

# CRS Report for Congress

Received through the CRS Web

## Navy-Marine Corps Tactical Air Integration Plan: Background and Issues for Congress

Christopher Bolkcom and Ronald O'Rourke  
Specialists in National Defense  
Foreign Affairs, Defense, and Trade Division

### Summary

As part of its FY2004 budget submission, the Department of the Navy (DoN) has proposed implementing a Navy-Marine Corps Tactical Air Integration (TAI) plan that would manage the Navy's strike fighters and the Marine Corps' strike fighters more like a common pool of strike fighters. DoN officials say the TAI plan would permit DoN to perform its stated missions with a smaller total number of operational strike fighters, and thereby permit DoN to reduce its planned buy of F/A-18E/F and F-35 strike fighters by 497 aircraft. Not procuring these 497 aircraft, DoN officials say, would save DoN about \$35 billion in aircraft procurement costs and significantly reduce DoN's projected approaching procurement "bow wave." The TAI plan poses potential issues for Congress regarding its effect on total DoN strike fighter capability, its cost effectiveness, and its possible significance in terms of further integration of U.S. military aviation assets in the future. This report will be updated.

### Background

**Navy and Marine Corps Strike Fighters.** The Navy and Marine Corps, which make up the Department of the Navy (DoN), each operate hundreds of strike fighters, which are planes capable of both air-to-air and air-to-ground combat. The Navy fields F/A-18C/D Hornets, F/A-18E/F Super Hornets, and F-14 Tomcats. The Marine Corps fields F/A-18C/Ds and AV-8B Harrier VSTOL (vertical/short takeoff and landing) "jump jets." The Navy plans to shift to a combination of Super Hornets and F-35 Joint Strike Fighters (JSFs), while the Marine Corps plans to shift to an all-JSF strike fighter force. Consistent with these plans, DoN in FY2004 and subsequent years plans to procure additional F/A-18E/Fs for the Navy and JSFs for the Navy and Marine Corps.<sup>1</sup>

**Proposed Tactical Air Integration Plan.** As part of its FY2004 budget submission, the DoN has proposed implementing a Navy-Marine Corps Tactical Air

---

<sup>1</sup> For more on the F/A-18E/F and JSF programs, see CRS Report RL30624, *Military Aircraft, the F/A-18E/F Super Hornet Program: Background and Issues for Congress*, and CRS Report RL30563, *Joint Strike Fighter (JSF) Program: Background, Status, and Issues*, both by Christopher Bolkcom. See also CRS Issue Brief IB92115, *Tactical Aircraft Modernization: Issues for Congress*, by Christopher Bolkcom.

# Report Documentation Page

Form Approved  
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE <b>10 APR 2003</b>		2. REPORT TYPE <b>N/A</b>		3. DATES COVERED <b>-</b>	
4. TITLE AND SUBTITLE <b>Navy-Marine Corps Tactical Air Integration Plan: Background and Issues for Congress</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Congressional Research Service The Library of Congress 101 Independence Ave, SE Washington, DC 20540-7500</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release, distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>SAR</b>	18. NUMBER OF PAGES <b>6</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

Integration (TAI) plan that would more fully integrate the Navy and Marine Corps strike fighter forces. Key elements of the plan, which would be carried out between late-FY2003 and FY2012, include the following:

