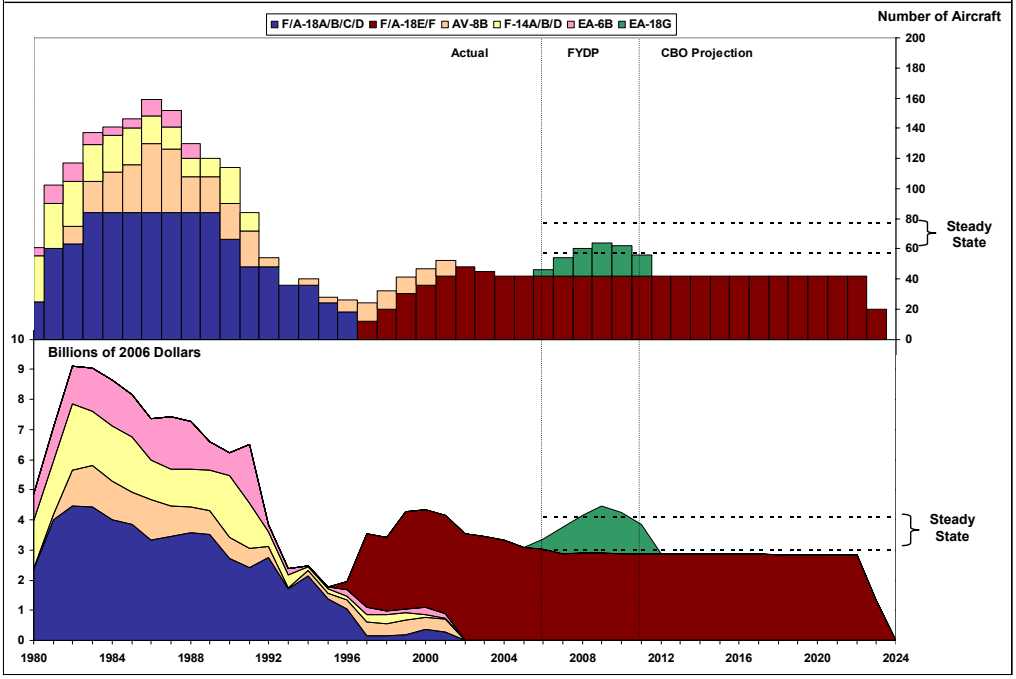
Procurement of Navy Fighter and Attack Aircraft Under DoD's Current Plans



- This chart updates Figure 3-12 of CBO's September 2004 Web document. It shows past and projected purchases of fighter and attack aircraft for the Navy and Marine Corps under DoD's current plans as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Spending for procurement of tactical fighters for the Navy and Marine Corps will average about $3.9 billion a year (without cost risk) during the 2006-2024 period, CBO projects.
- Although in most years of the projection period, spending would be lower than that average, it would be substantially higher from 2008 through 2011 because of simultaneous purchases of F/A-18E/F, EA-18G, and Joint Strike Fighter (JSF) aircraft.

Figure 3-12b

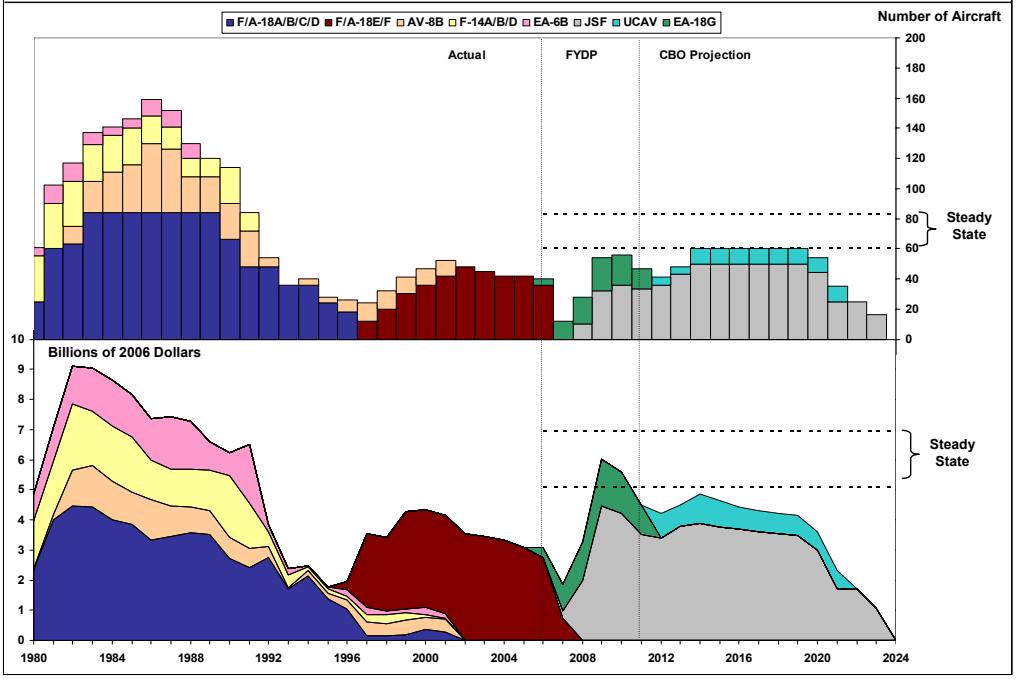
Procurement of Navy Fighter and Attack Aircraft Under CBO's Evolutionary Alternative



- This chart shows past and projected purchases of fighter and attack aircraft for the Navy and Marine Corps under CBO's evolutionary alternative as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the evolutionary alternative, DoD would cancel the Joint Strike Fighter program and instead continue to buy F/A-18E/F fighters for both Navy and Marine Corps squadrons. That change would save about $1 billion annually relative to DoD's current plans, CBO projects.

Figure 3-12c

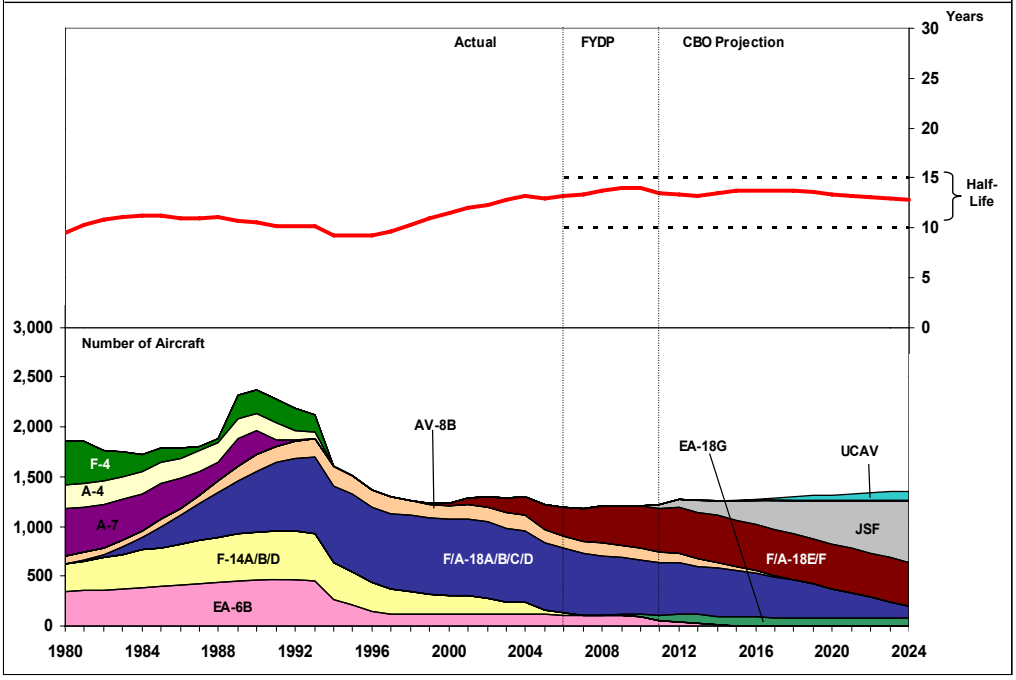
Procurement of Navy Fighter and Attack Aircraft Under CBO's Transformational Alternative



- This chart shows past and projected purchases of fighter and attack aircraft for the Navy and Marine Corps under CBO's transformational alternative as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the transformational alternative, DoD would curtail the F/A-18E/F program and buy only short takeoff/vertical landing versions of the Joint Strike Fighter for use on smaller aircraft carriers. Average annual procurement spending for Navy and Marine Corps fighters would be $3.2 billion from 2006 through 2024, versus $3.9 billion under current plans.

Figure 3-13a Updated

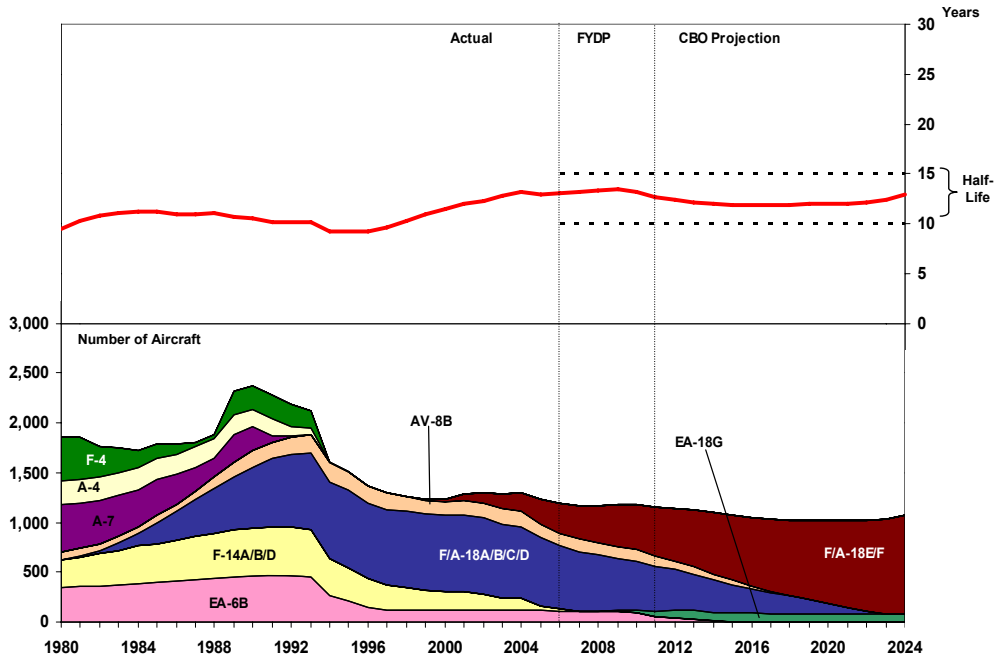
Age and Inventory of Navy Fighter and Attack Aircraft Under DoD's Current Plans



- This chart updates Figure 3-13 of CBO's September 2004 Web document. It shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Navy's and Marine Corps's fighter and attack aircraft.
- If DoD's current plans are carried out, the average age of the Navy's fighter and attack aircraft fleet will remain within the target half-life range of 10 to 15 years throughout the 2006-2024 projection period.

Figure 3-13b

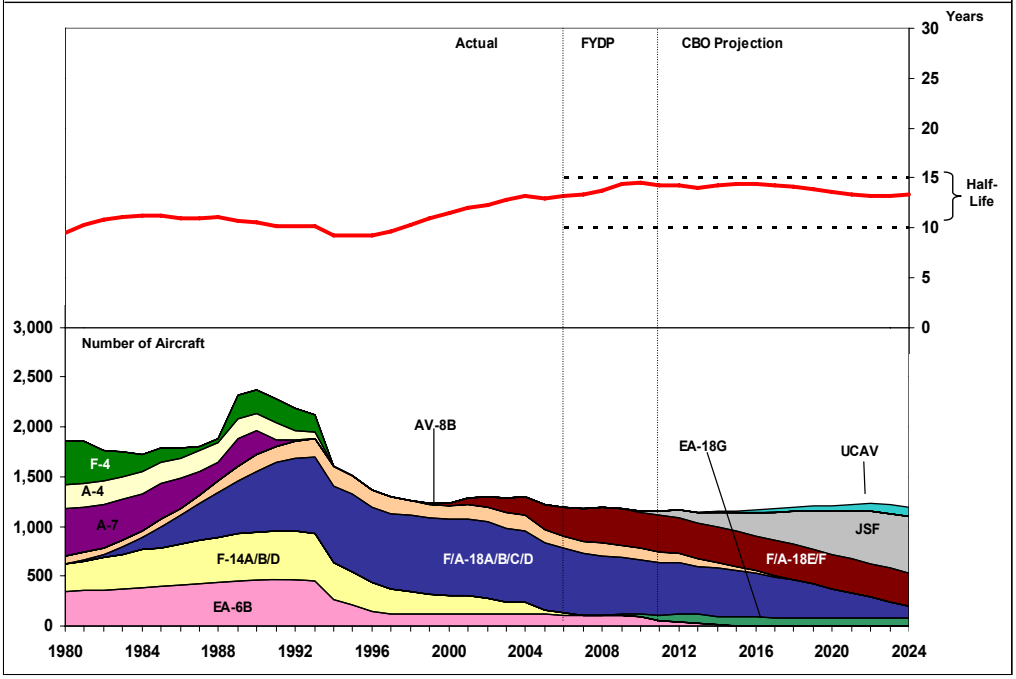
Age and Inventory of Navy Fighter and Attack Aircraft Under CBO's Evolutionary Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Navy's and Marine Corps's fighter and attack aircraft under CBO's evolutionary alternative.
- Under that alternative, DoD would cancel the Joint Strike Fighter program and instead continue to buy F/A-18E/F fighters for both Navy and Marine Corps squadrons. Because DoD would continue to purchase the F/A-18E/F at the current production rate of 42 aircraft per year, new aircraft would enter service more rapidly than under current plans, which call for procuring 43 JSFs for the Navy and Marine Corps in 2013 and 50 per year beginning in 2014. As a result, the average age of Navy and Marine Corps fighters would be slightly less under the evolutionary alternative than under DoD's current plans.

