



DEPARTMENT OF DEFENSE/CDL CORVALENNHART/US MARINE CORPS

Building a Military for the 21st Century

New Realities, New Priorities

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Major Myles B. Caggins III, Sean E. Duggan December 2008



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"It's said that a nation's budget reflects its values and its priorities."

– President-elect Barack Obama

"Given that resources are not unlimited, the dynamic of exchanging numbers for capability is perhaps reaching a point of diminishing returns. A given ship or aircraft, no matter how capable or well-equipped, can be in only one place at one time."

– Secretary of Defense Robert M. Gates

Executive summary

In a little over one month, a new administration will have the opportunity to manage a significant realignment of U.S. defense and national security priorities. To be sure, this process will not occur in a vacuum. Today's security imperatives and budgetary realities will require the next administration to make hard decisions and difficult trade-offs on competing visions of the military and its role in implementing national security strategy. These trade-offs will have wide-ranging consequences for the size and structure of the force, and what procurement and modernization options are feasible in order to advance overall U.S. national security interests.

Pentagon planners have already begun to warn the incoming administration about the choices it will have to make. A Pentagon advisory group recently notified the president-elect's office that the Department of Defense, "cannot reset the current force, modernize and transform in all portfolios at the same time. Choices must be made across capabilities and within systems to deliver capability at known prices within a specific period of time."¹

In order to make these important decisions, the next administration will first have to evaluate the current state of the military; examine the current composition of the Defense budget; and define the threats, challenges, and role of the U.S. military in the 21st century. This report is intended not only to serve as a playbook for a new administration and military planners. It also aims to guide policymakers and the general public about what a new administration will need to do to restore American military power while reorienting the military to more effectively and efficiently counter current and future threats.

The next administration will inherit a vastly different military than the one bequeathed to President George W. Bush in January of 2001. After nearly six years of war in Iraq and over seven in Afghanistan, the next administration will have to contend with two wars, a military readiness crisis, recruitment and retention problems, mounting equipment shortages, and an out-of-control defense acquisition process.

Yet the American military has developed a cadre of experienced, battle-tested officers and enlisted men who have been able to adapt and excel at counterinsurgency and peace and stability operations despite the personnel and equipment constraints of the wars in Iraq and Afghanistan over the last seven years. Moreover, the Army has undertaken a decisive effort to capture the lessons learned in both theatres and has institutionalized them in

Army Field Manual 3-24, Counterinsurgency Operations, and Field Manual 3-07, Stability Operations. While the Pentagon and a new administration's first priority must be to reset the force and restore high levels of readiness, it must also do everything in its power to retain these high-quality military personnel. As former Secretary of Defense Melvin Laird, the person who ended the draft and created the all-volunteer force put it, "people, not hardware must be our highest priority."

A new administration will also inherit a defense budget that is increasingly out of control. Gordon Adams, the former associate director for national security and international affairs at the Office of Management and Budget, said it well when he recently stated that, "It's increasingly clear that Defense Department leadership has moved into a totally unconstrained view of military spending."² It is common knowledge that DOD spending is more in inflation-adjusted dollars today than at any other time since the end of the World War II, but this fact obscures the dramatic increase in defense spending of recent years. Adding the funding for the wars in Iraq and Afghanistan to the fiscal year 2009 base defense budget brings that sum in real dollars to nearly twice the amount spent for defense only eight years earlier.

Soaring defense budgets have paradoxically failed to create a larger, more ready force. In fact, today's force is smaller, older, and significantly more engaged than at any time since the Vietnam War. This situation has materialized despite the fact that, over the past eight years, the services have received \$770 billion in their base budgets above and beyond what they planned on receiving in 2000. As many defense analysts have noted, large increases in the service's base-budget spending have made the Pentagon's problems worse.³ A budget devoid of spending limits and priorities has created an environment where the services have not had to make trade-offs or difficult decisions when it comes to operations and support, and acquisitions programs.

Undeterred, a number of organizations and individuals, including the chairman of the Joint Chiefs of Staff, Admiral Michael Mullen, have begun to call on lawmakers and Pentagon leaders to permanently allocate a minimum of 4 percent of U.S. gross domestic product to the base defense budget. Under their plan, Congress would continue to allocate supplemental funding for the wars in Iraq and Afghanistan, which has been the practice over the last seven years, above and beyond the initial 4 percent.

Proponents of the so-called "4 percent solution" argue that devoting a minimum of 4 percent of U.S. GDP is far below historic U.S. funding ratios. But, in the words of defense expert and Professor of War and Peace Studies at Columbia University Richard Betts, "this is both true and irrelevant. The argument focuses on only one component of the equation—spending—and conveniently ignores that the scope of commitments, the choice of strategy, and the degree of risk accepted can be adjusted as well."⁴

Moreover, this approach to military spending is not based on future threats, does not set priorities, and does not deal with today's budgetary realities. The United States is currently spending 4.2 percent of GDP on defense, including war funding, and the baseline defense budget currently consumes 3.4 percent of GDP. Yet the rationale behind putting a 4 percent floor under the baseline defense budget is without merit. Put simply, just because we can, does not mean that we should.

According to Steven Kosiak, vice president for budget studies at the Center for Strategic and Budgetary Assessments, "There is, on net, little to merit to the idea of indexing future defense spending to 4 percent of GDP. Moreover, focusing on this question may do more to obscure and confuse than to illuminate the critical and difficult question of 'How much is enough?' to spend on defense."⁵ Travis Sharp of the Council for a Livable World put it even more bluntly, saying that it is "bad logic and bad policy."⁶

Iraq war veteran U.S. Army Colonel Gian Gentile, has made a point that should guide prudent military planners: our military cannot be built to do "everything." Sound strategy and military policy requires choices about organizational structure, resources, training, and other important issues. As Kosiak explains, only by "considering the range of military threats and challenges the country faces, and by determining the strategy, forces, and capabilities needed to counter those challenges can the United States advance national interests at an acceptable level of risk—as well as at an acceptable cost, in terms of other national priorities (including everything from homeland security to health care)."⁷

He goes on to say that there "is probably no workable substitute for the traditional approach to setting the defense topline: considering the range of military threats and challenges the country faces, and determining the strategy, forces, and capabilities needed to counter those challenges and advance U.S. interests, at an acceptable level of risk—as well as at an acceptable cost, in terms of other national priorities."⁸

In order to help the next administration make these tough choices, we offer the following recommendations for the Department of Defense as a whole:

Overall recommendations for the Defense Department

Embrace a new vision for the U.S. military. Operations in Afghanistan and Iraq have highlighted the changing threat environment for the United States. It is increasingly likely that, in this post-9/11 world, U.S. troops will more frequently be assigned to non-traditional warfare tasks, including both kinetic and non-kinetic counterinsurgency operations, rather than full-scale conventional wars with near-peer competitors. While proficiency in conventional warfare cannot be allowed to lapse, the next administration should consider the type of conflicts most likely to be encountered when allocating limited funding to procurement, training, force expansion, and other budgetary requests.

...our military
cannot be built
to do "everything."

For the next four years, allow the defense budget to keep pace with inflation.

As previously noted, today's defense baseline budget is higher than it has been in real dollars since the end of the World War II. This sum, if used wisely, is more than enough to ensure American military predominance while recapitalizing equipment lost in Iraq and Afghanistan, and growing and modernizing the force. The next administration should therefore keep the defense budget flat over the next four years, adjusting for inflation and fluctuations in the U.S. dollar.

The substantial increase in defense spending during the Reagan administration, which saw DOD's base budget increase by some 53 percent over five years, was followed by a sustained period of budget cuts of about 35 percent between 1985 and 1998. In contrast, the dramatic rise in base defense spending during the Korean War—DOD's budget nearly quadrupled between 1950 and 1954—was followed by a long period of sustained but modest growth in DOD's budget at an annual real increase of about 1.5 percent between 1954 and 1980.⁹ The latter precedent represents the better model to emulate. However, economic constraints and the almost unprecedented size of the current budget suggest that even small increases in the baseline budget can and should be avoided in the next administration's first term.

Include supplemental war funding in a consolidated budget. Long-term U.S. interests in Iraq and Afghanistan require that an American military presence will be maintained in those countries for the foreseeable future, most of the cost of which should be paid for through supplemental appropriations. However, the services have taken advantage of these ostensibly "emergency" war-funding bills to request money for significant non-war-related projects. DOD should in the future submit appropriations for the wars in Iraq and Afghanistan with the baseline request in one consolidated budget. This procedure will allow lawmakers to scrutinize the items from the supplemental and force Congress and DOD leaders to make trade-offs and hard choices when considering the FY 2010-13 defense budget priorities.

Scale back purchases of weapons systems designed for conventional warfare and reorient the force based on the need for greater irregular capabilities. It is too late to make changes in the FY 2009 defense budget, but American taxpayers can save as much as \$38.6 billion over the next four years by eliminating weapons systems designed to deal with threats from a bygone era—weapons and programs that are not useful in defending our country from violent extremists or the other threats we now face.

Reallocate the above baseline budget cut recommendations to cost overruns in the Grow the Force initiatives and equipment reset as needed. Our recommendations will cut the baseline defense budget by \$38.6 billion over the next four years. However, these funds should not be eliminated from the baseline budget. They should be reprogrammed to support Grow the Force initiatives, including related TRICARE and other health care costs, and equipment reset costs, some of which DOD can already anticipate.

Budget recommendations

Ground forces recommendations (Army, Marines)

- Continue increasing the size of U.S. ground forces without lowering standards. Also, enlarge the recruiting pool by dropping the ban on women serving in ground combat units and repealing the “Don’t Ask, Don’t Tell” law.
- Slow down Future Combat Systems and cut the program’s procurement, research, and design budgets by a third over the next four years.
- Move forward slowly on the Brigade Combat Team model, but carefully review the operations of the Maneuver Enhancement Brigades and determine whether more are needed.
- Maintain funding for the Joint Light Tactical Vehicle at the current level, allowing for development and testing, but delay production in favor of purchasing M-ATV armored vehicles for Afghanistan.