- **Operate a smaller total number of DoN strike fighters.** The planned total number of operational DoN strike fighters would be reduced. This smaller force would be made more effective through increased spending on aircraft readiness and modernization, as described below.
- **Reduce planned procurement of strike fighters.** Consistent with the reduction in the total number of operational strike fighters, planned purchases of F/A-18E/Fs and JSFs would be reduced.
- **Increase the readiness of Navy strike fighters.** To increase the capability of the numerically reduced strike fighter force, DoN would use some of the savings from reduced F/A-18E/F and JSF procurement to increase the readiness of Navy strike fighters. Navy strike fighter squadrons, whose readiness traditionally has been allowed to decline between the times that they are assigned to deploying Navy aircraft carriers, would be maintained at a more consistently high level of readiness over time (like Marine Corps strike fighters), so that they would be available in times of emergency for surge deployments aboard Navy carriers or with deploying Marine Corps units.
- **Enhance funding for DoN strike fighter modernization and ancillary equipment.** To further increase the capability of the smaller strike fighter force, DoN would use some of the savings from reduced F/A-18E/F and JSF procurement to enhance funding for DoN strike fighter modernization (i.e., upgrade) programs and procurement of DoN strike fighter ancillary equipment (such as targeting pods).
- **Cross-assign Navy and Marine Corps strike fighter squadrons.** On a day-to-day basis, 3 Navy strike fighter squadrons would be assigned to deploying Marine Corps units, and 6 Marine Corps strike fighter squadrons would be assigned to help fill out Navy carrier air wings. This is intended in part to familiarize pilots from each service with the operations of the other service and thereby ensure that in times of emergency, strike fighters from one service could be readily surged to meet the strike fighter needs of the other service. The cross-assignment of the 6 Marine Corps squadrons would add to the 4 Marine Corps strike fighter squadrons that, since the 1990s, have been assigned to help fill out Navy carrier air wings, bringing the total number of cross-assigned Marine Corps squadrons to 10.

**Reduced Number of Operational DoN Strike Fighters.** As can be seen in the table below, the TAI plan would reduce the total number of operational DoN strike fighters from 872 to 562, a reduction of 310 aircraft, or about 36%. As indicated by the shaded cells in the table, most of this change comes from reducing the planned number of active-duty Navy and Marine Corps JSF squadrons.

**Table 1. Planned DoN Operational Strike Fighter Force Structure**

(Number of squadrons x number of operational aircraft per squadron = number of operational aircraft, known as Primary Authorized Aircraft, or PAA)

		Previous plan	New TAI plan
<b>Navy</b>	F/A-18 (active)	20 x 12 = 240	20 x 12 = 240
	JSF (active)	20 x 12 = 240	13 x 10 = 130
	F/A-18 (reserve)	3 x 12 = 36	1 x 12 = 12
	JSF (reserve)	0 x 12 = 0	1 x 10 = 10
	USN squadrons	43	35
	USN aircraft	516	392
<b>Marine Corps</b>	JSF (active)	14 x 12 = 168	14 x 10 = 140
	JSF (active)	7 x 20 = 140	
	F/A-18 (reserve)	4 x 12 = 48	0 x 12 = 0
	JSF (reserve)	0 x 10 = 0	3 x 10 = 30
	USMC squadrons	25	17
	USMC aircraft	356	170
<b>TOTAL DoN</b>	<b>Squadrons</b>	<b>68</b>	<b>52</b>
	<b>Aircraft</b>	<b>872</b>	<b>562</b>

Source: U.S. Navy data supplied to CRS, March 3 and April 10, 2003.

**Reduced Overall Strike Fighter Procurement.** The 310-aircraft reduction in the planned number of operational strike fighters translates into a 497-aircraft reduction in planned overall strike fighter procurement. This is because DoN procures additional strike fighters to account for the small percentage of the force that is lost each year due to training accidents, and because DoN's total inventory of strike fighters includes not only operational strike fighters (i.e., those shown in the table above), but additional strike fighters that are in the repair pipeline, in training squadrons, and in research and development activities. DoN officials say that the TAI plan would permit DoN to reduce procurement of F/A-18E/Fs to 460 from 548 (a reduction of 88 aircraft, or about 16%) and procurement of JSFs to 680 from 1,089 (a reduction of 409 aircraft, or about 38%). The combined F/A-18E/F and JSF buy would thus be reduced to 1,140 aircraft from 1,637, a reduction of 497 aircraft, or about 30%. Not procuring these 497 aircraft, DoN officials say, would save DoN about \$35 billion in constant (i.e., inflation-adjusted) FY2002 dollars in aircraft procurement costs through FY2021 and thereby significantly help DoN in addressing a "bow wave" (i.e., a difficult-to-afford accumulation) of ship and aircraft procurement needs that is projected to begin a few years from now.

## Issues for Congress

The TAI plan poses potential issues for Congress regarding its effect on total DoN strike fighter capability, its cost effectiveness, and what it may mean for further integration of U.S. military aviation assets in the future. Each of these is discussed below.