Figure 3-13c

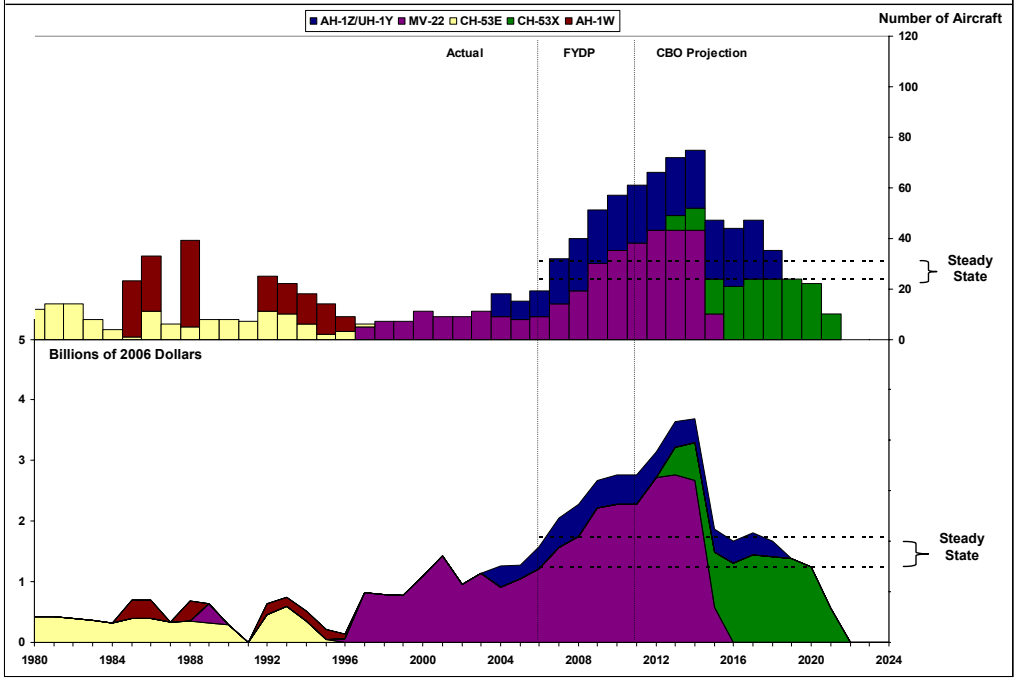
Age and Inventory of Navy Fighter and Attack Aircraft Under CBO's Transformational Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Navy's and Marine Corps's fighter and attack aircraft under CBO's transformational alternative.
- Under that alternative, DoD would curtail the F/A-18E/F program and instead purchase only short takeoff/vertical landing versions of the Joint Strike Fighter for use on smaller aircraft carriers. Initially, the JSFs would be produced at annual rates that were lower than those now planned for purchases of F/A-18E/Fs. As a consequence, the average age of the Navy's and Marine Corps's fighters would be slightly greater under the transformational alternative than under DoD's current plans.

Figure 3-14a Updated

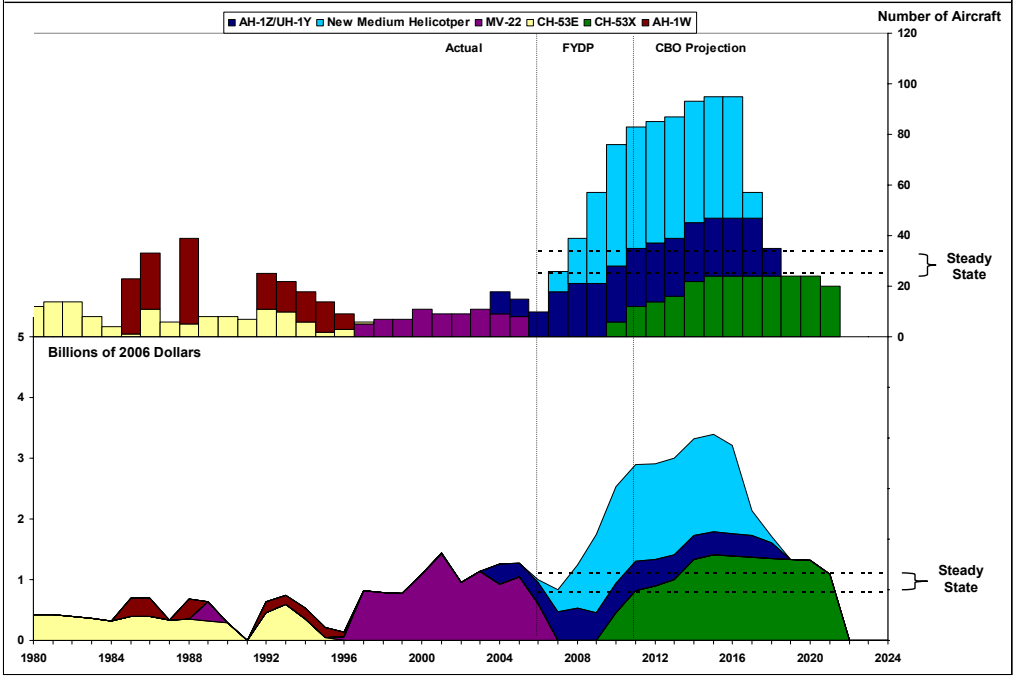
Procurement of Marine Corps Helicopters Under DoD's Current Plans



- This chart updates Figure 3-14 of CBO's September 2004 Web document. It shows past and projected purchases of helicopters and tilt-rotor aircraft for the Marine Corps as measured by number of helicopters (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Procurement of the V-22 tilt-rotor transport to replace the existing CH-46 helicopter fleet accounts for the majority of the funding projected for purchases of Marine Corps helicopters.

Figure 3-14b

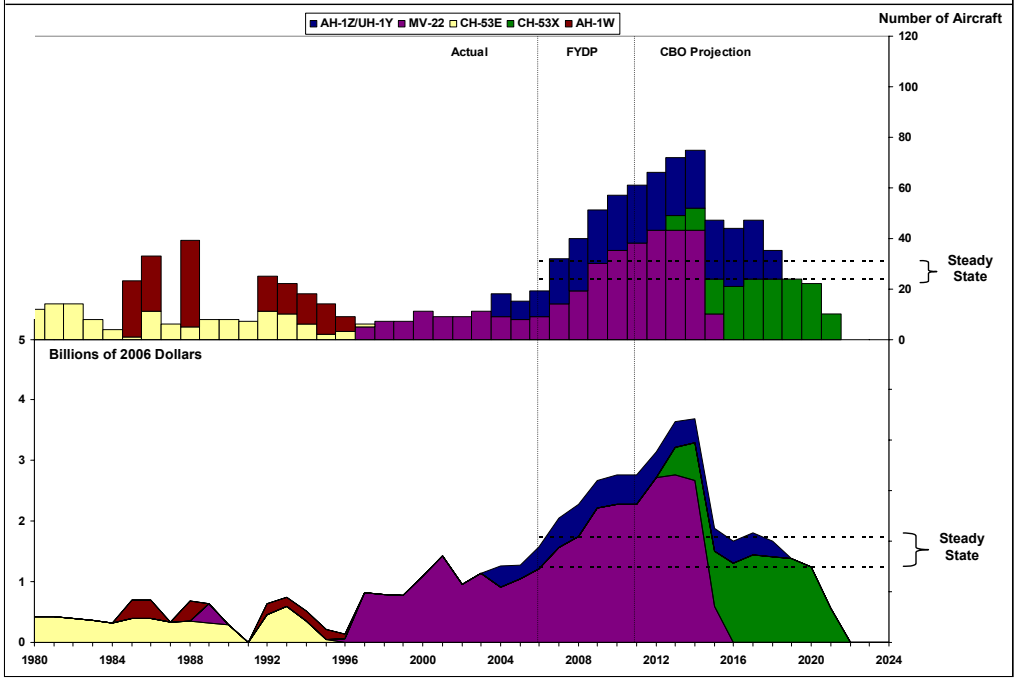
Procurement of Marine Corps Helicopters Under CBO's Evolutionary Alternative



- This chart shows past and projected purchases of helicopters and tilt-rotor aircraft for the Marine Corps under CBO's evolutionary alternative as measured by number of helicopters (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the evolutionary alternative, DoD would end procurement of the V-22 tilt-rotor transport to replace the existing CH-46 helicopter fleet. Instead, it would purchase a new medium-lift helicopter and buy additional CH-53X aircraft.

Figure 3-14c

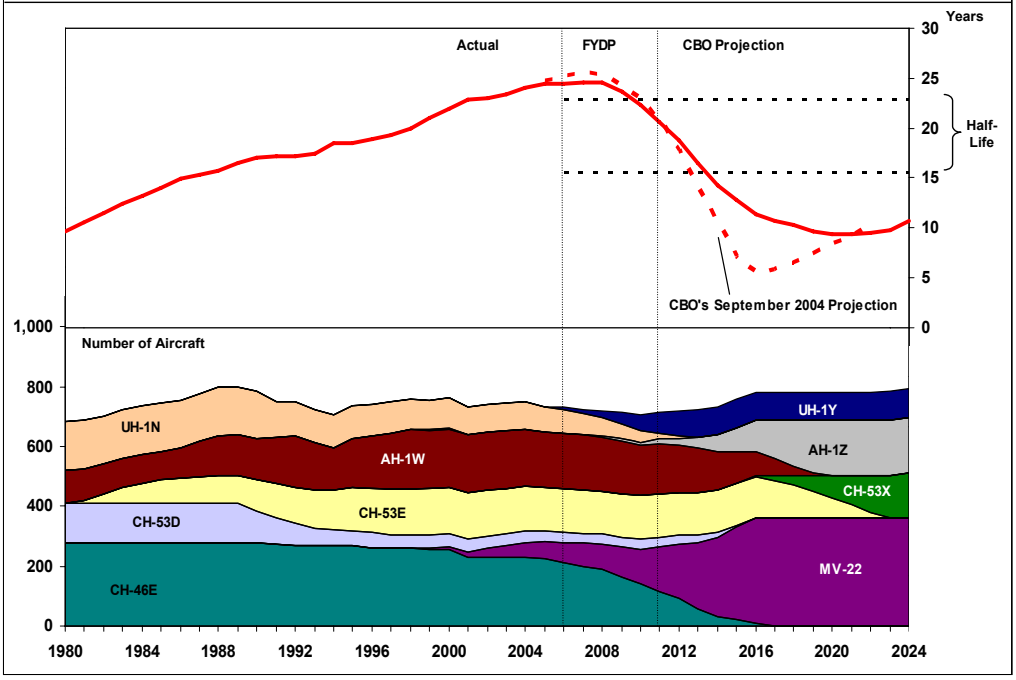
Procurement of Marine Corps Helicopters Under CBO's Transformational Alternative



- This chart shows past and projected purchases of helicopters and tilt-rotor aircraft for the Marine Corps under CBO's transformational alternative as measured by number of helicopters (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- There is no difference between the transformational alternative and DoD's current plans in terms of purchases of Marine Corps helicopters and rotary-wing aircraft.

Figure 3-15a Updated

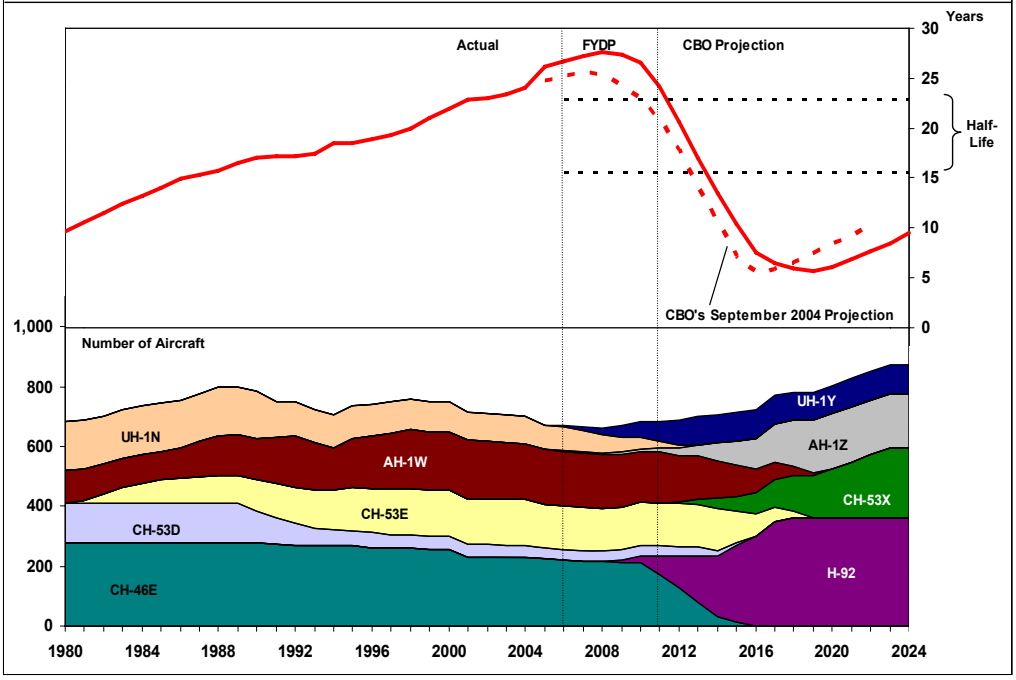
Age and Inventory of Marine Corps Helicopters Under DoD's Current Plans



- This chart updates Figure 3-15 of CBO's September 2004 Web document. It shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of helicopters and tilt-rotor aircraft for the Marine Corps.
- Under DoD's current plans, the average age of the Marine Corps's helicopter fleet would begin to decline rapidly toward the end of the 2006-2011 FYDP period with increased deliveries of rebuilt and upgraded utility and attack helicopters and deliveries of the V-22 tilt-rotor aircraft.
- DoD's current plans would reduce the planned rate of increase in annual V-22 production to its maximum of 43 helicopters a year. That lesser "ramp-up" in production accounts for the smaller reduction in average age compared with the reduction in CBO's September 2004 projection.

Figure 3-15b

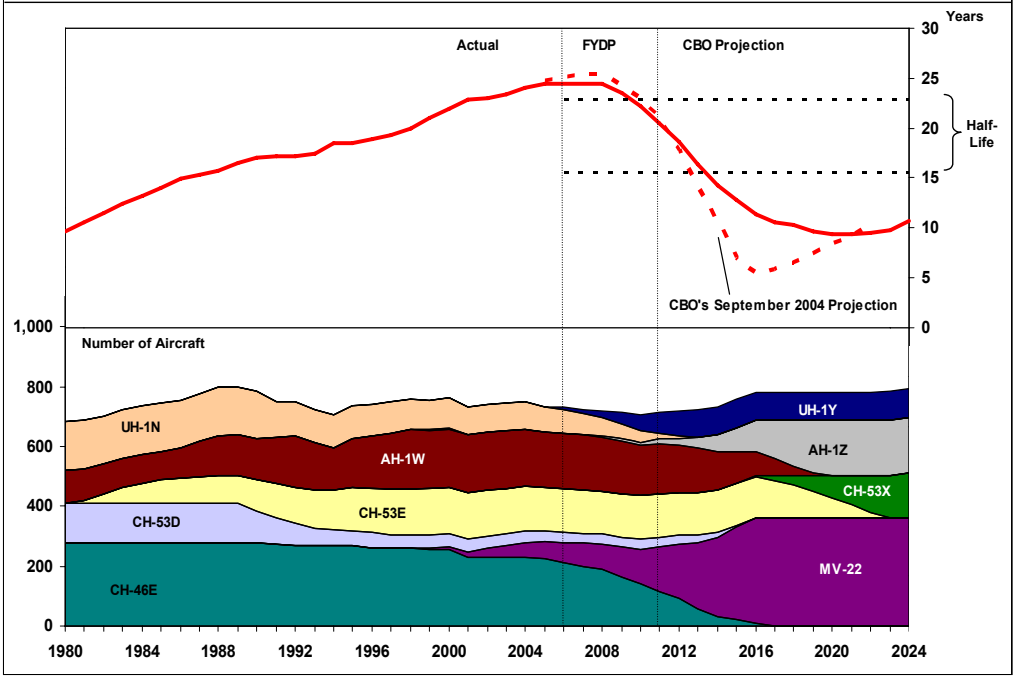
Age and Inventory of Marine Corps Helicopters Under CBO's Evolutionary Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of helicopters and tilt-rotor aircraft for the Marine Corps under CBO's evolutionary alternative.
- Under that alternative, the average age of the Marine Corps's helicopter fleet would begin to decline somewhat more rapidly than it would under DoD's current plans. The accelerated decline derives from CBO's assumption that the new medium-lift helicopters that would be purchased instead of the V-22 would be procured at higher annual rates than that latter aircraft because their unit costs would be less.