Naval forces recommendations

- Cancel the Zumwalt-class DDG-1000 destroyer and build two Arleigh Burke-class DDG-51 destroyers a year for the next four years.
- Keep SSN-774 attack submarine production steady at one per year instead of ramping up to two per year in FY 2013.
- Move forward with current plans for the Littoral Combat Ship.
- Deploy the Gerald R. Ford (CVN-78) aircraft carrier but delay the construction of the CVN-79 aircraft carrier for five years.
- Cancel the LPD-26 amphibious ship and move forward with the Maritime Prepositioning Force (Future).

Air forces recommendations (Air Force, Army, Navy, Marines)

- End production of the F-22 Raptor immediately at 183 planes.
- Continue development of the F-35 Lightning II Joint Strike Fighter, but do not start full-scale production until flight tests have been completed.
 - Buy F-16 Block 60 fighters, two wings of MQ-9 Reaper drones, and 69 F/A-18E/F Super Hornets to make up for the anticipated gap in fighter aircraft.
- Cancel the MV-22 Osprey and substitute cheaper helicopters while continuing production of the CV-22.
- Build more C-17 cargo aircraft.
- Move forward on the KC-X.
- Substitute MQ-1C Warrior drones for Armed Reconnaissance Helicopters.
- Move forward on the new long-range bomber.

Missile defense recommendations

- Cancel unproven missile defense programs.
- Halt deployment of the ground-based missile defense system until it has proven itself in realistic operational tests.
- Continue work and testing on lower-risk missile defense systems.
- Stop deployment of the missiles and radars in Poland and the Czech Republic until the system has been adequately tested.

These recommendations would save the Department of Defense \$38.6 billion over the next four years.

If necessary, approve supplemental funding to cover cost overruns in the Grow the Force initiatives and equipment reset. Given President-elect Obama’s stated goal of redeploying all U.S. combat troops from Iraq by mid-2010, it is reasonable to expect that war-related funding for that operation will decrease significantly in the coming years. The new administration must resist the understandable desire to reap a large peace dividend from this decrease in spending. Instead, lawmakers and military leaders should direct a portion of today’s war-related funding to equipment reset and force modernization in order to expedite high levels of force readiness, with a particular emphasis on the Army and the Marine Corps. This redirection of funds is consistent with Army officials’ desires to shift some of the supplemental funding—rather than eliminate it as U.S. forces are

withdrawn from Iraq—to critical DOD initiatives such as reset and growing the size of the ground forces. Congress should undertake responsible oversight to ensure that these extra funds are justified.

Some of the funds that will be saved by drawing down forces in Iraq will have to be spent to support the increased troop strength in Afghanistan. The United States can save approximately \$140 billion over the next two years from decreased operations in Iraq while redirecting a total of \$22 billion to Afghanistan over the next two years.¹⁰

Continue to increase the size of U.S. ground forces without lowering standards.

The Army and Marines should meet their new end-strength goals without relaxing recruitment standards or retention and promotion criteria. Doing so will not be easy in the current environment. Dropping the ban on women serving in combat and repealing the “Don’t Ask, Don’t Tell” law will enlarge the pool of potential recruits and make the challenge somewhat easier.

The current target of adding 7,000 soldiers and 5,000 marines per year should only be kept if it does not mean lowering standards; this will ensure that the Army and Marines do not deplete the quality of their force. Recruitment and retention standards should return to at least pre-Iraq standards. Congress must make sure that the overall quality of U.S. military personnel does not slide as it did in the 1970s. It is worth waiting a few extra years, if necessary, to ensure that the Army and Marines attract the men and women who possess the specialized skill sets needed for an effective 21st-century military.

Prioritize people over hardware. Developing high-tech expensive weapons programs should never take priority over the investment, support, and development of those serving in our all-volunteer professional military. Our primary investment should always be in the men and women serving in uniform. Investing in their development—in education, training, and quality of life—is investing in the greatest weapon we have.

Control cost growth in weapons systems and appoint a deputy secretary of defense in the mold of David Packard, Charles Duncan, and Don Atwood.

Controlling the runaway cost growth that has occurred in the weapons research and development and acquisition process over the past eight years will be critical to keeping the future defense budget relatively flat. According to a recent GAO report, the actual costs of the 95 largest weapons programs collectively increased by nearly \$300 billion over initial estimates in the past seven years. A report by the Pentagon’s own business board put the growth at \$401 billion. Of the 95 programs, “None had proceeded through development while meeting the best-practice standards for mature technologies, stable design, and mature production processes, all prerequisites for achieving planned cost and schedule outcomes.”¹¹ The Department of Defense has been so poorly managed in the past eight

years by its political appointees that if it were a private company, it would have had to file for bankruptcy. Only a deputy like Packard (1969-71), Duncan (1977-79), and Atwood (1989-93) can bring this system under control.

This report will describe the overall state of the military and the current composition of the defense budget, and offer suggestions for how to build a force optimized to defeat future threats.

U.S. troops have performed admirably in Iraq and Afghanistan, but these operations have left readiness and recruiting problems in their wake. The first section explores these difficulties and offers recommendations to re-build the quality of the force and retain skilled soldiers, sailors, airmen, and marines.

The second section analyzes the defense budget with an emphasis on two areas where growth is both necessary and challenging: equipment reset and personnel costs.

The final section offers a service-by-service analysis of budget priorities. It demonstrates that with proper management, the United States can build a military designed to win irregular wars such as those now being fought in Afghanistan and Iraq, and that it can operate with the same level of yearly funding appropriated for FY 2009. It also suggests specific budget cuts or additions to reach this goal.

The next administration will be faced with difficult trade-offs in deciding budget priorities and orienting the force to meet conventional and unconventional threats. This report outlines the strategic constraints that the next president will face and offers the Center for American Progress' vision for a military ready to meet the threats and challenges of the 21st century in a cost-effective manner—something that has been sadly lacking for the past eight years.

Where we are

I. The current state of the military: a look at uniformed personnel

The United States military has been fully engaged in two conflicts since 9/11, and this strain has affected the men and women serving in all branches of the armed forces. A cycle of repeated and prolonged deployments particularly for U.S. ground forces combined with minimal “dwell” time between combat tours has placed a severe strain on our troops.¹² The challenges of recruiting and retaining an all-volunteer force during these long wars—particularly for the Army—have become increasingly clear.

Deployments

The Army’s Brigade Combat Teams have spent an average of 30 months in combat areas since 2002. Of the Army’s 44 combat brigades, all but the First Brigade of the Second Infantry Division, which is permanently based in South Korea, have served at least one tour. Of the brigades which have served more than one tour:

- Sixteen brigades have had two tours in Iraq or Afghanistan.
- Fifteen brigades have had three tours in Iraq or Afghanistan.
- Five brigades have had four tours in Iraq or Afghanistan.




These multiple and lengthy deployments without sufficient time at home between deployments have had broad consequences for the lives of the troops and their families. The 2008 DOD Mental Health Advisory Team-V study revealed that the suicide rate for service members deployed to Iraq and Afghanistan is higher than stateside personnel. And the morale for troops with multiple trips to combat zones is lower than that of troops sent abroad less often.¹³ Soldiers deployed in Brigade Combat Teams are the most likely to be involved in direct fire engagements; they feel the highest stress levels, witness and participate in more unethical behavior, are more likely to divorce, and have higher instances of Post-Traumatic Stress Disorder. When deployed parents return home, their children are more likely to have behavioral problems than other youth.¹⁴ Service members—particularly the Army and Marines—are clearly stretched, and the next administration needs to take in account the human element of combat and enact policies that put teeth behind the phrase “taking care of the troops.”

Chart 1.1: Army Brigade Combat Team Deployments since 2002


BRIGADE COMBAT TEAM DEPLOYMENTS


Here is a look at the active Army's brigade combat teams and their deployments to Iraq and Afghanistan as of Oct. 3. Totals presume completion of current tours. Upcoming deployments are included.


As of Oct. 3, 2008

 Deployed or deploying to Iraq
 Deployed or deploying to Afghanistan
 Past Afghanistan deployment


Dates in green are estimates


1st ID	From	To	Months
	Mar 03	Dec 03	10
	Jan 04	Sep 04	9
1st BDE	TOTAL		19


1st AD	From	To	Months
	May 03	Jul 04	14
	Jan 06	Feb 07	13
1st BDE	TOTAL		27


1st CD	From	To	Months
	Mar 04	Mar 05	12
	Oct 06	Jan 08	15
1st BCT	TOTAL		27


2nd ID	From	To	Months
	FORWARD STATIONED IN SOUTH KOREA		
1st BCT			


3rd ID	From	To	Months
	Jan 03	Aug 03	8
	Jan 05	Jan 06	12
	Feb 07	Apr 08	14
1st BCT	TOTAL		34


4th ID	From	To	Months
	Mar 03	Mar 04	12
	Dec 05	Dec 06	12
	Mar 08	Jun 09	15
1st BCT	TOTAL		39


10th MTN	From	To	Months
	Jul 03	May 04	11
	Aug 05	Aug 06	12
	Sep 07	Dec 08	15
1st BCT	TOTAL		38


172 SBCT	From	To	Months
	Aug 05	Dec 06	16
	Sep 08	Sep 09	12
1/25 SBCT	TOTAL		28


82nd ABN	From	To	Months
	Jan 03	Aug 03	8
	Jan 04	Apr 04	4
	May 05	May 06	12
	Jun 07	July 08	13
	Summer 09		
1st BCT	TOTAL		37


101st ABN	From	To	Months
	Mar 03	Feb 04	11
	Sep 05	Sep 06	12
	Sep 07	Dec 08	15
1st BCT	TOTAL		38


1/25 SBCT	From	To	Months
	Sep 04	Sep 05	12
	Aug 07	Oct 08	15
2 SCR	TOTAL		27


3/1 AD	From	To	Months
	Apr 03	Apr 04	12
	Jan 05	Jan 06	12
	Oct 08	Oct 09	12
2/1 ID	TOTAL		36