**Total DoN Strike Fighter Capability.** What effect would the TAI plan have on total DoN strike fighter capability, including the ability of the DoN strike fighter fleet to fulfill its part of the U.S. military's requirement to be able to fight and win two overlapping regional conflicts? DoN officials argue that the TAI plan's operational strike fighter force, though numerically smaller than the previously planned force, would provide more forward-deployed DoN strike fighter capability on a day-to-day basis due to the enhanced individual capability of all DoN strike fighters. They also argue that the TAI plan would improve DoN's ability to surge additional strike fighter capability in times of emergency due to the increased surge readiness of Navy strike fighters, the improved ability to assign surged aircraft from one service to meet the needs of the other service, if need be, and the enhanced individual capability of all DoN strike fighters. Skeptics of the TAI plan may question whether the numerically smaller TAI force, even with its improvements in readiness, modernization, and ancillary equipment, would have enough aircraft to fight and win two regional conflicts at the same time.

In assessing the effects of the TAI plan on total DoN strike fighter capability, one potential issue concerns the plan's enhanced funding for DoN strike fighter modernization programs and ancillary equipment. Although "enhanced funding" might be understood to mean increased funding, DoN officials state that in the case of the TAI plan, enhanced funding refers, to a significant degree, to an *increased likelihood* that DoN in coming years would be able to afford certain strike fighter modernization programs and ancillary equipment that were included under its old strike fighter plan. For Congress, potential questions include the following: How much of the TAI plan's enhanced funding represents increased funding, and how much represents an increased likelihood of being able to afford strike fighter modernization programs and ancillary equipment included in DoN's old strike fighter plan? If the increase in funding likelihood is less than DoN believes, would the TAI force still provide more capability than the previously planned force?

Another potential issue concerns the measurement of individual aircraft capability. Assuming the TAI plan would result in a strike fighter force reflecting greater amounts of spending for modernization and ancillary equipment, what is the resulting amount of improvement in individual aircraft capability? To what extent has DoN quantified this improvement? If the improvement is less than DoN believes, would the TAI force still be more effective than the previously planned force?

An additional potential issue concerns the TAI plan's impact on pilot training. Marine Corps pilots are trained as infantrymen before they become pilots, so that they will better understand the battlefield needs of ground forces. As pilots, they then receive extensive training in close air support (CAS) – the mission of supporting friendly troops on the ground by attacking nearby enemy ground forces. Navy pilot training, in contrast, has traditionally focused more on air-to-air combat and on interdiction – the mission of attacking enemy forces and assets in locations away from friendly ground forces. The cross-assignment of strike fighters under the TAI plan suggests that DoN strike fighter

pilots might need to either increase their total training load (so as to achieve greater proficiency in the other service's most prominent missions while retaining proficiency in their own service's most prominent missions) or spend less time training in their own service's most prominent missions (so as to spend more time training for their other service's most prominent missions). What effect would the TAI plan have on individual pilot training loads or the ability of DoN pilots to achieve high levels of proficiency in specific mission areas?

**Cost Effectiveness.** A second potential issue for Congress is the cost effectiveness of the TAI plan. When all the cost impacts of the TAI plan are taken into account, would the net cost impact of the plan be worth the resulting change in overall DoN strike fighter capability?

Regarding net cost impact, although DoN estimates that the TAI plan would reduce DoN strike fighter procurement costs by about \$35 billion in constant FY2002 dollars through FY2021, the plan would create additional expenditures in other areas. Most prominently, the plan would require additional operation and maintenance spending to increase the readiness rates of Navy strike fighters. DoN estimates that increased spending for strike fighter readiness under the plan would total about \$16.5 billion in constant FY2002 dollars through FY2021 and would continue to accumulate thereafter.<sup>2</sup>

For the 6 years covered by the FY2004-FY2009 Future Years Defense Plan (FYDP), DoN estimates that the TAI plan would reduce DoN aircraft procurement costs by about \$1 billion and increase aircraft readiness spending by about \$3.7 billion. The TAI plan might thus complicate, rather than ease, DoN's challenge in addressing the part of its procurement bow wave that may fall within the FYDP.