Figure 3-15c

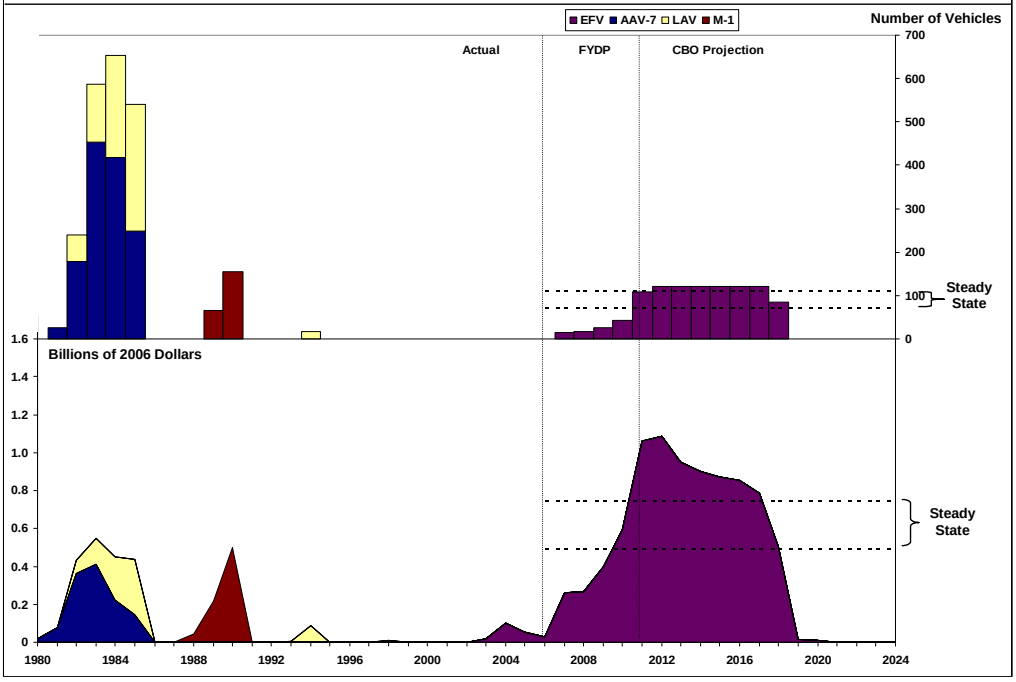
Age and Inventory of Marine Corps Helicopters Under CBO's Transformational Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of helicopters and tilt-rotor aircraft for the Marine Corps under CBO's transformational alternative.
- There is no difference between purchases of Marine Corps helicopters and rotary-wing aircraft under the transformational alternative and under DoD's current plans. Therefore, inventories and average age also do not differ between the two cases.

Figure 3-16 Updated

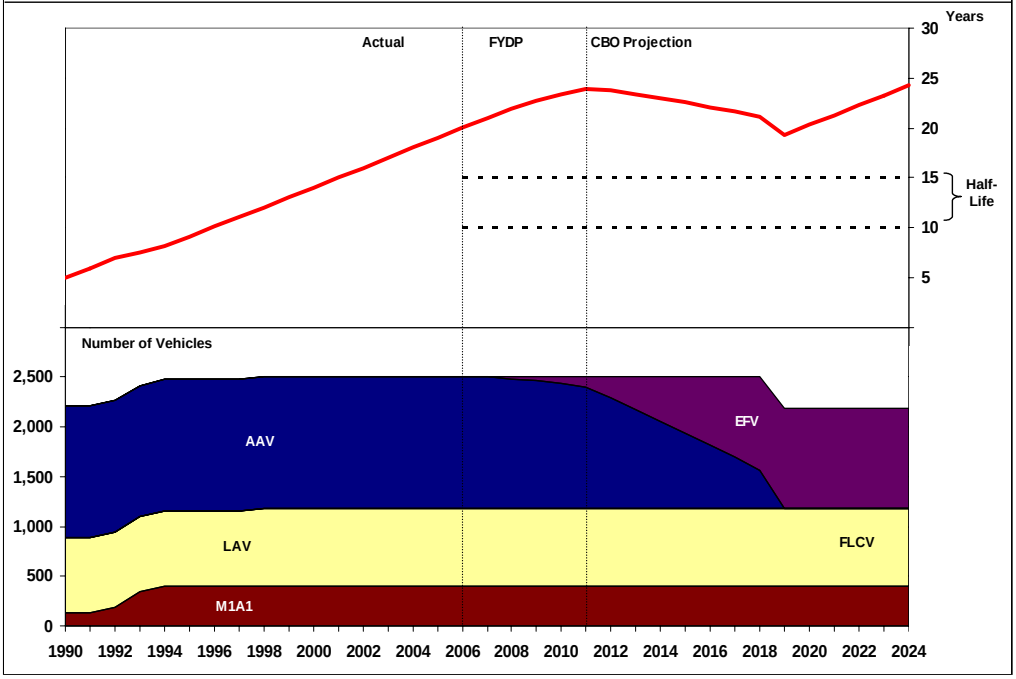
Procurement of Marine Corps Ground Combat Vehicles Under DoD's Current Plans and CBO's Alternatives



- This chart updates Figure 3-16 of CBO's September 2004 Web document. It shows past and projected purchases of ground combat vehicles for the Marine Corps under DoD's current plans and CBO's alternatives as measured by number of vehicles (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Projected purchases of the new Expeditionary Fighting Vehicle (EFV), which will replace the existing fleet of amphibious assault vehicles, account for the majority of procurement funding for the Marine Corps's ground combat vehicles.
- There are no differences between CBO's projections of purchases of ground combat vehicles for the Marine Corps under DoD's current plans and its corresponding projections for its evolutionary and transformational cases.

Figure 3-17 Updated

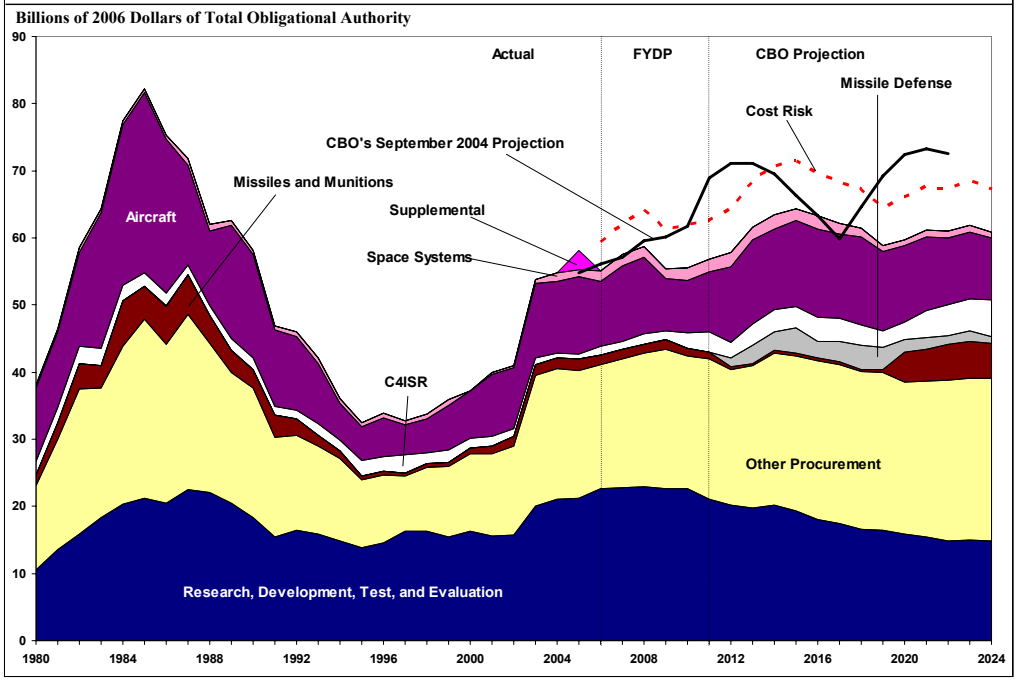
Age and Inventory of Marine Corps Ground Combat Vehicles Under DoD's Current Plans and CBO's Alternatives



- This chart updates Figure 3-17 of CBO's September 2004 Web document. It shows the age (the top part of the chart) and inventories (the bottom part of the chart) of ground combat vehicles for the Marine Corps under DoD's current plans and CBO's alternatives.
- When deliveries of the Expeditionary Fighting Vehicle begin, the average age of the fleet will decline, reaching a minimum of about 20 years in 2019, at which time EFV deliveries will end and the retirement of the current fleet of advanced amphibious assault vehicles will be complete.
- There are no differences between CBO's projections of purchases of ground combat vehicles for the Marine Corps under DoD's current plans and its corresponding projections for its evolutionary and transformational cases.

Figure 3-19a Updated

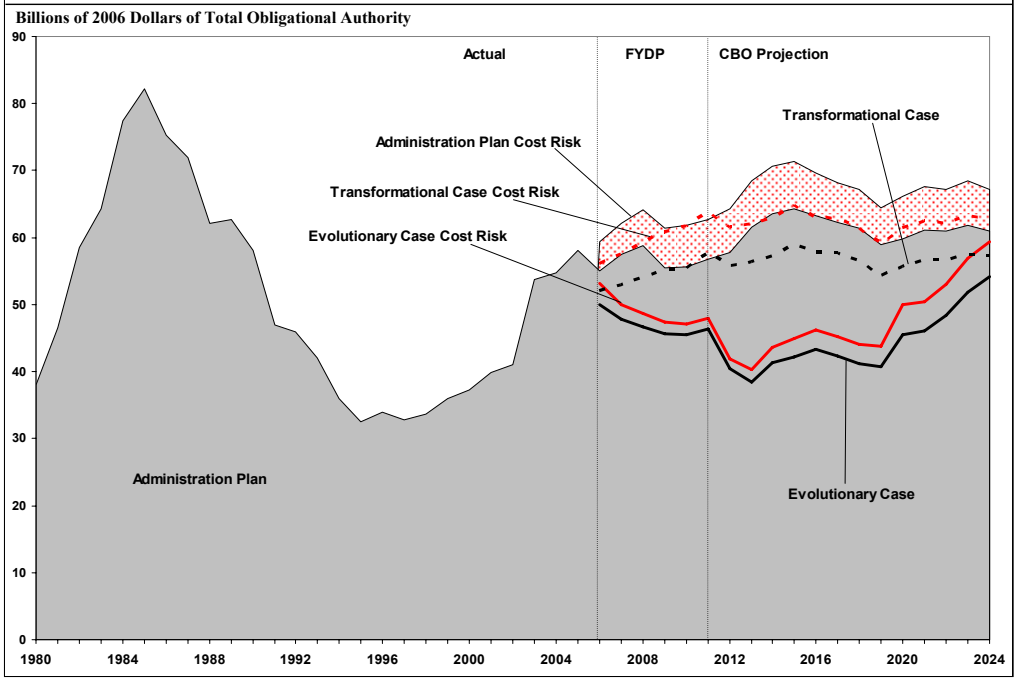
Past and Projected Spending for Air Force Investment



- This chart updates Figure 3-19 of CBO's September 2004 Web document. The 2006 FYDP anticipates that Air Force investment will increase from $55 billion in 2006 to $57 billion in 2011.
- CBO projects sustained increases in purchases of new tactical aircraft, reflecting continued production of the F/A-22 fighter through 2008 (with production now planned to end three years sooner than the 2005 FYDP had specified) and the beginning of production of the Joint Strike Fighter in 2008 (one year later than planned under the 2005 FYDP).
- Developments over the past year in the Air Force's long-term planning for systems such as a proposed medium-range bomber and for replacements for a heavy bomber and the KC-135 tanker, as well as the schedules that DoD anticipates for launching new and replacement satellite systems, have led CBO to substantially change its projections for Air Force investment beyond 2011. As a result of those changes, CBO's projections now imply a relatively stable average level of investment for the Air Force (about $61 billion annually) between 2012 and 2024.

Figure 3-19b

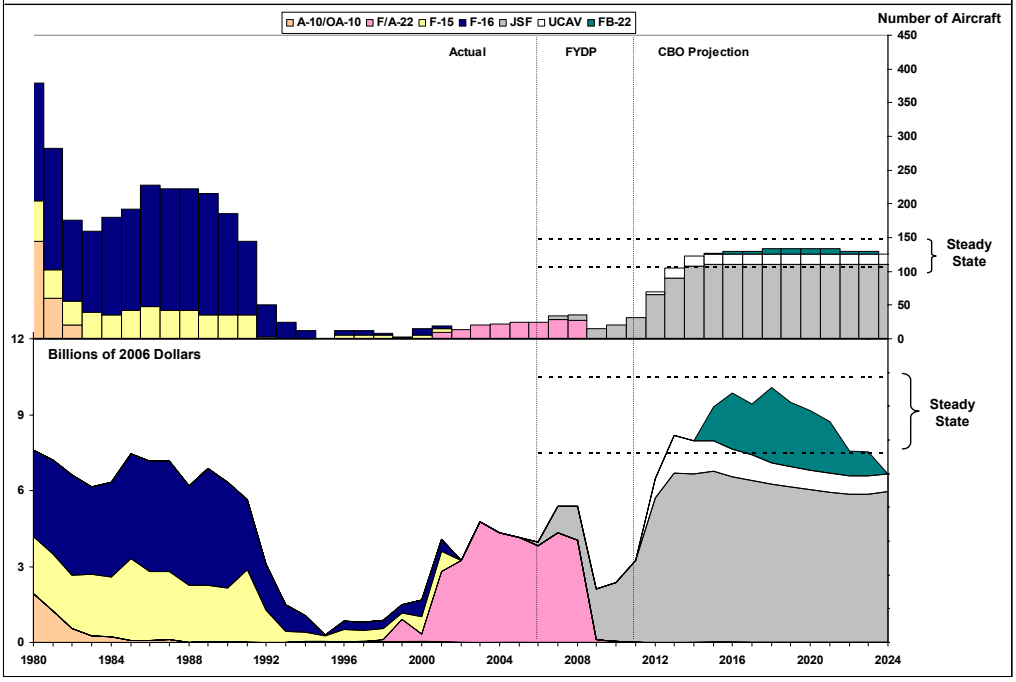
CBO's Evolutionary and Transformational Alternatives: Spending for Air Force Investment



- This chart displays CBO's projections of the implications for investment resources of its transformational and evolutionary alternatives to the Air Force's current plans. (The differences in content between those alternatives and CBO's projections of the implications of the 2006 FYDP are summarized in Table 5 of CBO's *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006.)*
- Under CBO's projection of the implications of DoD's current plans, the average annual demand for Air Force investment resources (excluding cost risk) would be $60 billion over the period from 2006 to 2024. That demand with cost risk would average $66 billion annually.
- Under the evolutionary alternative, the average annual demand for Air Force investment resources over the 2006-2024 period would be $45 billion. With cost risk, that demand would average $48 billion annually.
- Under the transformational alternative, the average annual demand for investment resources over the 2006-2024 period would be $56 billion. That demand with cost risk would average $62 billion annually.