1st AD	From	To	Months
	Apr 03	Jul 04	15
	Nov 05	Nov 06	12
	Mar 08	June 09	15
2nd BDE	TOTAL		42


1st CD	From	To	Months
	Jan 04	Mar 05	13
	Oct 06	Jan 08	15
2nd BCT	TOTAL		28


2nd ID	From	To	Months
	Nov 03	Nov 04	12
	Jun 06	Sep 07	15
	Summer 09		
3rd SBCT	TOTAL		27


3rd ID	From	To	Months
	Sep 02	Aug 03	11
	Jan 04	Jan 06	12
	May 07	Aug 08	15
2nd BCT	TOTAL		38


4th ID	From	To	Months
	Mar 03	Mar 04	12
	Nov 05	Nov 06	12
	Sep 08	Sep 09	12
2nd BCT	TOTAL		36


10th MTN	From	To	Months
	Dec 01	Apr 02	5
	May 03	Dec 03	8
	Jun 04	Jun 05	12
	Aug 06	Nov 07	15
2nd BCT	TOTAL		40


25th ID	From	To	Months
	Jan 04	Feb 05	13
	Nov 07	Feb 09	15
2nd SBCT	TOTAL		28


82nd ABN	From	To	Months
	Feb 03	Feb 04	12
	Jan 07	Mar 08	14
2nd BCT	TOTAL		26


101st ABN	From	To	Months
	Mar 03	Feb 04	11
	Sep 05	Sep 06	12
	Oct 07	Jan 09	15
2nd BCT	TOTAL		38


3rd ACR	From	To	Months
	Apr 03	May 04	13
	Mar 05	Feb 06	11
	Nov 07	Feb 09	15
TOTAL			39


1st ID	From	To	Months
	Feb 04	Mar 05	13
	Jul 08	Oct 09	15
3rd BCT	TOTAL		28


1st AD	From	To	Months
	SCHEDULED TO ACTIVATE AUG 09		
3rd BDE	TOTAL		


1st CD	From	To	Months
	Apr 04	Apr 05	12
	Oct 06	Dec 07	14
	Dec 08	Dec 09	12
3rd BCT	TOTAL		38


2nd CR(L)	From	To	Months
	Apr 03	Jul 04	15
	Apr 07	Jul 08	15
4/2 SBCT	TOTAL		30


3rd ID	From	To	Months
	Mar 02	Sep 02	7
	Jan 03	Jul 03	7
	Jan 05	Jan 06	12
	Mar 07	Jun 08	15
3rd BCT	TOTAL		41


4th ID	From	To	Months
	Apr 03	Apr 04	12
	Nov 05	Nov 06	12
	Nov 07	Feb 09	15
3rd BCT	TOTAL		39


10th MTN	From	To	Months
	Feb 06	Jun 07	15
	Jan 09		
3rd BCT	TOTAL		15


25th ID	From	To	Months
	Apr 04	Apr 05	12
	Aug 06	Oct 07	15
	Oct 08	Oct 09	12
3rd BCT	TOTAL		39


82nd ABN	From	To	Months
	Jun 02	Jan 03	8
	Aug 03	May 04	10
	Aug 06	Nov 07	15
	Fall 08		
3rd BCT	TOTAL		33


101st ABN	From	To	Months
	Jan 02	Jul 02	7
	Mar 03	Feb 04	11
	Sep 05	Sep 06	12
	Sep 07	Dec 08	15
3rd BCT	TOTAL		45


11th ACR	From	To	Months
	Dec 04	Jan 06	13
TOTAL			13


173rd ABN	From	To	Months
	Mar 03	Mar 04	12
	Apr 05	Mar 06	11
	Jun 07	Aug 08	15
TOTAL			38


1st ID	From	To	Months
	Feb 07	Apr 08	14
	Summer 09		
4th BCT	TOTAL		14


4/1 CD	From	To	Months
	Nov 06	Dec 07	14
	Spring 09		
4/1 AD	TOTAL		14


4/1 ID	From	To	Months
	Dec 05	Dec 06	12
	Jun 08	Sep 09	15
4/1 CD	TOTAL		27


2 ID	From	To	Months
	Summer 09		
5th SBCT	TOTAL		


3rd ID	From	To	Months
	Jan 05	Jan 06	12
	Oct 07	Jan 09	15
4th BCT	TOTAL		27

2/2 ID	From	To	Months
	Aug 04	Aug 05	12
	Oct 06	Jan 08	15
4th BCT	TOTAL		27

10th MTN	From	To	Months
	Mar 06	Jul 06	4
	Nov 07	Feb 09	15
4th BCT	TOTAL		19

25th ID	From	To	Months
	Oct 06	Dec 07	15
4th BCT	TOTAL		15

82nd ABN	From	To	Months
	Jan 07	Apr 08	15
	Summer 09		
4th BCT	TOTAL		15

101st ABN	From	To	Months
	Nov 05	Nov 06	12
	Mar 08	Jun 09	15
4th BCT	TOTAL		27


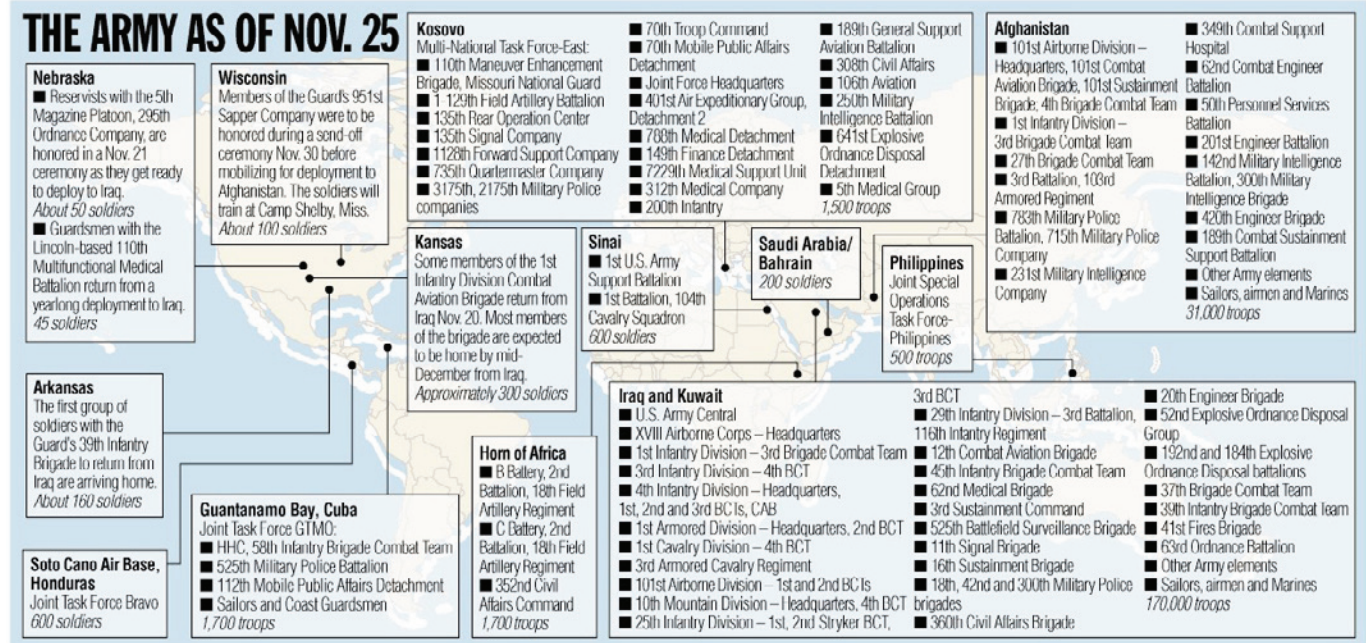
2/1 ID	From	To	Months
	Feb 04	Feb 05	12
	Jun 06	Oct 07	16
	Fall 08		
172 IN BDE	TOTAL		28

Table 1.1: Forces deployed to Iraq and Afghanistan by service (as of June 2008)

	Total active duty strength	Total deployed to Iraq (percent of total forces)	Total deployed to Afghanistan (percent of total forces)	Average length of deployment
Defense Department	1,385,122 (100%)	183,100 (100%)	31,700 (100%)	
Army	531,526 (38)	117,100 (64)	21,700 (68)	12 months
Navy	331,785 (24)	20,800 (11)	1,300 (4)	5 months
Marine Corps	193,040 (14)	24,500 (13)	3,600 (11)	8 months
Air Force	328,771 (24)	20,700 (11)	5,100 (16)	4 months

War alone is not the only Operations Tempo, or OPTEMPO, strain on the force. There are nearly 280,000 personnel based in other countries in addition to the estimated 215,000 soldiers, sailors, airmen, and marines deployed for Operation Enduring Freedom and Operation Iraqi Freedom.¹⁵

Chart 1.2: Current Army Deployments Worldwide



Source: Army Times

Recruiting

The current deployment cycle and its adverse effects on the troops and their families has had a noticeable effect on military recruitment. The next commander-in-chief inherits a military that is barely meeting the numerical requirements for personnel readiness. Yet, to meet goals for recruiting and retention, the military has had to increase costs and lower its standards for recruits—particularly for the heavily engaged Army. This assessment focuses on the Army’s manning requirements because the other services have not been as adversely affected by the ongoing wars. As noted in Table 1.1, the Army provides 64 percent of the forces in Iraq and 68 percent of the troops in Afghanistan, and its soldiers spend longer times in these combat zones than their counterparts from the other services.

Fortunately, the Army’s personnel issues are not reflective of the entire Defense Department. The Marine Corps has not been adversely affected by the same downward recruiting trends of the Army, despite the fact that it too has been heavily engaged in Iraq and Afghanistan. A Marine battalion typically deploys for seven months, while Army Brigades have been routinely deployed up to 15 months in the past three years. However, the repeated deployments during a time when it is increasing in size could also have a negative effect on the quality of new recruits for the Marine Corps.