Annual military aircraft operation and maintenance costs have been growing in recent years, particularly for older aircraft. And new models of DoD aircraft have sometimes, if not often, proven to be more expensive to operate and maintain than planned. This raises the possibility that the increased readiness costs of the TAI plan may be underestimated. On the other hand, since the costs of at least some (if not many) past DoD aircraft procurement programs have also been underestimated, there is also a possibility that the procurement cost savings of the TAI plan may be underestimated.

A second potential source of additional expenditures under the TAI plan would be increased spending for DoN strike fighter modernization and ancillary equipment. Although, as mentioned earlier, much (perhaps most) of the enhancement of funding in these areas under the TAI plan refers to an *increased likelihood* of being able to afford modernization and ancillary equipment programs included under DoN's previous strike fighter plan, some of the enhancement would come in the form of *increased amounts* of spending in these areas.

A third potential source of additional expenditures under the TAI plan would be increased unit JSF procurement costs. The 409-aircraft reduction in DoN purchases of JSFs that would occur under the TAI plan would reduce the total planned buy of JSFs

---

<sup>2</sup> The \$35 billion and \$16.5 billion figures would change if computed on a discounted basis to reflect the investment value of money over time.

(2,912 aircraft, including 60 for the Royal Navy) by about 14%. Any Air Force or Royal Navy JSFs that were scheduled to be procured after these 409 DoN JSFs would now occur earlier on the production learning curve and therefore be more expensive for these services to procure (though perhaps only marginally so). In addition, if the reduction in the planned DoN JSF buy results in reduced *annual* JSF procurement rates in certain years compared to the old JSF procurement plan, then the JSFs produced during those years could be more expensive due to reduced spreading of manufacturer and supplier fixed overhead costs. The resulting increase in unit procurement cost would be incurred by whatever services are procuring these JSFs. Some observers note that anticipated foreign sales of the JSF will increase the overall production of the aircraft beyond the planned U.S.-British total and thereby reduce the per-unit cost. While export of the JSF is likely – in fact part of the plan – the number of JSFs that will be sold abroad is uncertain. The impact of these exports on JSF production economies of scale is therefore difficult to measure.

**Implications for Further Aviation Integration.** A third potential issue for Congress is the potential implications of the TAI plan, if implemented, for further integration of U.S. military assets in the future. As noted earlier, the TAI plan builds on a 1990s initiative to assign 4 Marine Corps strike fighter squadrons to Navy carrier air wings. Could implementing the TAI plan in turn lead to additional integration of Navy and Marine Corps aviation assets in the future? If so, what form might this further integration take, and what would be its potential impact on DoN capabilities and costs?

The Marine Corps by law (10 U.S.C. 5063(a)) is to be a combined-arms force that includes its own aviation assets. Even so, there have been proposals from time to time for turning the Marine Corps' fixed-wing aircraft over to the Navy. In light of these proposals, some observers may wonder whether the TAI plan, if implemented, could become the first step on a "slippery slope" toward total integration of Navy and Marine Corps fixed-wing aviation. Advocates of such integration have argued that it could reduce DoN costs and would be consistent with the Army's reliance on Air Force and Navy fixed-wing aircraft for close air support. Marine Corps officials and others have opposed the idea on the grounds that maintaining a separate Marine fixed-wing aviation capability is critical to the service's success as a combined-arms force, particularly in expeditionary operations where the Marine Corps' fixed-wing aircraft serve as the equivalent of the Army's more extensive artillery support units.

More broadly, the TAI plan in the longer run could renew discussions from earlier years over the cost-effectiveness of maintaining separate aviation components in the Air Force, Navy, Army, and Marine Corps – the so-called "4 air forces" issue. Advocates of DoD aviation integration have argued in previous years that operating 4 separate aviation components is wasteful. Supporters of the current arrangement have argued that the potential savings of DoD aviation integration have been exaggerated, and that there are operational advantages in maintaining separate aviation components that train for the different operating environments and mission requirements of each service.<sup>3</sup>

---

<sup>3</sup> For a discussion, see archived CRS Report 93-823 F, *Four U.S. "Air Forces:" Overlap and Alternatives*, by Allan W. Howey. Washington, 1993. (September 10, 1993) 30 p.