Figure 3-20a Updated

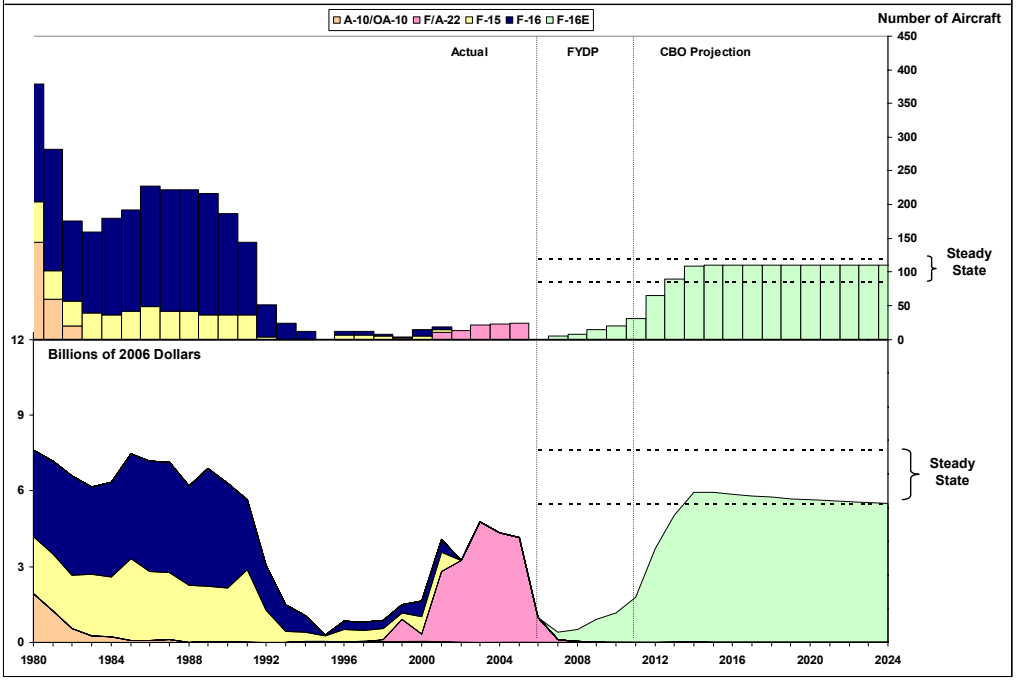
Procurement of Air Force Fighter and Attack Aircraft Under DoD's Current Plans



- This chart updates Figure 3-20 of CBO's September 2004 Web document. It shows past and projected purchases of fighter and attack aircraft for the Air Force as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- CBO projects that purchases of tactical aircraft will be within steady-state ranges beginning in 2014.
- In the chart, funding for the FB-22 represents funding for the system that the Air Force will field as an interim long-range strike aircraft before it develops a new long-range bomber. CBO's projection incorporates the assumption that the interim system will be a derivative of the F/A-22 fighter.
- CBO calculated the steady-state ranges displayed in the chart using the assumption that the reduction that has occurred in the planned purchases of the F/A-22 implies a comparable reduction in the total inventory of air-superiority fighters that the Air Force will sustain in future years.

Figure 3-20b

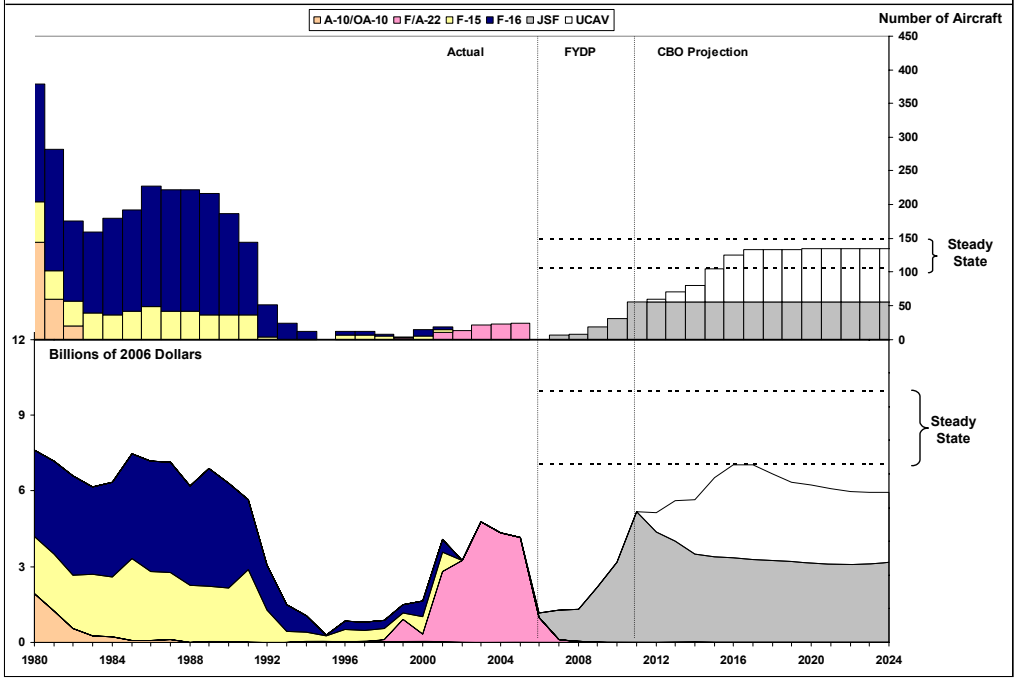
Procurement of Air Force Fighter and Attack Aircraft Under CBO's Evolutionary Alternative



- This chart shows past and projected purchases of fighter and attack aircraft for the Air Force under CBO's evolutionary alternative as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the evolutionary alternative, the Air Force would end production of the F/A-22 in 2006, cancel the Joint Strike Fighter program, and instead purchase new upgraded versions of the F-16. Existing F-15C fighters would be upgraded under a service-life extension program (SLEP). Because that SLEP would not reset the lifetime of those planes' airframes to be equivalent to that of a new aircraft, the chart does not reflect the quantities and costs of those SLEPs.
- Under this alternative, the Air Force would not purchase an interim long-range bomber (potentially, a derivative of the F/A-22).

Figure 3-20c

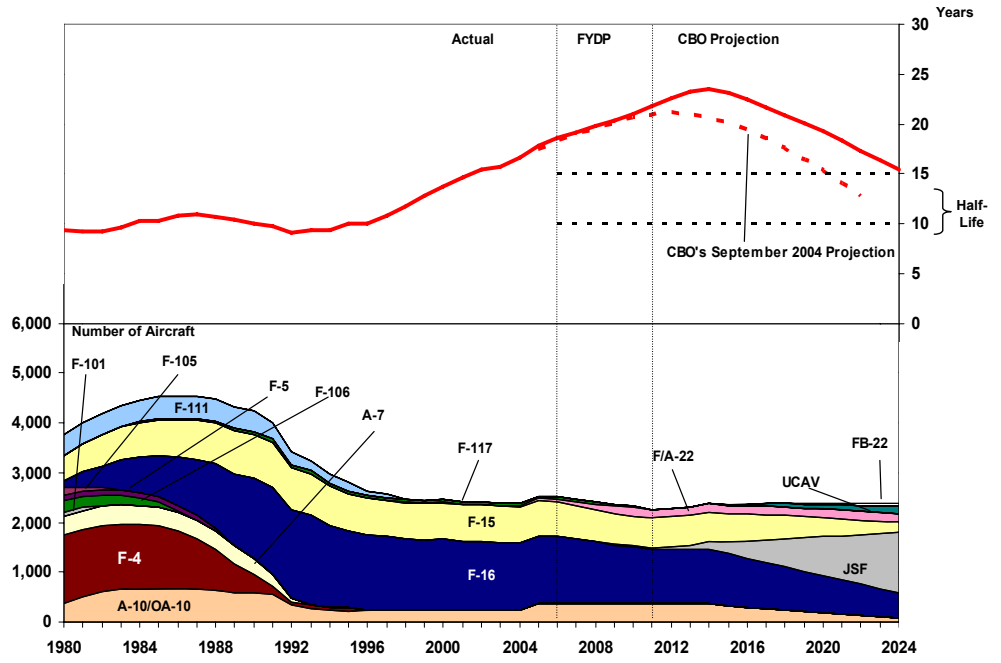
Procurement of Air Force Fighter and Attack Aircraft Under CBO's Transformational Alternative



- This chart shows past and projected purchases of fighter and attack aircraft for the Air Force under CBO's transformational alternative as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the transformational alternative, the Air Force would end production of the F/A-22 in 2006, buy short takeoff/vertical landing versions of the Joint Strike Fighter exclusively, and substitute unmanned combat air vehicles (UCAVs) for about 40 percent of its currently planned purchase of conventional takeoff JSFs.
- In CBO's projection, purchases of tactical aircraft would be within steady-state ranges beginning in 2016.

Figure 3-21a Updated

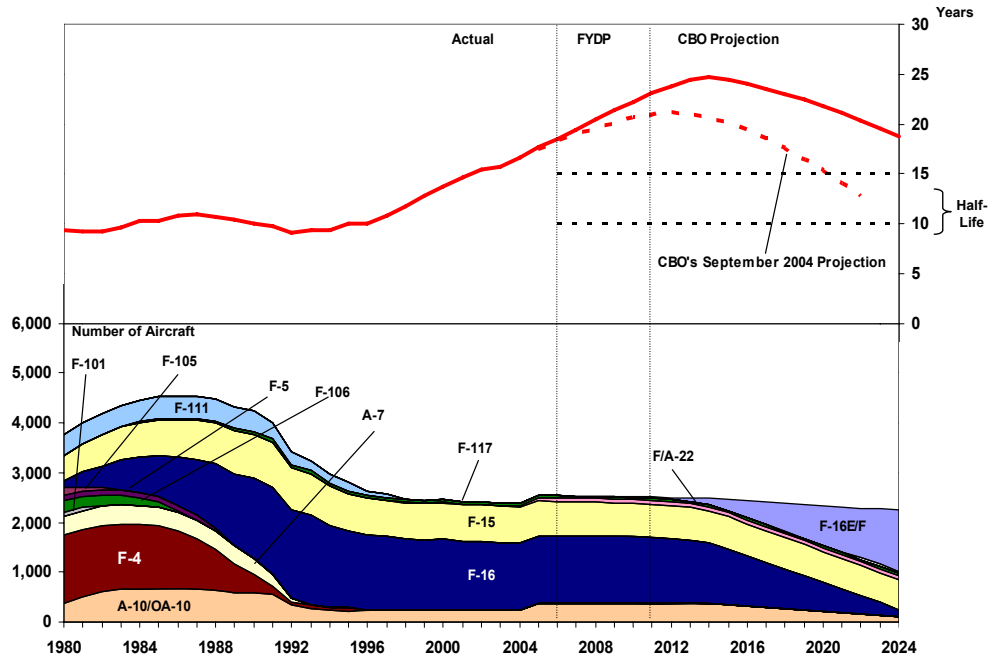
Age and Inventory of Air Force Fighter and Attack Aircraft Under DoD's Current Plans



- This chart updates Figure 3-21 of CBO's September 2004 Web document. It shows the average age (the top part of the chart) and inventories (bottom part of the chart) of the Air Force's fighter and attack aircraft.
- CBO's updated projection of the average age of the Air Force's tactical aircraft shows an increase, relative to last year's estimate, in the fleet's average age throughout the 2012-2024 projection period. (The average age would just reach 15 years in 2024, once substantial numbers of Joint Strike Fighters had been delivered.) That increase results from the curtailment of production of F/A-22 fighters and the delay in production of the JSF described in the notes to Chart 3-19a.

Figure 3-21b

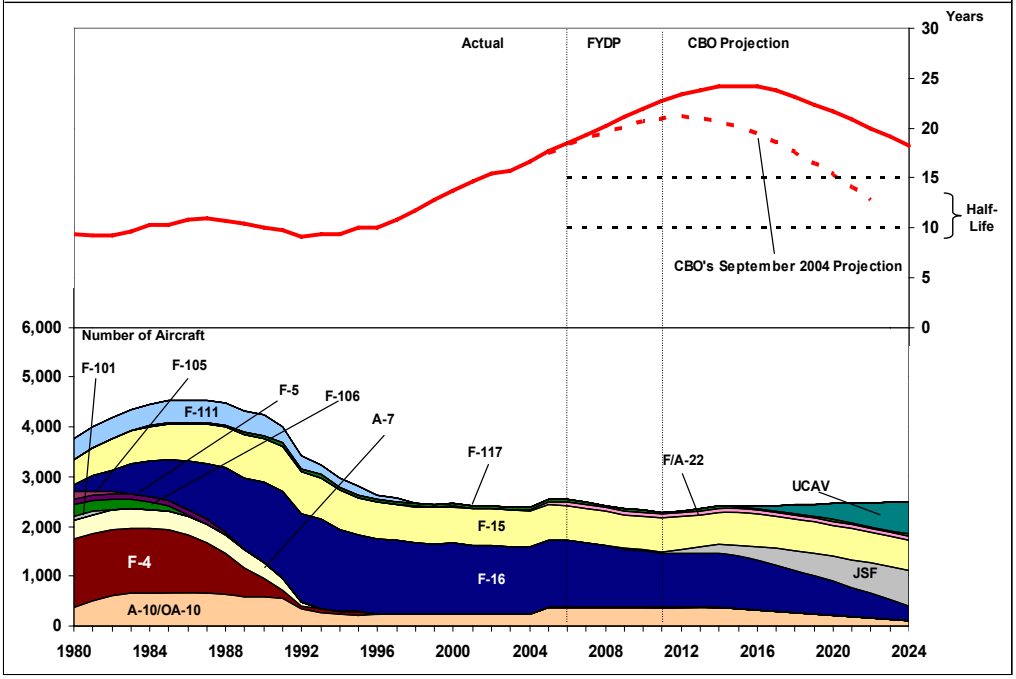
Age and Inventory of Air Force Fighter and Attack Aircraft Under CBO's Evolutionary Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Air Force's fighter and attack aircraft under CBO's evolutionary alternative.
- Under that alternative, the Air Force would terminate the F/A-22 and Joint Strike Fighter programs and instead purchase a new upgraded version of the F-16. Existing F-15Cs would be upgraded under a service-life extension program.
- The average age of the Air Force's fighter fleet would be greater in 2024 (about 19 years) under the evolutionary alternative than it would be under the projection of DoD's current plans (15 years). That difference arises because CBO's projections for the evolutionary alternative include purchases of the same number of new F-16s as are now planned for the JSF but no purchases of new fighters to replace the Air Force's existing F-15Cs.