The Air Force and the Navy are having an easier time meeting their recruitment goals. While they offer many of the same educational and health benefits as the Army and Marines, as indicated in Table 1.1, they are not as heavily engaged in Iraq and Afghanistan. Influencers such as parents and teachers are therefore more receptive to young people joining the Air Force and Navy.

All the services have generally been able to meet their recruitment and retention goals for new enlistees in recent years. But the Army, which has to recruit more than twice as much as any other service, has invested the most money and reduced the overall quality of their recruits yearly since 2003. Personnel challenges for the Army and the Marine Corps to a lesser degree will continue during the next administration. As a result of persistent ground combat operations in Afghanistan and Iraq, the Army and Marine Corps will continue to bear the brunt of military engagement and therefore will appear less attractive to potential recruits.

DOD currently plans to increase the end strength of the Army and Marine Corps over the next few years. The Army is projected to grow to 547,400 troops by 2012 from the currently authorized level of 482,400, and the Marine Corps is scheduled to reach 202,000 by 2011 from the currently authorized level of 175,000.¹⁶ This increase will reduce stress on active duty and reserve ground forces, ensuring heightened readiness for all missions.

Table 1.2: Department of Defense recruitment goals and accessions for fiscal year 2008

Service	Recruiting goal	Accessions	Percentage
Army	80,000	80,517	101%
Navy	38,419	38,485	100%
Marine Corps	37,967	37,991	100%
Air Force	27,800	27,848	100%

Table 1.3: Percent of active Army recruits with a Tier I education by year

Active Army	FY 2005	FY 2006	FY 2007	FY 2008
Percent of recruits with Tier I education	87%	81%	79%	83%

Table 1.4: Percent of Army recruits with “moral waivers” by year

Active Army	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008*
Percent with waiver	12.0 %	15.3 %	18.4 %	22.6 %	25.8 %

* As of March 2008

Table 1.5: Percent of Army National Guard recruits with “moral waivers” by year

Army National Guard	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008*
Percent with waiver	n/a	11.6 %	10.8 %	10.6 %	12.3 %

*As of March 2008

As indicated in Table 1.2, the Department of Defense announced on October 10, 2008 that all services met or exceeded their recruiting goals for fiscal year 2008. Yet DOD has allowed the Army to use a number of questionable methods and practices to meet its goals.

While the Army, arguably the most stressed force, has met the overall numerical goal for recruits, it has had to increase the number of waivers for education and raise the age for new recruits from 35 to 42 to achieve it. DOD’s goal is for at least 90 percent of recruits to have a high school diploma. Yet while studies show that only 70 to 80 percent of the target recruiting pool has a diploma, only since the onset of persistent conflict has the Army failed to reach its educational objective for recruits. This trend is directly related to the difficulty of recruiting an all-volunteer force during a war that has become increasingly unpopular with the American people. From 2000 to 2004, the Army had 90 to 94 percent Tier I recruits (high school graduates, homeschoolers who score between I-IIIa on aptitude tests, or 15 hours of college credit). As indicated in Table 1.3, the Army has failed to achieve the 90 percent goal since 2005.

More troubling still is the fact that even after it lowered its educational and aptitude standards, the Army has had to increase the percentage of recruits with so-called “moral waivers” such as conduct, medical, and drug and alcohol problems every year since 2003, more than doubling from 12 percent in 2004 to nearly 26 percent this year (see Table 1.4).

The results of having a higher proportion of recruits with waivers are mixed. The Army’s “17,000 Soldier Study” of the 15 percent of active duty soldiers with waivers versus those without from FY 2003 to FY 2006 found recruits with waivers are only marginally more likely to cause discipline problems. They also earned more valor awards and were more likely to re-enlist.¹⁷ However, with the number of waivers averaging more than 24 percent in the last two years, discipline problems are likely to grow.

The military also had to provide record-high bonuses to new enlistees. According to Under Secretary of Defense for Personnel and Readiness Dr. David Chu, “Recruiting bonuses in fiscal 2008, all services, were somewhat north of \$500 million total. That includes all kinds. That includes loan forgiveness that we offer; probably closer to \$750 million when you add everything up. I would expect we’d spend something similar to that in 2009. But only time will tell.”

Fortunately, public attitudes toward service in the military have improved over the past year. According to a recent Rasmussen survey, 79 percent of Americans have a favorable opinion of the U.S. military.¹⁸ And according to the Christian Science Monitor, 11 percent of people ages 16-21 say they will “definitely” or “probably” serve in the military within the next two years; this is up from 9 percent one year ago.¹⁹ The reduction in casualties from the Iraq war, the election of Barack Obama, who has pledged to withdraw troops from Iraq, as well as rising unemployment among today’s youth are key reasons enlistment is becoming more appealing to youth. This increased interest in enlistment—particularly among African Americans and Hispanics—means that the military can and should be more selective with recruits and reduce the number of criminal and education waivers to pre-Iraq war levels. Enlarging the pool of potential recruits by dropping the ban on women in combat units and replacing the “Don’t Ask, Don’t Tell” law will make the challenge somewhat easier.

The Army is already implementing innovative solutions to overcome the challenges of recruiting sufficient numbers of enlisted soldiers. More than 107,000 young men and women enlisted in the Army and Army Reserve during fiscal year 2007. These new recruits received benefits such as the Army Advantage Fund, which provides \$40,000 to buy a home or start a small business; the Post-9/11 Veterans Education Assistance Act of 2008, commonly referred to as the “21st Century G.I. Bill,” which covers 100 percent of college tuition and also provides a cost-of-living stipend and money for books (and is transferable to immediate family members); and the Partnership for Youth Success, or PaYS program, which gives priority consideration for civilian employment following Army service.

These steps are necessary to meet the required end strength for enlisted ranks. But even the most highly qualified and motivated soldiers require a strong officer corps to lead them, and the officer corps is suffering from large vacancies due to high attrition rates that are compounded by the side effects of the expanding force structure.

Officer retention

Officer retention is an often-overlooked part of our Armed Forces’ readiness. The active duty Army suffers a shortage of about 3,700 officers right now, particularly captains and majors, and by 2009, the Army projects a combined shortage of 5,000 captains and majors.

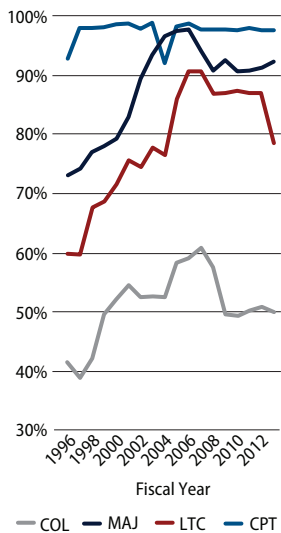
The Army is making every effort to retain captains. Captains can receive up to \$35,000, guaranteed time for fully funded graduate school, slots to Ranger School, or a duty station of choice in exchange for an additional three-year commitment beyond their initial service obligation of five years. To address the shortage of majors, captains can even be promoted two years earlier than their counterparts commissioned prior to 1998. On November 4, 2008, the chief of staff of the Army reduced the pin-on point for captain by one month and pushed the FY 2009 majors board to meet four months earlier than scheduled.²⁰

Majors are the Army's future senior leaders, but they are exiting the service at increasing rates during a period of military growth. Recent data from Army Human Resources (G-1) indicates that the Army is currently about 15 percent short of its goal of 15,700 majors. This shortage has been caused by the Army's failure to commission enough new officers during the 1990s and changes in force structure as the Army switched from a "division-centric" to a "brigade-centric" force beginning in 2004.²¹

Our Army officers are highly educated and have unique, real-world leadership experience, which makes them aggressively recruited by corporations—even during an economic downturn. Many of these sometimes war-weary officers and their families understandably choose the uncertainties of the private sector over the dangers and unpredictability of continuous deployment and extended family separation.²²

Other services embrace a broader approach toward providing officer retention bonuses. According to a 2007 report by the Government Accountability Office, the Navy and Air Force pay about 10 times the amount the Army pays in retention-related incentives.²³ A Navy lieutenant commander (O-4), the equivalent of an Army major, commissioned in 1997 could have received \$121,000 in retention bonuses during his 12-year career. An Army infantry officer over that same time span would not have received any retention pay.²⁴

Chart 1.3: Army Promotion Rates



The Army has increased the number of officer accessions and significantly increased promotion rates and opportunities in order to address its officer shortage. In addition to increasing the production of new officers through the Academy, ROTC, and increased commissions through Officer Candidate School, the Army has been rapidly increasing the officer promotion percentage. Promotion rates are at an all-time high. The Army is not only retaining, but promoting, officers who would most likely have been passed over for promotion in past years or even separated involuntarily from service because the U.S. military is a pyramid "up-or-out" system. Today's officer corps is more experienced with deployments, but they are still being assigned to greater responsibilities without displaying significantly more potential than their peers.

All of the Army's personnel shortages are compounded by requirements to fill Military Transition Teams in Iraq and Afghanistan.²⁵ There are currently more than 5,000 soldiers involved in training the Iraqi Army and Afghan National Army. Every soldier in a transition team slot is taken from the overall end strength of the Army. The Army was not designed to provide personnel to field large-scale transition teams, and manning them creates vacancies in other units, with the burden typically falling on low-priority stateside organizations. Each team takes officers and non-commissioned officers away from their standard resourced duties.

The approximately 50,000 Special Operations Forces, including the Army's Delta Force and Navy's Seal Teams, also play a significant role in U.S. military operations.²⁶ The next administration should continue to increase the size of these teams and give them a larger

role in conducting worldwide counterterrorism operations. As a House Armed Services Committee press release earlier this year noted:

As mandated by the 2006 Quadrennial Defense Review, SOF continues to expand. USSOCOM added 6,643 military and civilians in 2007. By the end of FY 2009, USSOCOM hopes to grow to 55,890 civilian and military personnel, of which 43,745 will be active duty military, 4,310 Guard, 2,560 Reserves, and 5,275 government civilians. These increases roughly translate into adding five additional Special Forces battalions, four additional Ranger companies, 300 additional SEALs, 2,500 Marine Special Operations Forces, and additional special operations aviators.²⁷

The 2006 Quadrennial Defense Review expanded the size of SOF. This expansion should continue and will provide more flexibility to conduct operations in places such as Pakistan or other areas deemed high priority in the future.

Conclusion

The Department of Defense is manned at sufficient levels to conduct current operations, but the wars in Iraq and Afghanistan have placed an incredible amount of strain on a small portion of our military. Current efforts to recruit a quality force must be consequently expanded.

Lengthy deployments challenge the Army's ability to recruit and retain enlisted non-commissioned officers and commissioned officers. If the number of combat deployments to Afghanistan and Iraq are reduced in the next few years, the Army's problems could become more manageable. If deployments remain at the same level, increases in troops' dwell time and financial compensation, an improved quality of life, and—importantly—more predictability in upcoming deployments should help with retention.

A national call to service from the new commander-in-chief should have an immediate and lasting effect on improving the quality and quantity of uniformed personnel, particularly in the ground forces.

Recommendations

- Continue to increase the size of the active duty Army and Marine Corps, including Special Operations Forces, without lowering standards. Also, enlarge the recruiting pool by dropping the ban on women serving in ground combat units and repealing the “Don’t Ask, Don’t Tell” law.
- Provide more funding to DOD recruitment and retention programs.
- Support legislation that increases “dwell” time for soldiers and marines between deployments, which should increase retention.

- Make bonuses more equitable across services and continue to utilize financial incentives to attract candidates during the economic crisis.
- Make a national call to service from the presidential level.

II. The state of the defense budget

The Department of Defense requested \$515.4 billion for standard operations in fiscal year 2009. The administration also requested an additional \$21.2 billion for Department of Energy and other non-DOD defense-related activities and an additional \$70 billion appropriation to fund operations in the global war on terrorism which should last until June or July of 2009. Supplemental funding is projected to run out during the middle of FY09 if deployments continue at or near current levels in Iraq and Afghanistan. Without estimating the exact amount of this future funding, DOD's comprehensive FY09 request totaled \$606.6 billion. The cost can be broken down into the following categories²⁸:

- \$149.4 billion for military pay and health care
- \$23.9 billion for family housing and facilities
- \$158.3 billion for operations, readiness, and support
- \$183.8 billion for modernization; procurement; research, development, test, and evaluation, or RDT&E
- \$70 billion war funding supplemental
- \$21.2 billion for the Department of Energy and other defense-related programs²⁹

At the time of DOD's request, baseline budget spending, not including the war supplemental, represented 3.4 percent of the estimated U.S. GDP for FY 09.³⁰ Recent economic troubles in the stock and credit markets combined with an uncertain future for U.S. manufacturing have depressed earlier GDP estimates for the new fiscal year, meaning that DOD's percentage share for FY 2009 may be slightly larger.³¹ The next president will confront difficult trade-offs when determining his defense budget priorities, as many other agencies, as well as the spiraling costs of entitlement programs like Medicare, Medicaid and Social Security, compete for their share of the federal budget.

The FY09 defense budget request totaled \$606.6 billion.³² The Congressional Research Service notes that White House calculations "project a cumulative decline of about 3 percent between FY 2009 and FY 2012" in the DOD budget.³³ However, recent reports reveal that DOD budget planners intend to suggest that the next administration increase the base budget \$60 billion per year for the next six years, not including supplemental funding, which highlights the growing imperative for the next administration to set priorities in order to make sensible trade-offs.³⁴

Personnel costs and equipment reset are two areas where costs will rise in the coming fiscal years and significantly constrain the next administration's ability to make major new investments.

Personnel costs

The U.S. military is evolving into a highly adaptable, technologically integrated fighting force, but its source of strength remains the men and women who serve in uniform. DOD currently consists of slightly more than 1.3 million active duty soldiers, sailors, airmen, and marines, as well as 1.1 million additional servicemen and women in the National Guard and Reserves.³⁵ The costs of maintaining this all-volunteer force are substantial. The DOD requested approximately \$150 billion for military pay and health care in fiscal year 2009, and funding requirements will only rise significantly in the coming decades, necessitating painful choices between strategic necessities and preferences among the four services, the Office of the Secretary of Defense, DOD, the Office of Management and Budget, and Congress.

Personnel costs will rise as the Army grows. Grow the Force initiatives may eventually lessen the burden of multiple deployments with too little time in between for current troops, but they also represent a long-term cost in the defense budget. Initiatives to add 92,000 more troops to the Army and Marine Corps are projected to cost \$20.5 billion in FY 2009, rising to \$21.9 billion for FY 2010, and then declining slightly for the following years through FY 2013. The total cost of the program over the FY 2009-2013 period is estimated to be \$90.7³⁶ billion and about \$15³⁷ billion per year thereafter.

Adding new members to the armed services is an expensive undertaking, involving costs for marketing, offering enlistment and re-enlistment bonuses, and training and outfitting new recruits. Once new service members are enrolled in the military, DOD is responsible for placing them in military housing, offering appropriate pay and benefits, and providing long-term health care for them and their dependents. Growing the force will exacerbate already high costs in several key areas, including recruitment and retention, expanding the officer corps, and health care.

Recruiting the best and brightest. The military's efforts to meet recruitment and retention goals in this difficult environment have already been discussed above, but their current effect on the budget must also be analyzed. The Army and Marine Corps together spent \$640 million on bonuses of up to \$40,000 for some recruits in FY 2008—a total 25 percent higher than the previous year.³⁸ The Army also saw overall recruiting and advertising costs increase by 13 percent from FY 2008 to its FY 2009 request.³⁹ This amount is minimal compared to some of the military's major weapons systems costs, but the Grow the Force program will continue to carry significant weight in the budget as DOD works to fulfill its new end-strength requirements.

Cultivating new leaders. The Army Modular Force Initiative is intended to make the Army easier to deploy in current and future conflicts by shifting the service's primary unit from a division, which consists of 15,000 or more soldiers, to Brigade Combat Teams of less than 4,000 that can deploy faster than a division while still offering the core competencies needed for combat missions.⁴⁰ This new organizational structure carries a substantial

Growing the force will exacerbate already high costs in several key areas, including recruitment and retention, expanding the officer corps, and health care.

cost. The BCT model demands an increased number of relatively junior level officers, and an additional 4,131 of these officers will be required to meet the leadership needs of the reorganized Army.⁴¹

Caring for service members and their families. Grow the Force programs will increasingly challenge DOD's ability to meet rising health care costs. The military health care program, TRICARE, consumes a larger portion of each successive defense budget.⁴² DOD acknowledged the rising costs of TRICARE in its FY09 request, which included \$41.6 billion for up to 9.2 million insured persons. Without changes to the overall health insurance structure, costs could reach \$64 billion by FY 2015 and consume 12 percent of the defense budget in that year.⁴³

Increasing health care costs can be attributed to a variety of factors, including rising costs for medical services nationwide, skyrocketing pharmacy fees, and expanded eligibility for the plan. DOD must absorb these escalating costs because of the low fees it is allowed to charge for various TRICARE programs, which Congress has limited despite DOD's efforts to increase them. Enrollment fees for TRICARE Prime—the plan used for active duty personnel and some dependents and retirees—have not been increased since 1995, and possibly as a consequence, TRICARE members tend to use the program more heavily than civilians utilize typical HMOs.⁴⁴

Increasing health care costs are a necessary expense to maintain the quality of the all-volunteer force and care for service members, retirees, and their families, but the incoming president must recognize the constraint this will place on funding priorities for the Defense Department, particularly as the new members and dependents added under the Grow the Force initiatives become eligible.

There are no quick fixes for rising personnel costs

The effort to grow the Army and Marine Corps will incur substantial costs that must be paid. Relying more heavily on contractors might appear to be a promising avenue for alleviating the strain on the budget, but contractors in most positions are no more cost effective than military personnel.

For example, the Congressional Budget Office calculated the costs of maintaining “protective security specialists” hired by Blackwater Worldwide against the cost of maintaining equivalent Army personnel from a light infantry unit. After factoring in personnel, operating, and equipment expenses, they determined that it costs approximately the same amount to maintain military personnel as it would to hire Blackwater guards for equivalent jobs.⁴⁵ Each contractor or equivalent sergeant-level military personnel costs about \$500,000 per year to deploy in Iraq.⁴⁶ Moreover, Blackwater's senior management is paid significantly more than top Army commanders—a Blackwater security team senior manager hired by the Regency Hotel and Hospital in Kuwait made more than twice the

salary budgeted for General David Petraeus as the United States' top commander in CENTCOM, for example.⁴⁷ In other words, outsourcing security responsibilities will not solve the personnel budget issues that will arise as the force grows.

Equipment reset

If personnel are the bedrock of the U.S. armed forces, sufficient equipment in good working order is one of the most important factors enabling them to operate efficiently and effectively. There is, however, a significant cost involved in recapitalizing the equipment lost and damaged so far in Iraq and Afghanistan.