Figure 3-21c

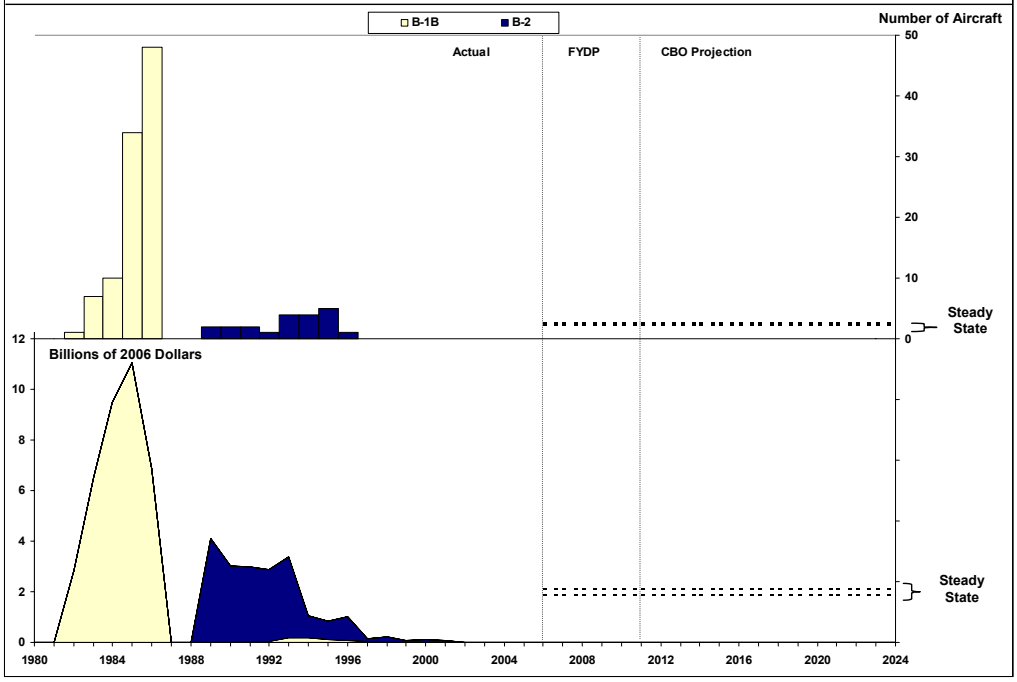
Age and Inventory of Air Force Fighter and Attack Aircraft Under CBO's Transformational Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Air Force's fighter and attack aircraft under CBO's transformational alternative.
- Under that alternative, the Air Force would curtail purchases of the F/A-22, buy short takeoff/vertical landing versions of the Joint Strike Fighter exclusively, and procure unmanned combat air vehicles instead of about 40 percent of the purchases of JSFs that are currently planned.
- The projected average age of the Air Force's fighter fleet in 2024 under the transformational alternative would be about 18 years, compared with an average age of 15 years under DoD's current plans. The reason for the alternative's higher figure is that CBO assumed that production of UCAVs would increase more slowly than JSF production would (because the development of UCAVs has progressed less quickly than the development of the JSF).

Figure 3-22a Updated

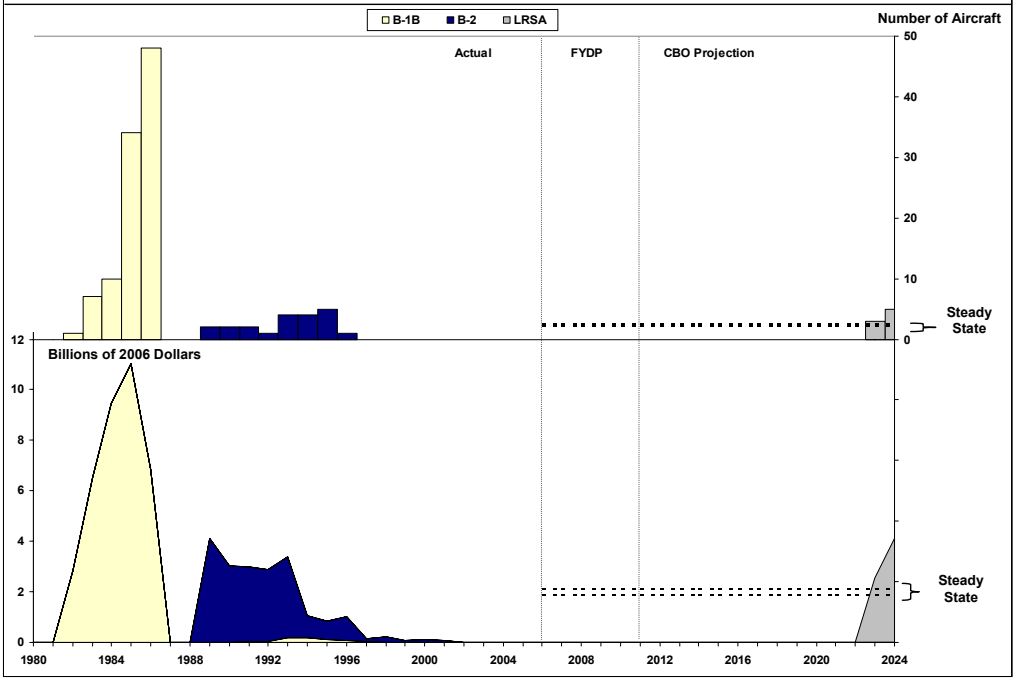
Procurement of Air Force Bombers Under DoD's Current Plans



- This chart updates Figure 3-22 of CBO's September 2004 Web document. It shows past and projected purchases of bombers for the Air Force as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- CBO projects that no new long-range bomber will be produced before 2024, although work on its development will start in about 2017.

Figure 3-22b

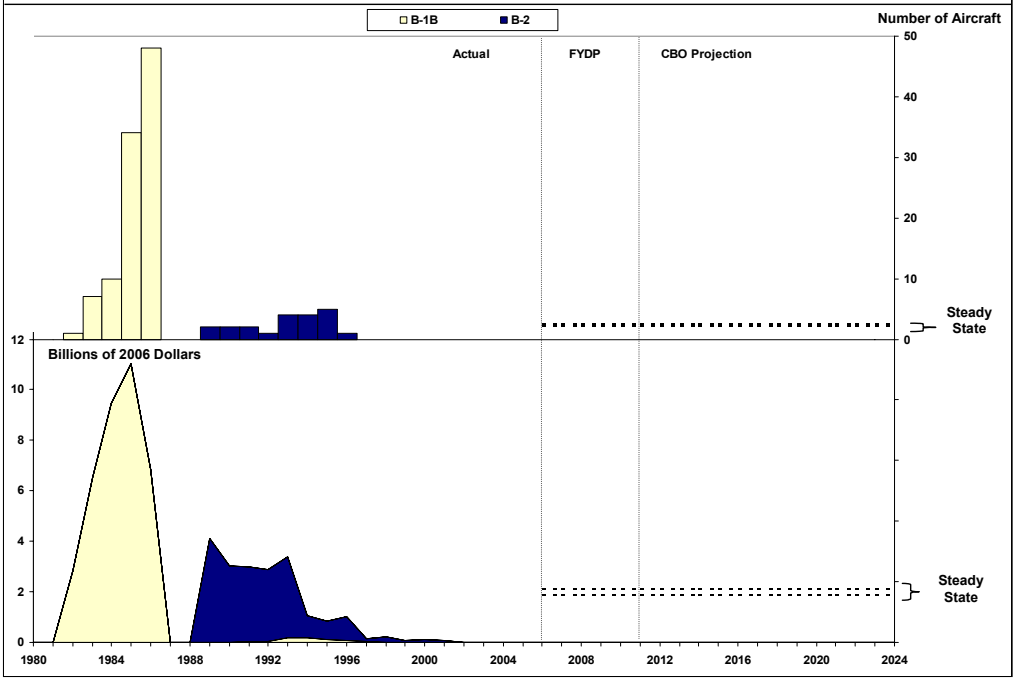
Procurement of Air Force Bombers Under CBO's Evolutionary Alternative



- This chart shows past and projected purchases of bombers for the Air Force under CBO's evolutionary alternative as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart)
- Under the evolutionary alternative, the Air Force would not purchase an interim bomber (which might have been based on a derivative of the F/A-22 fighter). Instead, in 2014, the Air Force would begin developing a new long-range bomber, with production to start in 2023, to replace the current fleet of B-52s and B-1s.

Figure 3-22c

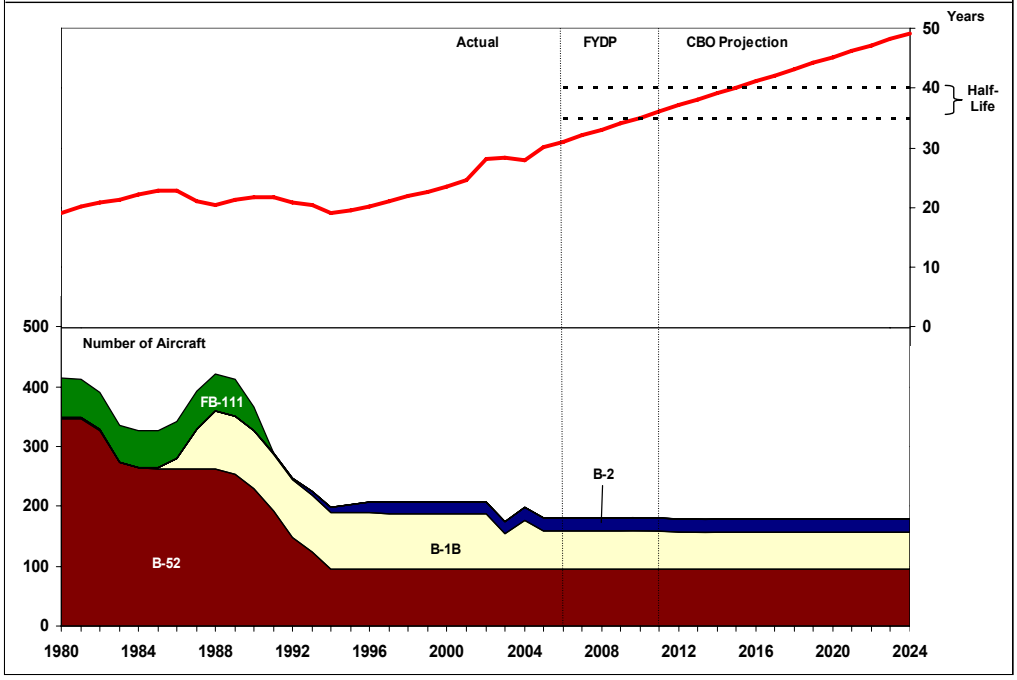
Procurement of Air Force Bombers Under CBO's Transformational Alternative



- This chart shows past and projected purchases of bombers for the Air Force under CBO's transformational alternative as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- There is no difference between bomber procurement under CBO's projection of DoD's current plans and under its transformational alternative: no new bomber would be produced prior to 2024, although work on its development would begin in about 2017.

Figure 3-23a Updated

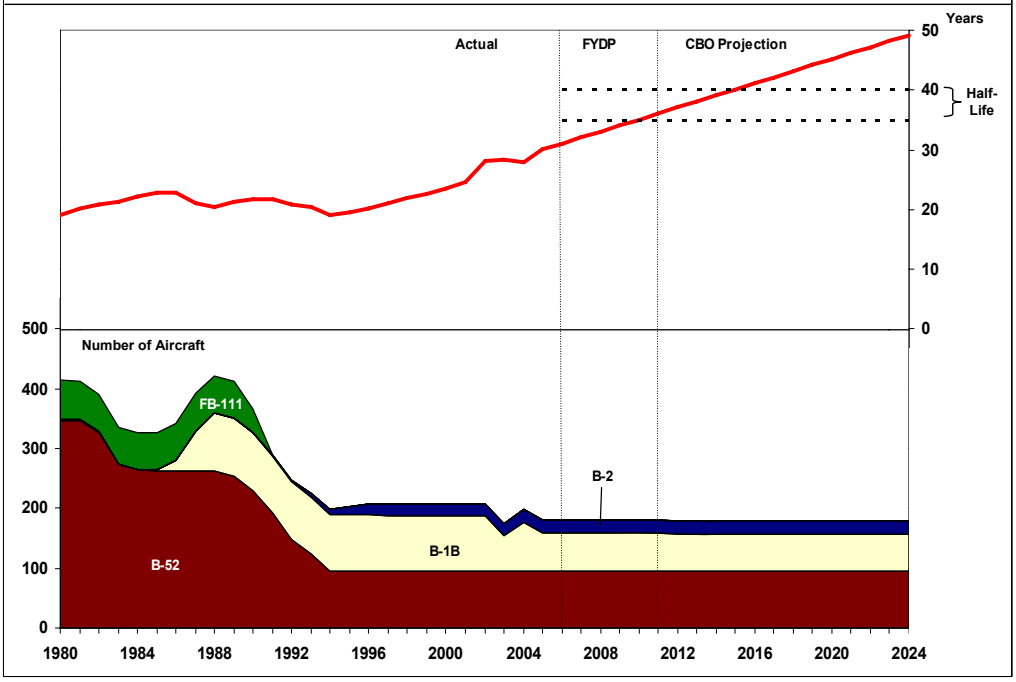
Age and Inventory of Air Force Bombers Under DoD's Current Plans



- This chart updates Figure 3-23 of CBO's September 2004 Web document. It shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of bombers for the Air Force.
- Because under DoD's current plans no new bombers would be purchased and no existing bombers retired, the average age of the fleet would increase steadily throughout the 2012-2024 projection period.

Figure 3-23b

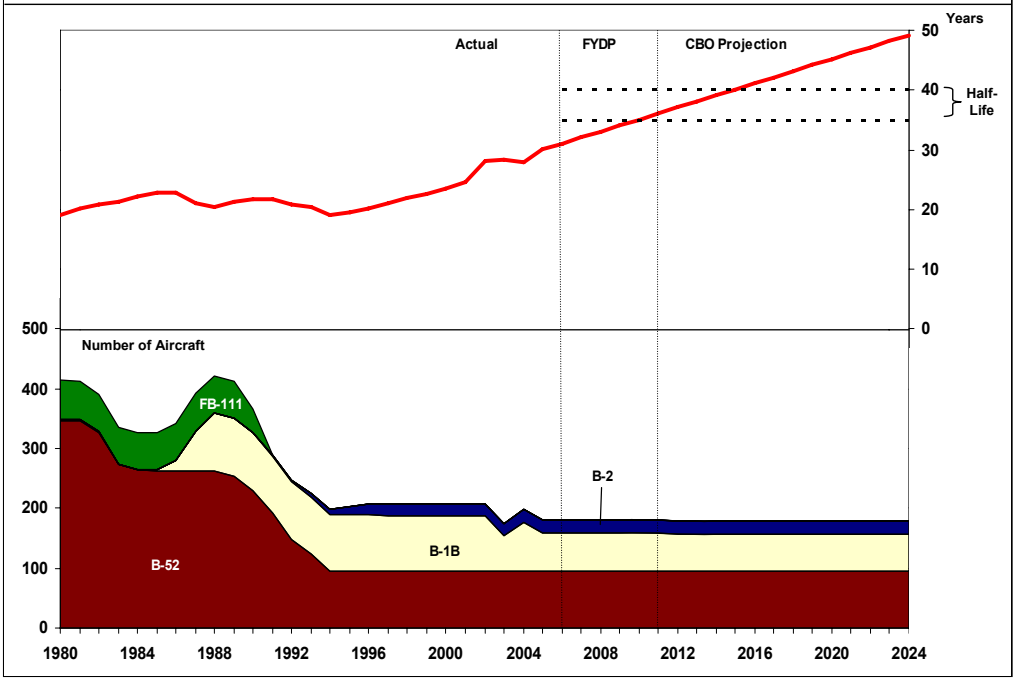
Age and Inventory of Air Force Bombers Under CBO's Evolutionary Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of bombers for the Air Force under CBO's evolutionary alternative.
- Under the alternative, purchases of a new bomber would begin in 2023, but those aircraft would not enter the fleet and be operational until after 2024. As a result, the average age of the Air Force's bomber fleet would increase steadily throughout the 2012-2024 projection period.