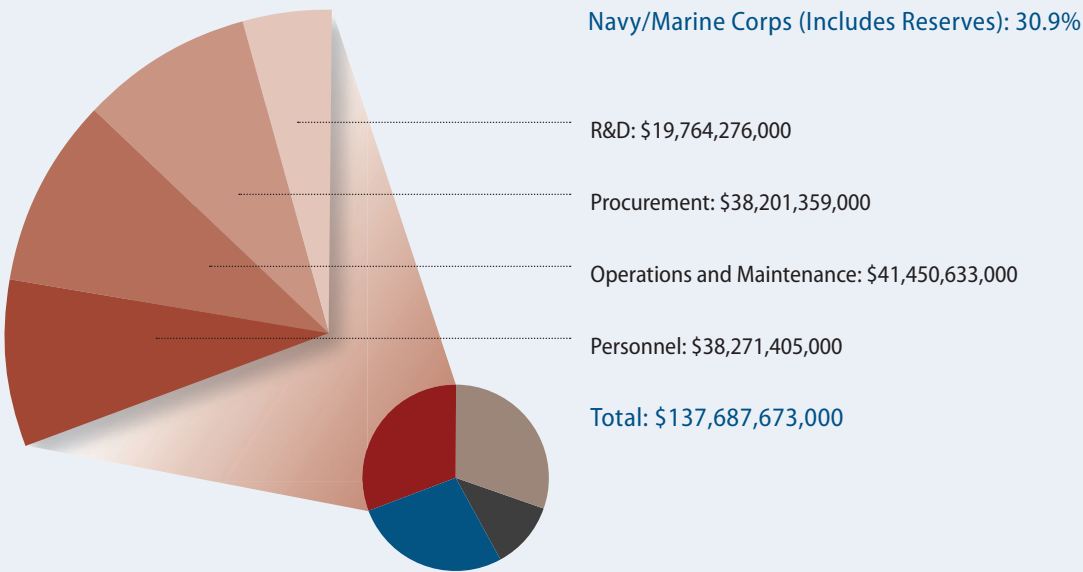
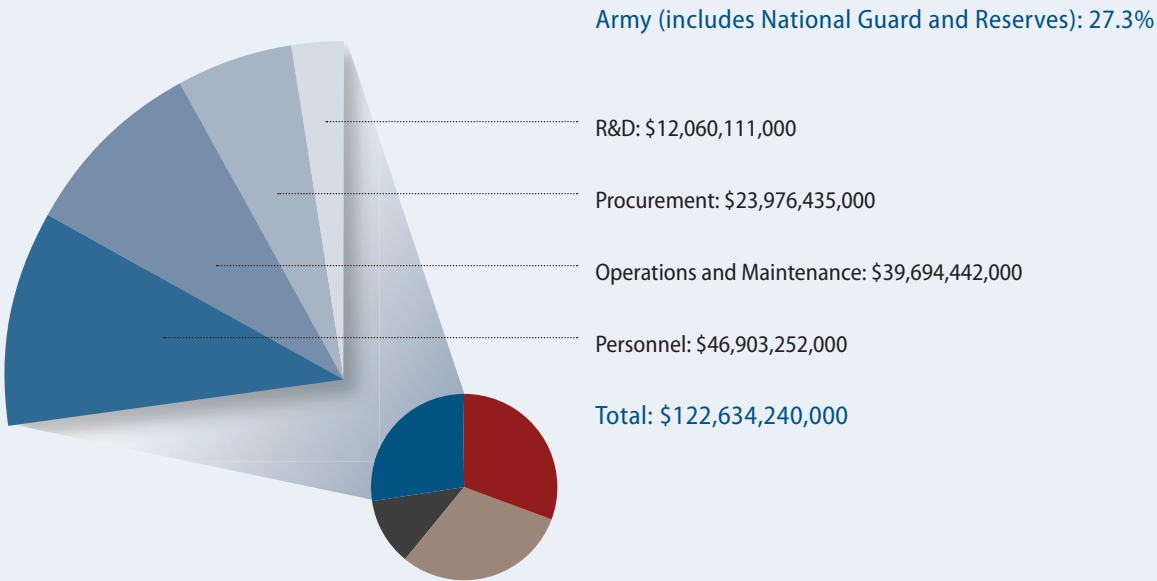
In 2006, the military was losing \$17 billion worth of equipment per year due to the wars in Iraq and Afghanistan, including trucks, tanks, and planes.⁴⁸ OPTEMPO peaked during the extremely high levels of violence in Iraq in mid-2007 and has since decreased as violence has declined, but the United States is still sustaining serious equipment damage in Iraq. Chairman of the House Appropriations Committee's Subcommittee on Defense John Murtha (D-PA), estimated in June of this year that reset would cost the DOD more than \$100 billion, and Chairman of the Joint Chiefs of Staff Adm. Michael Mullen has noted that the costs of reset "will force us to a smaller military or force us away from any kind of modernization or programs that we need for the future."⁴⁹

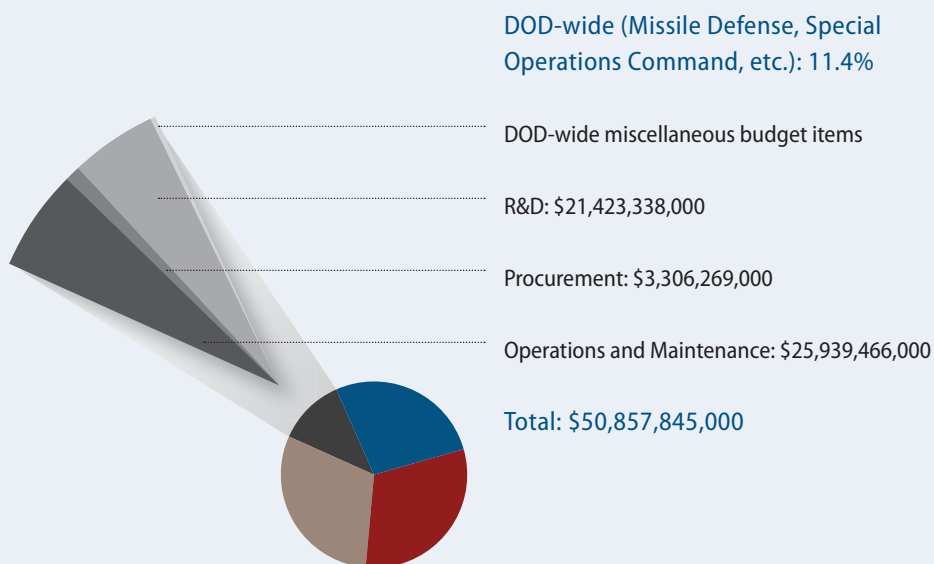
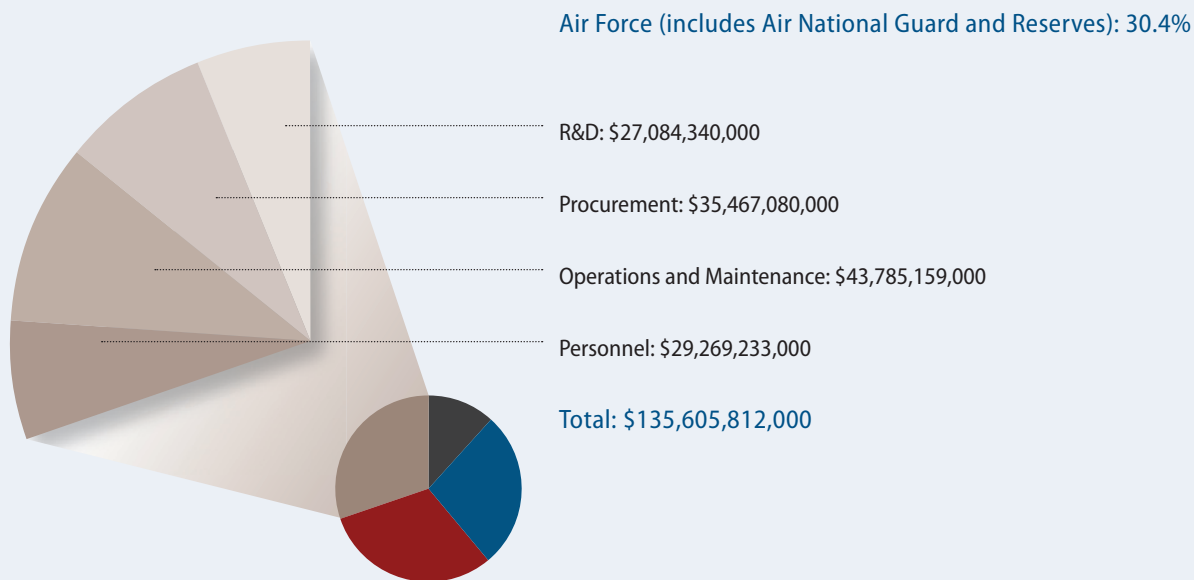
Murtha's estimate is somewhat higher than that offered by individual services for their reset costs. The Air Force estimates that it will need \$10 billion for reset, while the Marine Corps projects a \$15.6 billion price tag. Army equipment has borne the major part of the damage in Iraq and will require \$17 billion per year for up to three years, or more than \$50 billion, after the end of the wars in Iraq and Afghanistan.⁵⁰ This year's defense authorization act did suggest some funding for reset, including \$8.6 billion for the Army, \$1.8 billion for the Marine Corps, and \$800 million in funding for the Reserve and Guard's reset priorities.⁵¹

Because reset is a necessary process to prepare the military for future conflicts, post-Iraq and Afghanistan budget requests for reset can and should be fully funded. Congressional appropriators must be willing to exercise patience in funding reset for multiple years after the end of hostilities.

...post-Iraq and
Afghanistan
budget requests
for reset can and
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Fiscal Year 2009 Defense Budget By Service





Source: Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, 2009,* Pub. L. 110-329, September 30, 2008, accessed from thomas.loc.gov
 Note: Figures have been rounded by L. 110-329.

Supplementals

A significant portion of the yearly defense budget comes in the form of supplemental appropriations bills to pay for operations in current wars and is not necessarily represented in the baseline budget. The Defense Department has financed Operation Iraqi Freedom, Operation Enduring Freedom, and the homeland security initiative Operation Noble Eagle through this emergency budget technique. As of mid-2008, Congress has appropriated \$864 billion for these war-on-terror operations, the vast majority (94 percent) of which has gone to DOD. And most significantly, more than 90 percent of DOD's overall war funding has come from supplemental or emergency appropriations bills.⁵²

Supplemental appropriations bills are not tied to the traditional fiscal year budget process, although funding is still marked for particular years. Operations are currently sustained through summer 2009 through an FY 2009 bridge fund included in the FY 2008 supplemental bill (H.R. 2642).⁵³ This funding ostensibly covers all wartime costs, which enables the baseline budget to stay relatively the same as it would during peacetime. However, some initiatives are funded out of the supplemental budget that are not directly involved in the war, and the military may request to transfer money from regular accounts to pay for some war-related expenditures.

The Bush and Maliki administrations have concluded an agreement that sets a timetable for redeployment of all American troops by the end of 2011. The Congressional Budget Office has estimated global war on terror costs based on declining troop levels in Iraq and Afghanistan. While their scenarios are somewhat outdated because of the Status of Forces Agreement, or SOFA, they are instructive on the cost of maintaining American forces in war zones.

CBO calculated that if U.S. troops declined from 170,000 in FY 2009 to 30,000 by FY 2010 and maintained the same level through FY 2018, costs would total \$440 billion by the end of the 10-year period. Troop levels in Iraq and Afghanistan are at approximately 170,000, but it seems unlikely that troops will reach 30,000 overall in both conflicts by the end of 2010, since the incoming Obama administration has pledged to increase troop levels in Afghanistan as it reduces them in Iraq.

CBO's projections indicate that the incremental cost of continued long-term deployments will likely be at least several hundred billion dollars over the next decade, or about \$33 billion per year for 30,000 troops deployed to Iraq.⁵⁴ Most of this funding will come from DOD appropriations, and the next administration will need to decide whether to continue to utilize supplemental appropriations to pay these war-related bills.

One potential advantage to keeping supplementals is that separating war spending from the baseline budget prevents the country and government from becoming immune to significantly higher defense budgets. If an additional \$70 billion or more in DOD's budget

is perceived as normal, it may prove politically difficult to reduce spending to peacetime levels after the end of operations. Yet realistically, hard choices will be necessary whether supplementals are included in the base budget or not.

Supplementals are an accepted practice in the federal budget and are typically intended to cover unforeseen expenses.⁵⁵ The military's fleet of MRAP vehicles was an emergency expense necessary for protecting soldiers against improvised explosive devices, or IEDs, but funding for equipment reset or the next fleet of MRAP IIs, the so-called M-ATVs, is by now an anticipatable expense.

The next administration should include items normally funded through the supplemental in a consolidated budget when possible in order to provide the greatest possible accountability for defense spending and give American taxpayers a fair look at the actual costs of current conflicts.

Recommendations for bringing the defense budget under control

- Include supplemental war funding in a consolidated budget. This step is necessary to provide accountability and transparency for defense spending in Iraq, Afghanistan, and other combat operations. By utilizing supplemental funding requests, DOD makes it more difficult for Congress and the country to ascertain the total costs of its global war on terrorism operations. These budget requests do not receive the same level of scrutiny as the regular defense authorization or appropriation bills. When possible, lawmakers should include weapons programs and other anticipated war-related expenses in the base budget.
- Aggressively control defense spending by pushing DOD to cancel or scale back programs that experience repeated, significant cost overruns. DOD's large procurement programs, such as the F-35 and the Army's Future Combat Systems, have greatly exceeded their initial cost estimates, as outlined in sections to follow. Congress should demonstrate some flexibility in funding these programs, but the procurement budget cannot be expanded without limits.
- Ensure that DOD meets goals for carrying out a department-wide audit. Only 25 percent of DOD was successfully audited in FY 2001. This number increased to only 36 percent by FY 2007. DOD projects that 68 percent of the department will be available for a clean audit this fiscal year. The trend is encouraging, but the new administration and Congress need to apply pressure to ensure that the remaining gaps are closed and a department-wide audit is performed.⁵⁶

New realities, new priorities

Operations in Afghanistan and Iraq have highlighted the United States' changing threat environment. It is increasingly likely that U.S. troops will more frequently be tasked to conduct non-traditional warfare, including both kinetic and non-kinetic counterinsurgency operations, rather than full-scale conventional wars with near-peer competitors. Proficiency in conventional warfare cannot be allowed to lapse, but the next administration should consider the type of conflicts it is most likely to encounter when allocating sparse funding to modernization, training, force expansion, and other budgetary categories.

These visions
are competing,
but are not
mutually exclusive.

The next administration will weigh two possible futures for DOD and its budget: one built and prepared primarily for conventional warfare, and the other structured for a leaner, more adaptable force intended to defeat insurgencies, terrorists, and other non-state actors. These visions are competing, but are not mutually exclusive. Each will require some of the skill set developed for the other. An evaluation of U.S. security challenges, informed by current economic constraints, should ultimately determine the balance that the next administration chooses between these visions.

Major conventional capabilities

Advocates for focusing on building conventional capabilities rely on a vision of the future that is much like what the United States confronted in the early 1990s. America's greatest conventional enemy, the Soviet Union, had broken apart without a war between the adversaries, and the international system was entering into what appeared to be an age dominated by unlimited American hegemony. The post-Cold War international system would be comprised of nation states and traditional threats, or so the logic followed.

The early 1990s military was shaped by the first major conflict after Vietnam and the Cold War: Operation Desert Storm. The first Gulf War, a six-week conflict in which the ground war lasted only 100 hours, involved a substantial troop commitment—500,000 Americans plus allied forces—and resulted in a decisive victory for the American-led coalition. This war gave birth to the Pentagon's two major regional contingencies doctrine, a policy that required the military to be capable of decisive victory in two conventional wars fought simultaneously in different theaters of action.

The two-war doctrine was rooted in the notion that the United States' next enemies would be nation-states or rogue or extreme regimes such as Saddam Hussein's Iraq or Kim Jong-Il's North Korea that would require conventional capabilities to defeat. For example, the M-1A1 Abrams Tank provided superior armor against Iraqi weapons and was capable of launching accurate attacks while traversing difficult terrain. Technologically advanced Tomahawk cruise missiles proved successful in long-range attacks inside Iraq, and the F-117A stealth bomber provided similar capabilities for destroying key Iraqi infrastructure targets. In other words, the military was optimized for heavy ground fighting using traditional, technologically advanced weapons, while destroying key military targets with long-range firepower. The enemy was thought to be limited in their capabilities by a lack of advanced technology, but still relied on the traditional weapons of modern warfare.

The recent skirmish between Georgia and Russia suggests that there is still a place for traditional interstate warfare, and the United States must continue to train and equip some of its forces to confront near-peer, or perhaps even more formidable, competitors in the coming decades. Yet American experiences after the Gulf War suggest that this is not the only, and perhaps not the most likely, threat to U.S. national security. Non-conventional warfare existed long before the conflicts in Afghanistan and Iraq, but the United States has never confronted the challenge of subduing a non-state actor as directly or with as grave consequences as it has in the past eight years. The military required to win non-conventional fights involving guerilla insurgencies is very different from the one that claimed victory in the first Gulf War.

Irregular capabilities

Conventional wisdom holds that it is the military's job to fight and win the nation's wars. The State Department and the U.S. Agency for International Development—the so-called “soft power” wings of the United States government—are supposed to undertake the less clear-cut priorities, namely arduous reconstruction and state stabilization tasks. Yet Iraq and Afghanistan have made it clear that national security cannot realistically be maintained without delving into these and other unconventional forms of engagement. Proponents of a military aimed at countering these threats argue that conflicts with terrorists, insurgents, and other non-state actors are likely to feature prominently in U.S. national security challenges in the coming decades, and the military should be optimized to succeed on this new battlefield.

A military built to defeat unconventional foes would look dramatically different from the one shaped by the Gulf War. It would draw on the Army's recent Counterinsurgency and Stability Operations manuals, which acknowledge conflicts like those in Iraq and Afghanistan demand expanded counterinsurgency and peace enforcement capabilities. It would also rely on updated guidance from DOD, such as Directive 3000.05, which declares that stability operations “shall be given priority comparable to combat opera-

tions and be explicitly addressed and integrated across all DOD activities including doctrine, organizations, training, education, exercises, materiel, leadership, personnel, facilities, and planning.”⁵⁷

Such a military would focus more on manpower and advanced technology than on large-scale weapons procurement. It would employ the strategies implemented in Iraq, such as putting troops on the ground to build trust with local citizens and using unmanned aerial vehicles widely to track and target insurgents. An unconventional military is less structured for launching a full-force assault on a linear battlefield and more suited to targeting elusive opponents and breaking down networks of non-state actors.

Secretary of Defense Robert Gates put it well when he recently told students at the National Defense University that “we cannot expect to eliminate risk through higher defense budgets, to, in effect ‘do everything, buy everything.’”⁵⁸ For our own security, we cannot afford to lose full-spectrum capabilities in the military. Yet it is unrealistic to continue training primarily for a conflict with a peer or near-peer competitor given the threats we currently face: a tenuous diminution of sectarian forces in Iraq, an increasingly lethal insurgency in Afghanistan, and Taliban insurgents operating seemingly unchecked in Pakistan’s tribal areas. Unnecessary expenses already overburden the defense budget, and the next administration will be responsible for making the necessary trade-offs to confront these challenges.

The United States should gear its military toward confronting and defeating irregular threats. At the same time, the United States should maintain some capacity to meet one major conventional challenge by surging conventional forces to the theater in question. The United States must be prepared to face irregular challenges from ungoverned spaces, terrorists, pirates, and humanitarian disasters, and it must also hedge against the prospect of conventional war. As a result, we propose a four-year defense budget plan that shifts priorities toward irregular war capabilities while maintaining a conventional surge capability.

Key choices for the new administration

The following options are available depending on the next administration’s strategic outlook:

Note: The following recommendations are based on CAP’s analysis of the best available public data. In some cases it was necessary to estimate funding based on available open source information.

These budget projections offer CAP’s perspective on the savings or additional spending that the next administration will incur over a four-year period, assuming that the base defense budget (which does not include Department of Energy and other non-DoD defense-related activities) remains flat at FY 2009 levels, as recommended by this report.

Ground Forces (Army)

The Army will need to make difficult decisions regarding procurement and personnel costs to maintain roughly the same budget for the next four fiscal years, with some possible adjustments if the new administration chooses to prioritize ground over naval and air forces in the budget. Growing the force will cost nearly \$22 billion in FY 2010, and the majority of that money will go to supporting the Army since it is the service with the most planned growth.