Figure 3-23c

Age and Inventory of Air Force Bombers Under CBO's Transformational Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of bombers for the Air Force under CBO's transformational alternative.
- There is no difference between bomber procurement under CBO's projection of DoD's current plans and under its transformational alternative: no new bomber would be produced before 2024, and the average age of the fleet would increase steadily through 2024.

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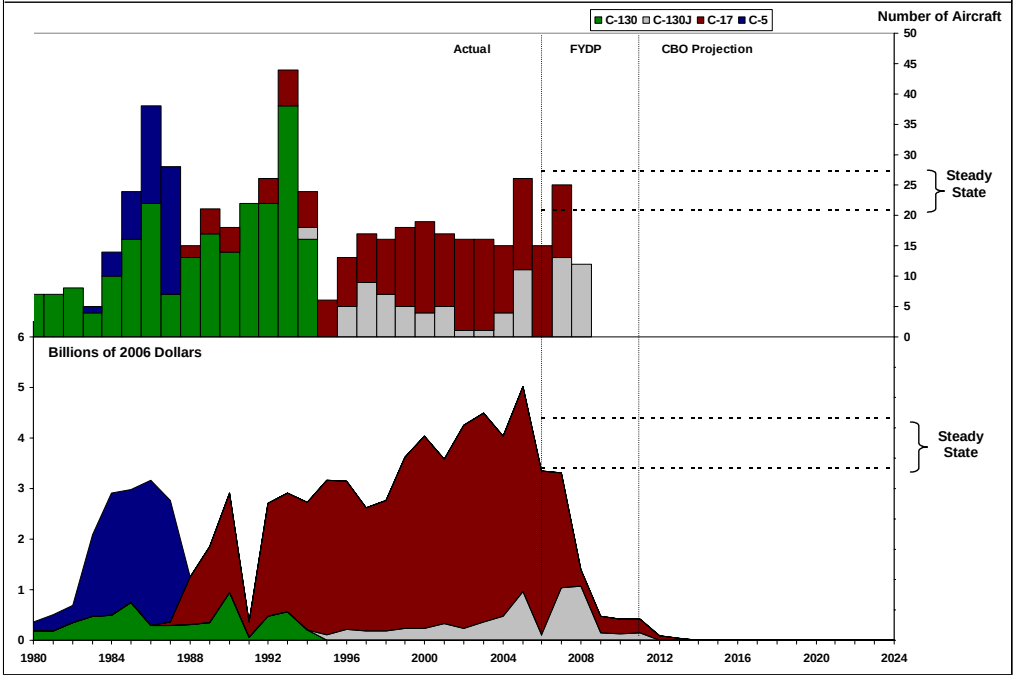
Figure 3-24 Updated

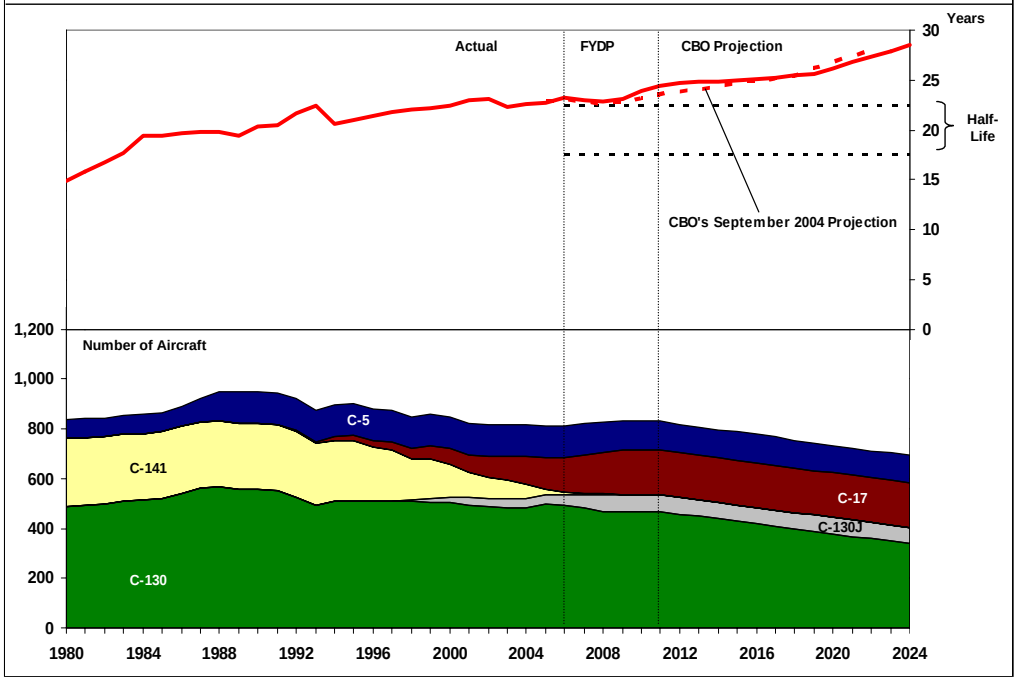
Procurement of Air Force Airlifters Under DoD's Current Plans and CBO's Alternatives



- This chart updates Figure 3-24 of CBO's September 2004 Web document. It shows past and projected purchases of airlifters for the Air Force as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- CBO's projections incorporate the assumption that DoD will end the production of C-17 airlifters at 180 aircraft and will modernize the entire C-5 fleet by installing new engines.
- There are no differences between CBO's projections of airlifter procurement under DoD's current plans and under its evolutionary and transformational alternatives.

Figure 3-25 Updated

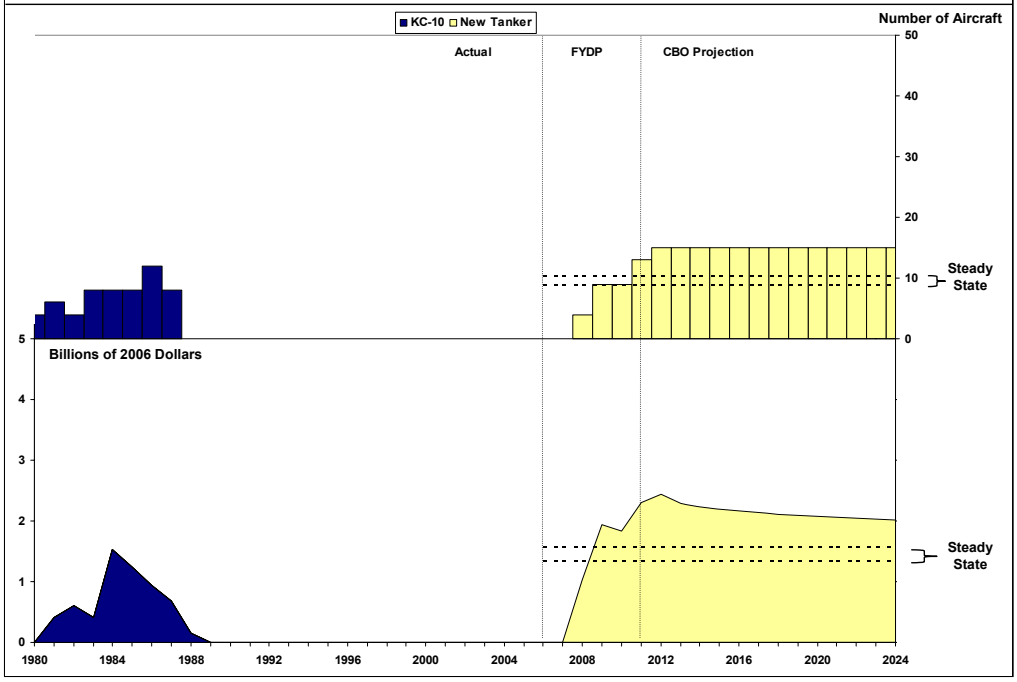
Age and Inventory of Air Force Airlifters Under DoD's Current Plans and CBO's Alternatives



- This chart updates Figure 3-25 of CBO's September 2004 Web document. It shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Air Force's airlifters.
- There are no differences between CBO's projections of airlifter procurement under DoD's current plans and under its evolutionary and transformational alternatives.

Figure 3-26a Updated

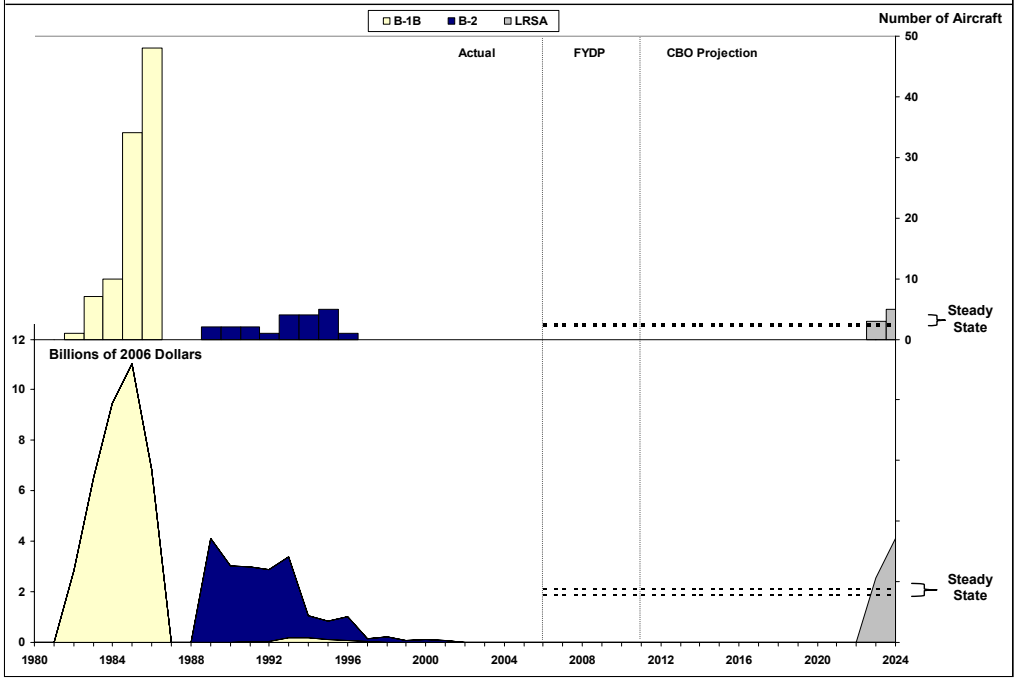
Procurement of Air Force Tankers Under DoD's Current Plans



- This chart updates Figure 3-26 of CBO's September 2004 Web document. It shows past and projected purchases of tankers for the Air Force as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- DoD is currently analyzing alternatives to determine a future course for tanker modernization, funds for which are included in the 2006 FYDP beginning in 2008.
- For this projection, CBO assumed that DoD would purchase (not lease) new tankers at a rate that would rise to 10 aircraft a year by 2012. Procurement would continue until DoD had replaced the fleet of 466 KC-135 tankers that its current plans call for by 2008.
- CBO's dollar estimates are based on costs for a fleet of KC-767 tankers. Those projections are intended to represent whichever approach the Air Force might select for modernizing its tanker fleet.

Figure 3-26b

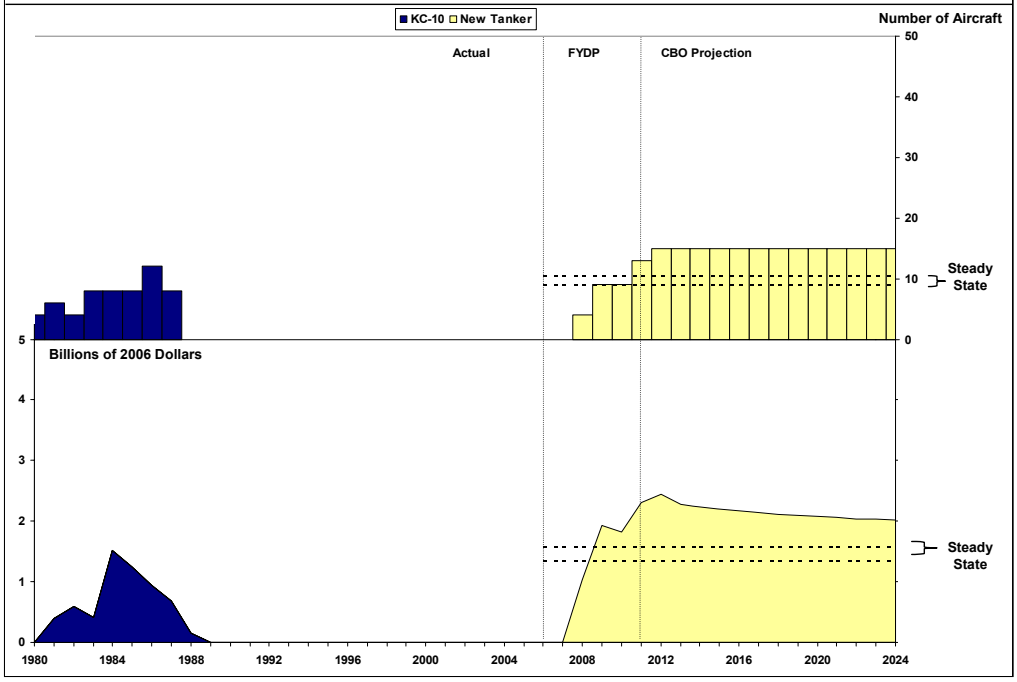
Procurement of Air Force Tankers Under CBO's Evolutionary Alternative



- This chart shows past and projected purchases of tankers for the Air Force under CBO's evolutionary alternative as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- Under the evolutionary alternative, the remaining KC-135E tankers that had not yet been modernized would be equipped with new engines and refurbished to bring them to the KC-135R configuration. Procurement of a new tanker would be delayed until 2019.
- CBO's dollar estimates are based on costs for a fleet of KC-767 tankers. Those projections are intended to represent whichever approach the Air Force might select for modernizing its tanker fleet.

Figure 3-26c

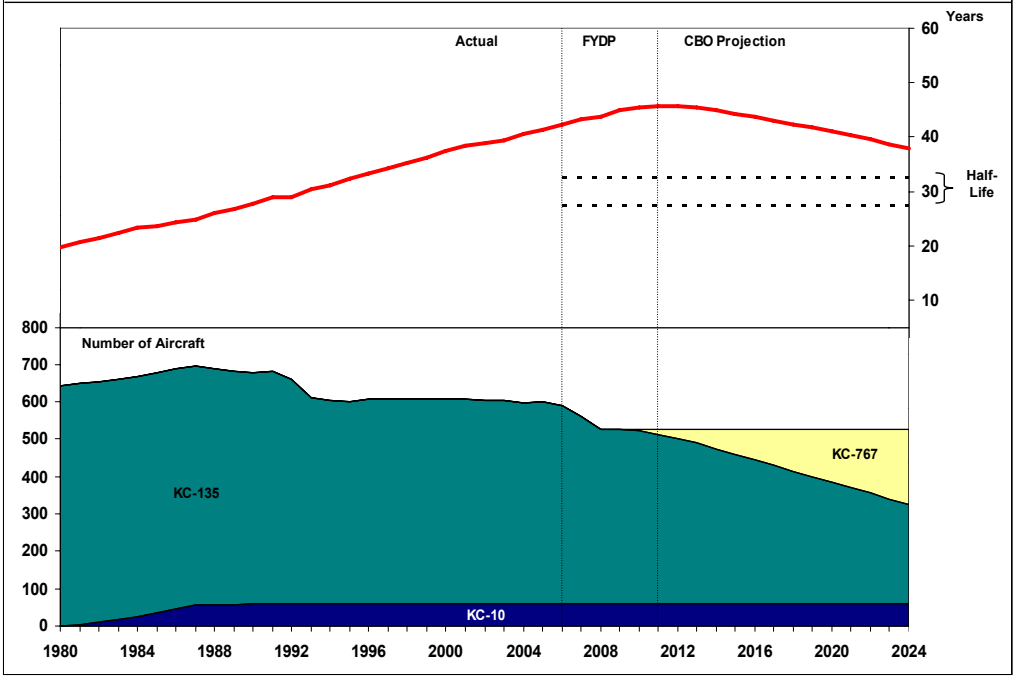
Procurement of Air Force Tankers Under CBO's Transformational Alternative



- This chart shows past and projected purchases of tankers for the Air Force under CBO's transformational alternative as measured by number of aircraft (the top part of the chart) and billions of 2006 dollars invested (the bottom part of the chart).
- There are no differences between CBO's projections of tanker modernization procurement under DoD's current plans and under its transformational alternative.

Figure 3-27a Updated

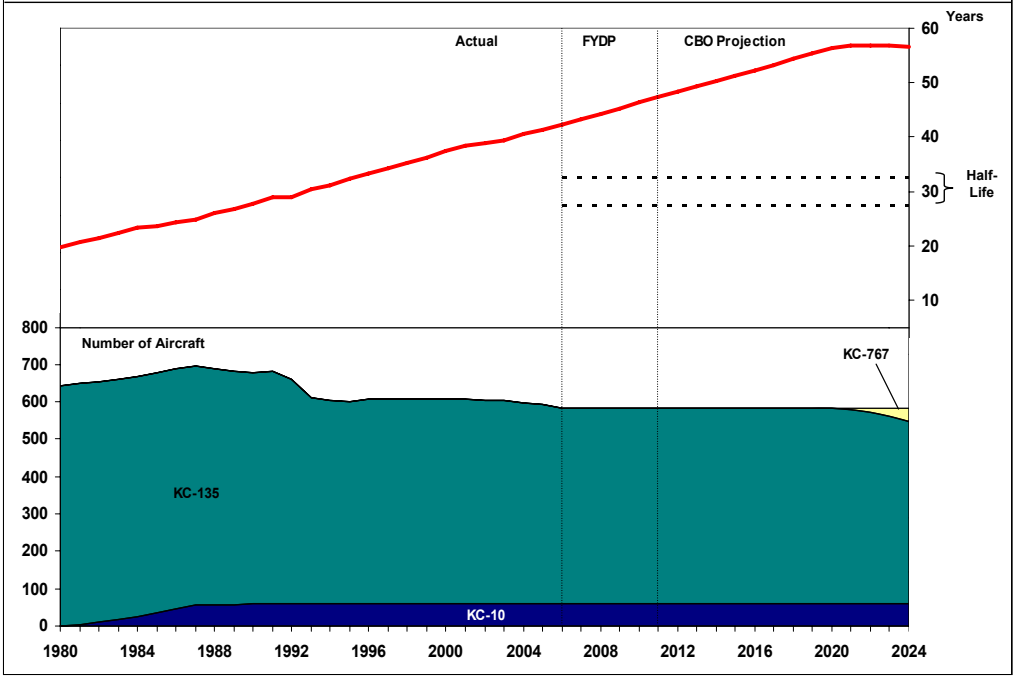
Age and Inventory of Air Force Tankers Under DoD's Current Plans



- This chart updates Figure 3-27 of CBO's September 2004 Web document. It shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Air Force's tanker fleet.

Figure 3-27b

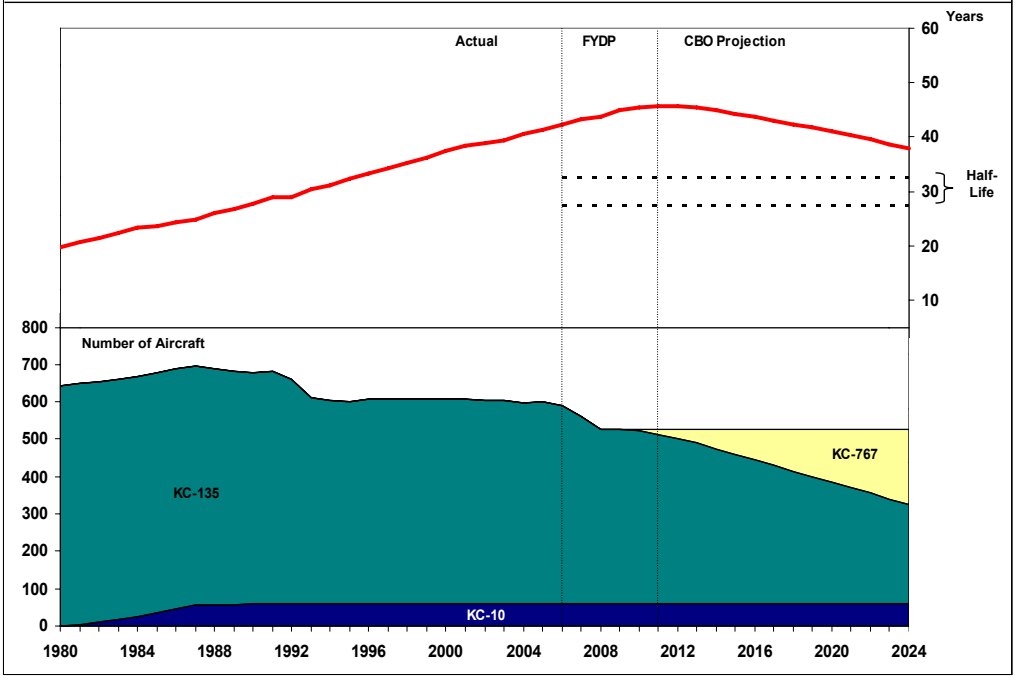
Age and Inventory of Air Force Tankers Under CBO's Evolutionary Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Air Force's tankers under CBO's evolutionary alternative.
- Because under the evolutionary alternative the Air Force would delay purchasing new tankers until 2019, the average age of the tanker fleet would increase steadily until those new tankers were delivered, beginning in about 2021. Note also that under this alternative, the remaining KC-135E tankers currently in the fleet would not be retired; instead, they would be refurbished to bring them to the KC-135R configuration.

Figure 3-27c

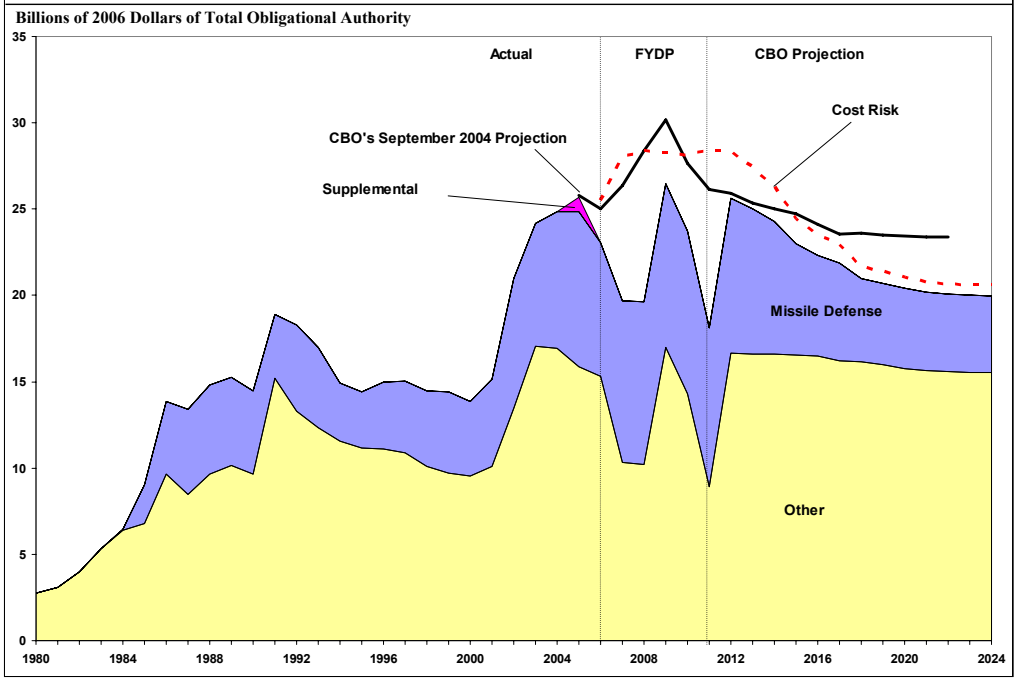
Age and Inventory of Air Force Tankers Under CBO's Transformational Alternative



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Air Force's tankers under CBO's transformational alternative. There are no differences between CBO's projections of the average age and inventories of tankers under DoD's current plans and under its transformational alternative.

Figure 3-29a Updated

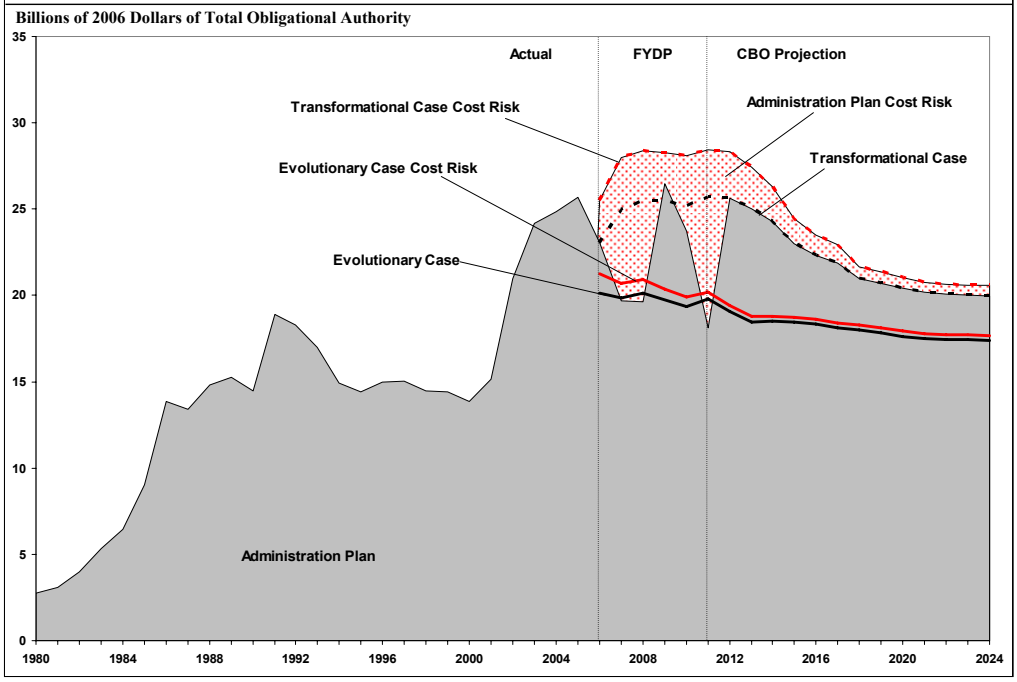
Past and Projected Spending for Defense Agency Investment



- This chart updates Figure 3-29 of CBO's September 2004 Web document. DoD's budget provides money for a variety of specialized agencies that perform advanced research, develop missile defenses, oversee special operations, and develop and manage information systems.
- The investment funding allocated to those activities in the 2006 FYDP averages about $22 billion a year over the period from 2006 to 2011.The majority of the differences between CBO's September 2004 and its current projections are associated with two changes to DoD's previous plans that the Defense Department incorporated in the 2006 FYDP:
    - In the 2005 FYDP, DoD included about $8 billion to fund unspecified research and development projects associated with military transformation. CBO's 2004 projection incorporated the assumption that that practice would continue, which commensurately raised the demand for future resources. However, the 2006 FYDP no longer includes that funding, so CBO's current projection omits it as well.
    - In the 2006 FYDP, DoD inserted an accounting credit of about $19 billion into the defense agency accounts over the 2006-2011 period. That credit represents the difference between the costs of the programs set out in the FYDP and the fiscal controls that DoD uses for planning. CBO treated the credit as a source of cost risk during the FYDP period because DoD might not be able to adjust its programs to bring its plans into line with its assumptions about funding.

Figure 3-29b

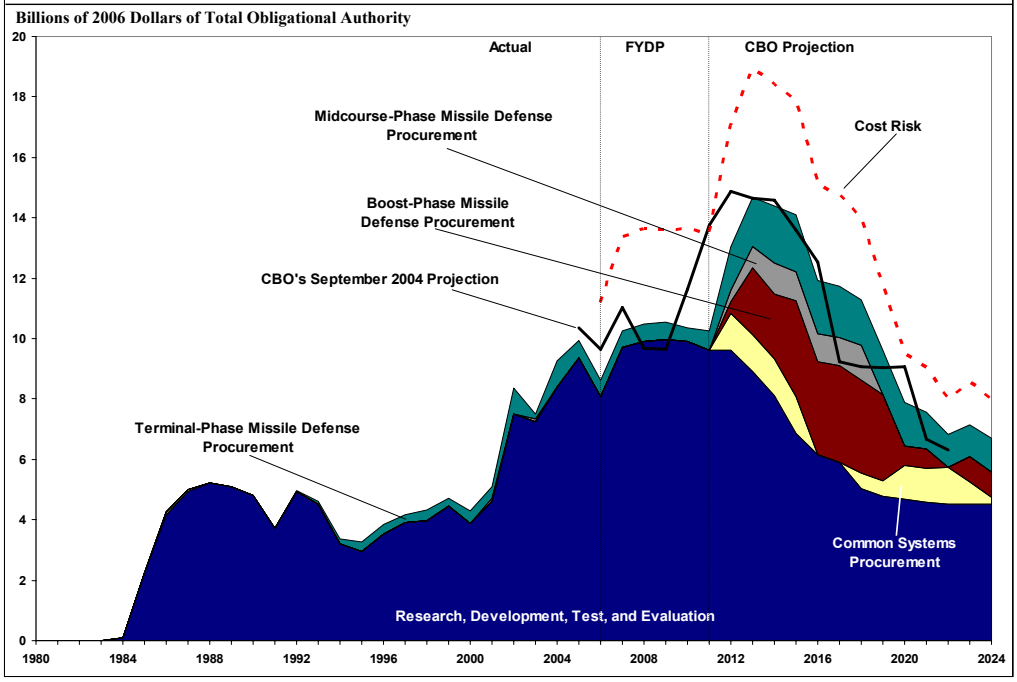
CBO's Evolutionary and Transformational Alternatives: Spending for Defense Agency Investment



- This chart displays CBO's projections of the resource implications for defense agency investment under its transformational and evolutionary alternatives to DoD's current plans. Under CBO's projection of the implications of DoD's current plans, the average annual demand for defense agency investment resources (excluding cost risk) would be $22 billion over the period from 2006 to 2024. That demand with cost risk would average $25 billion annually.
- Under CBO's evolutionary alternative, the average annual demand for defense agency investment resources over the 2006-2024 period would be $19 billion. With cost risk, that demand would average $19 billion annually.
- The average annual demand for defense agency investment resources under CBO's transformational alternative does not differ from such demand under CBO's projection of DoD's current plans.
- The differences between CBO's projections of defense agency investment under DoD's current plans and under CBO's evolutionary alternative are due primarily to different assumptions made in the two cases regarding the future activities that DoD would undertake in developing and deploying missile defenses. In particular, under the evolutionary alternative, DoD would deploy no additional ground-, sea-, air-, or space-based missile defenses beyond those already accomplished. Continuing efforts would be confined solely to research and testing of missile defense concepts.

Figure 3-30a Updated

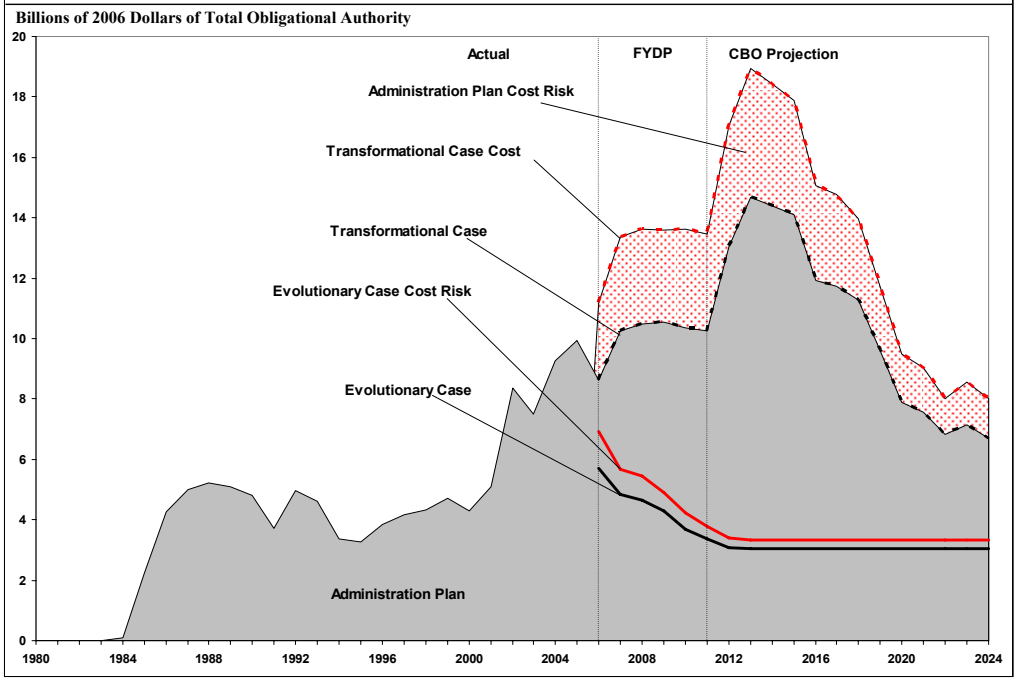
Past and Projected Spending for Missile Defense Investment



- This chart updates Figure 3-30 of CBO's September 2004 projection. In CBO's projection, total investment in missile defense peaks in 2013 at about $15 billion and then decreases, as systems finish with the procurement phase and become operational. If, however, costs grow as they have historically, pursuing the programs included in CBO's missile defense projection will cost an additional $3 billion a year, on average, peaking at about $19 billion in 2013.
- The Missile Defense Agency is working to deploy the Initial Defense Capability (IDC) of the Ground-Based Midcourse Defense System. CBO assumes that DoD will subsequently expand the IDC, deploying additional interceptors and radars.
- CBO also assumes that DoD will deploy the Space Tracking and Surveillance System (STSS) by 2017. STSS will support missile defense activities with a nine-satellite constellation of space-based infrared sensors in low-Earth orbit.
- DoD has begun developing a boost-phase kinetic-energy interceptor system, which CBO assumes will be deployed beginning in 2013.
- The airborne laser (ABL) boost-phase system will consist of a high-energy chemical laser mounted on a Boeing 747 aircraft. CBO's projection incorporates the assumption that seven ABL aircraft will be purchased through 2017.
- CBO's projection also includes the assumption that DoD will purchase as planned the Patriot Advanced Capability 3 short-range missile defense system as well as eventually procure the Terminal High Altitude Area Defense System.

Figure 3-30b

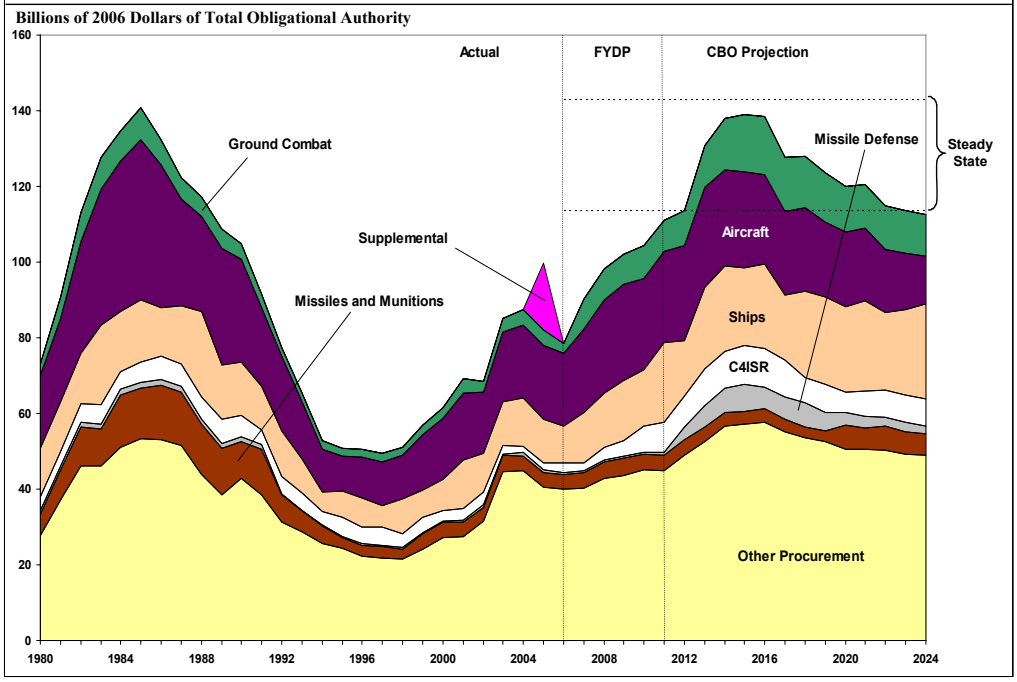
CBO's Evolutionary and Transformational Alternatives: Spending for Missile Defense Investment



- This chart displays CBO's projections of the resource implications for missile defense investment under its transformational and evolutionary alternatives to DoD's current plans. Under CBO's projection of the implications of DoD's current plans, the average annual demand for missile defense investment resources (excluding cost risk) would be $10 billion over the period from 2006 to 2024. That demand with cost risk would average $13 billion annually.
- Under the evolutionary alternative, the average annual demand for missile defense investment resources over the 2006-2024 period would be $3 billion. With cost risk, that demand would average $3 billion annually.
- The average annual demand for missile defense investment resources under CBO's transformational alternative does not differ from such demand under CBO's projection of DoD's current plans.
- The differences between CBO's projections of DoD's current plans for missile defenses and its evolutionary alternative are shown in Table 6 of CBO's *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006*. As mentioned in the notes to Figure 3-29b, under the evolutionary alternative, DoD would deploy no additional ground-, sea-, air-, or space-based missile defenses beyond those already in place. Continuing efforts would be confined solely to research and testing of missile defense concepts.

Figure 3-31a Updated

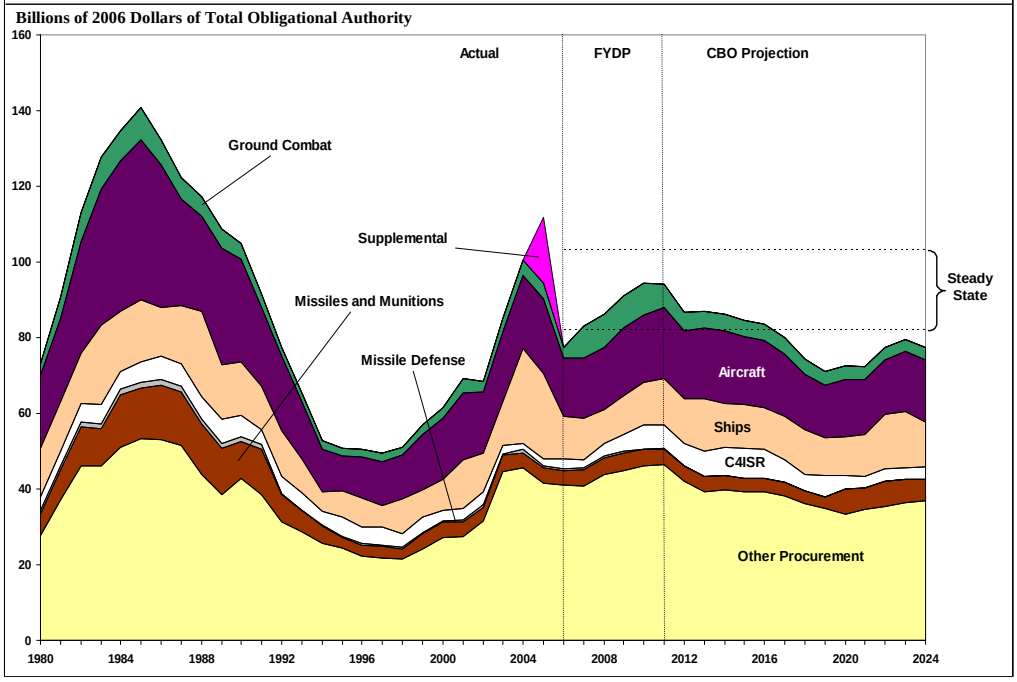
Procurement Versus Steady-State Levels Under DoD's Current Plans



- A way to measure the adequacy of planned purchases of military equipment is to compare them with steady-state levels (the procurement needed to sustain planned forces indefinitely). CBO estimated the annual level of steady-state purchases by dividing a planned inventory of weapon systems by the expected service life of those systems. Multiplying those steady-state purchases by the estimated unit costs of the various systems that DoD plans to buy yields an overall estimate of annual steady-state procurement costs. In making that calculation, CBO used two alternative estimates of service lives. One assumes DoD's current projections for service lives, which are generally longer than those planned for during the Cold War. The other uses the shorter service lives incorporated in DoD's Cold War-era planning.
- Using DoD's estimates for the unit costs of new equipment, CBO estimates that annual steady-state procurement funding for DoD ranges from $114 billion to $143 billion, corresponding to the assumption of longer or shorter service lives described above.
- DoD's planned procurement budgets for the 2006-2011 period are below CBO's estimates of the steady-state procurement costs needed to sustain currently planned forces. That is why the average ages of DoD's equipment generally rise through 2009.
- If current plans were carried out through the 2012-2024 period, procurement would be within the steady-state range (between the estimates with long and short service lives), CBO projects. That is why average ages for many weapon systems either remain constant or decline after 2012.

Figure 3-31b

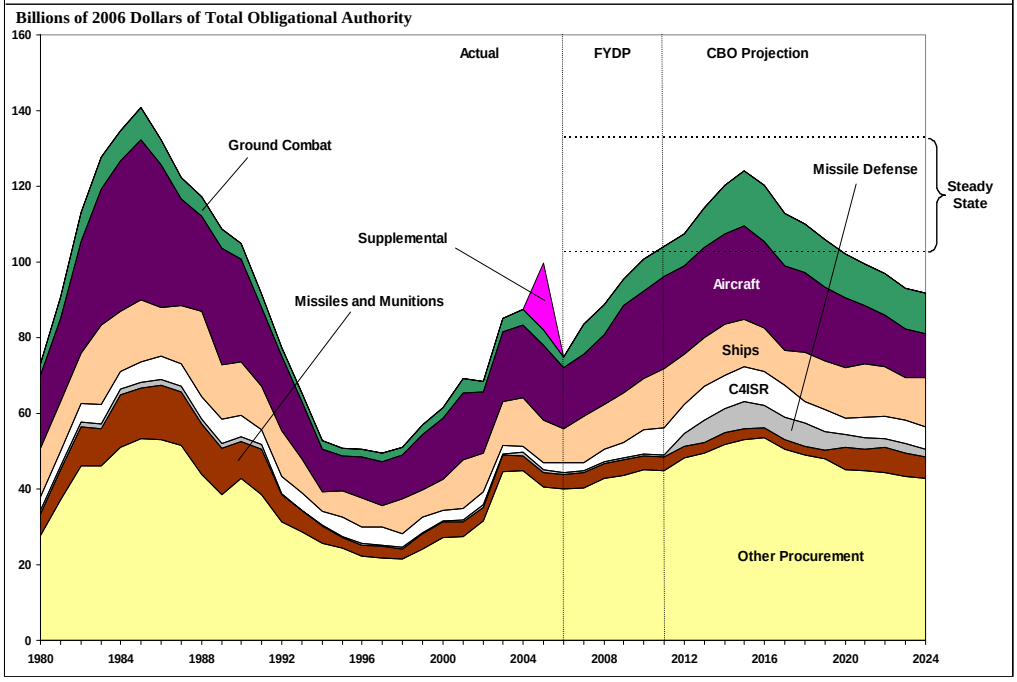
Procurement Versus Steady-State Levels Under CBO's Evolutionary Alternative



- Using its estimates of the unit costs of new equipment, CBO projects that annual steady-state procurement funding for DoD under the evolutionary alternative will range from $82 billion to $103 billion, corresponding to the assumption of longer or shorter service lives described above.

Figure 3-31c

Procurement Versus Steady-State Levels Under CBO's Transformational Alternative



- Using its estimates for the unit costs of new equipment, CBO projects that annual steady-state procurement funding for DoD under the transformational alternative will range from $103 billion to $133 billion, corresponding to the assumption of longer or shorter service lives described above.

Appendix

Acronyms and Abbreviations

AAV: Amphibious Assault Vehicle

ABL: Airborne Laser

C4ISR: command, control, communications, computers, intelligence, surveillance, and reconnaissance

CBO: Congressional Budget Office

DoD: Department of Defense

ECI: employment cost index

EFV: Expeditionary Fighting Vehicle

FCS: Future Combat Systems

FUR: Future Utility Rotorcraft

FYDP: Future Years Defense Program

GDP: gross domestic product

HIMARS: High-Mobility Artillery Rocket System

IDC: Initial Defense Capability

JHL: Joint Heavy Lift

JSF: Joint Strike Fighter

LAV: light armored vehicle

LCS: littoral combat ship

LHA(R): Landing Helicopter Assault (Replacement)

LRSA: Long-Range Strike Aircraft

LSD: Landing Ship, Dock

LUH: Light Utility Helicopter

MLRS: Multiple-Launch Rocket System

MPF(F): Maritime Prepositioning Force (Future)

O&M: operation and maintenance

O&S: operation and support

SAR: Selected Acquisition Report

SLEP: service-life extension program

STSS: Space Tracking and Surveillance System

TOA: total obligational authority

UCAV: unmanned combat air vehicle