Several budget options are available depending on which military vision the next administration chooses to pursue. A force designed to win linear battlefield conflicts such as Desert Storm will require the conventional high-end machinery and precision-guided munitions that proved so successful in that war. A counterinsurgency-focused force will focus more on specialized skills and deploying sufficient troops to carry out the Army's new stability and counterinsurgency strategies.

Expand the size of U.S. ground forces by 92,000 or keep them at current levels.

The Army has borne the majority of the casualties from fighting in Iraq and Afghanistan and faces difficult choices in adapting to confront likely future threats. Current Grow the Force initiatives will increase Army end strength by 65,000 and require significant increases in outlays for personnel costs. The Army's FY09 budget appropriation, which is \$121.9 billion, not including the costs of the global war on terrorism, cannot be expected to increase significantly in the next fiscal year, particularly with the economic constraints that will be placed on the federal budget as a whole with the country's increasing debt.⁵⁹

CAP Recommendation

Continue increasing the size of U.S. ground forces without lowering standards. FY 2009 is the first year that the cost of growing the Army and Marine Corps was picked up by the baseline budget rather than paid for through supplemental appropriations. The Army alone asked for \$15 billion⁶⁰ to support the troops added this year, including salaries, equipment, and support, and the total Defense Department request, including money for the Marine Corps, reached \$20.5 billion.⁶¹ DOD's

cost projections for the next four years (FY 2010-2013) for the additional soldiers and marines amount to \$70.1 billion or \$11.9 billion less than maintaining the \$20.5 billion level of 2009. Policymakers should be aware, however, that this \$11.9 billion may be reduced if cost estimates for growing the force rise.⁶²

Savings: \$11.9 billion



GROUND FORCES

Fully fund or slow down the Future Combat Systems program. FCS has a possible lifetime cost of \$200 billion or more and is the Army's largest procurement program and one of DOD's largest procurement initiatives. FCS was first proposed in 1999 and consists of 14 manned and unmanned systems. These components are connected at multiple layers

of command by integrated radio and computer networks and are intended to support the new Army structure, making brigade combat teams more easily deployable, efficient, and sustainable in the field for a longer period of time.^{63,64}

The system's manned vehicles include replacements for the Army's tanks and armored personnel carriers, which are some of the key vehicles used in conventional conflicts.⁶⁵ The Government Accountability Office reports that FCS is designed to support a future force "organized, manned, equipped, and trained for prompt and sustained land combat."⁶⁶ If successful, it will replace aging equipment and enable the Army to deploy soldiers faster and coordinate their actions more effectively.

FCS was initially conceived to be composed of 18 systems, but was later scaled back to 14. The Army has extended its timeline for launching the first FCS-capable brigade from 2011 to 2015, although some components may be ready for use in 2011. The Army estimated that it would save \$3.4 billion by opting for this scaled back program, but the Congressional Research Service argues that costs will likely increase under this plan as "some suggest that while 'stretching out' the FCS program will likely decrease yearly FCS production costs, it also means that the Army will need additional funds to keep FCS production lines open longer."⁶⁷ The program will likely undergo a milestone review early next year, which will indicate whether it is on schedule and whether the work remaining can be completed within the proposed budget.

The Army requested \$3.6 billion in FCS funding for FY09, to which Congress added another \$26 million.⁶⁸ Continuing the current funding track for FCS would benefit a force structured for conventional warfare by upgrading and replacing the equipment that proved successful in the early 1990s. The additional high-tech equipment would ensure American battlefield superiority over a similarly equipped enemy.

A conventional force track would expect full FCS funding for FY10, with increases in procurement funding as the systems develop. GAO analysis of Army data concluded that procurement funding would need to rise from \$328.5 million in FY09 to \$523.2 million in FY10 in order to support the core program and its spin out programs. Research and development funding would also rise from an estimated \$3.1 billion for FY09 to \$3.2 billion for FY10. This fiscal year's request for both procurement and research and development funding was slightly above the projected rate, and the new administration should expect both of these costs to rise in next year's budget.⁶⁹ In order to stay on track, the program will require at least another \$300 million in funding for the next fiscal year in addition to funding to cover any new cost overruns revealed in the milestone review early next year.

If the next administration opts to slow down FCS, the upcoming program review offers an opportune time to do so. FCS components, particularly its unmanned vehicles, should prove helpful in some counterinsurgency campaigns. But budget constraints and FCS' focus on replacing tanks and other conventional weapons may lead the next administration

to conclude that the program is developing too quickly and at too great a cost, with not enough demonstrable benefit for counterinsurgency operations. The GAO reports that too little program development has taken place and that, if the Army intends to stay on schedule, FCS “will not test production-representative prototypes before low-rate production, and key system-of-systems testing will not take place until after production starts.”⁷⁰

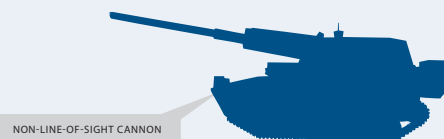
The program as currently designed will equip only one-third of the Army’s projected 48 Brigade Combat Teams, which will necessitate large investments in maintaining old equipment for the remaining BCTs. The program may need to be slowed down in order to ensure that FCS can be shaped to fit a more flexible force ready to carry out counterinsurgency and stability operations. Program development can continue successfully with two thirds of current funding for the next four years, and the number of FCS-equipped BCTs could also be cut by one-third.

CAP Recommendation

Slow down Future Combat Systems and cut the program’s procurement, research, and design budgets by one-third over the next four years. Cost estimates for FCS continue to grow without parallel increases in the technology’s ability to function correctly. The program’s benefit to counterinsurgency-focused warfare also remains questionable. FCS’ enhanced situational awareness would help on any battlefield, but operations in Iraq and Afghanistan have demanded building personal relationships, and engaging in stability, training, and police work, more than outright combat. A highly networked FCS force would have limited advantages in counterinsurgency or other tasks for unconventional warfare; however, some of the FCS’ unmanned components could prove helpful and should be integrated into counterinsurgency operations when they become available.

The next administration should slow down the FCS program. Current plans call for outfitting 15 brigades with the technology by 2030. This number should be cut by roughly one third to 10 brigades by 2030, all of which should rigorously evaluate the technology before DOD requests to purchase more. Procurement and research and design combined are slated to cost slightly more than \$18 billion for the next four fiscal years. If funding is frozen at the current level of \$3.6 billion for the next four years, with additional cuts of one-third, the Army could save approximately \$4.8 billion by the end of FY 2013.

Savings: \$4.8 billion



Concentrate on developing the Army in the Brigade Combat Team model or adjust the approach to encourage recruiting and organization that is determined by critical capabilities. These options may have implications for the overall size of the Army. The BCT model is optimized for fighting conventional threats. All BCTs are intended to be full-spectrum capable, with 15 scheduled to eventually operate with FCS technology by FY 2030. This development model will allow the Army to adapt to a variety of conflicts, with FCS-equipped brigades at the forefront of next-generation situational awareness.

FCS and other advances in defense technology may eventually require fewer boots on the ground, thus allowing the Army to field a smaller number of BCTs. However, it will take until FY 2030 to equip all the projected FCS brigades, and the Army will likely need to continue to augment the force with additional troops in the near term. Growing the force will require an additional \$1.4 billion in the next fiscal year. If the administration chooses to move ahead with a conventional-focused force, it will have to continue this funding at some level.

Unconventional conflicts, such as the counterinsurgency campaigns that the United States is conducting in Iraq and Afghanistan, generally require a large ground force presence. Based on the guidelines of the Army's new counterinsurgency manual, troops need to be in close contact with local citizens, a tactic that allows them to build trust, gather information, and respond quickly to incidents.⁷¹ Unmanned aerial vehicles and other advanced technology can augment forces' knowledge, but the value of face-to-face interactions cannot be entirely replaced by FCS or any other system. If the next administration opts for a force aimed primarily at fighting unconventional wars, it should ask DOD to move forward with plans to increase the size of the force, although it may opt to adjust end-strength goals.

However, a larger Army consisting of BCTs may not be best suited to defeat today's enemies. If the next administration believes the military will encounter predominately unconventional conflicts in the near future, it may be wise to train some service members primarily for these operations. This route could be more efficient and cost effective in the long term.

U.S. commanders in Afghanistan are currently short at least 3,300 military trainers needed to oversee and grow the size of the Afghan National Army and Police.⁷² Because the Army force structure does not include staff specifically dedicated to these tasks, officers and non-commissioned officers assigned to training team missions must leave their primary duties to undergo a 72-day program prior to deployment. Additionally, the training groups are not experienced in working together, and as the Congressional Research Service reports, "There is evidence suggesting that it takes these teams four to six months before they become effective."⁷³ Assigning staff to training stability or reconstruction duties in a more permanent way could make the Army more effective in these operations.

The Army recently launched its first Translator Interpreter Company at Fort Irwin, California. The company will eventually consist of 140 native speakers of critical languages such as Arabic and Pashtu, and a second company will follow in 2009.⁷⁴ This initiative could be a model for future special-skills companies.

The Army is currently operating two Maneuver Enhancement Brigades, or MEBs, support units which are "designed to provide assured mobility, protection, consequence management and support area operations to corps, divisions and joint task forces in a major contingency operation." According to Colonel Robert Risberg, the commander of the newly

formed 4th MEB, these brigades “can perform many of the same missions as a brigade combat team in a counterinsurgency or other irregular warfare environment.” MEBs will be augmented by military police, civil affairs, psychological operations, and other units in order to increase their ability to carry out diverse missions.⁷⁵

If the next administration opts to concentrate on unconventional conflicts, it should consider raising the profile of MEBs, which provide critical capabilities for counterinsurgency, by funneling more resources and manpower into standing up these brigades and aggressively pursuing skilled recruits to staff them. The first MEB became active just over one year ago, and the second was stood up in October 2008. These brigades will provide a substantial benefit to an unconventional-focused force because of their wide-ranging capabilities and their ability to work with specialized units as needed. The Army should carefully review the performance of MEBs and work with the next administration to determine whether the president’s strategic plans suggest more or fewer of these brigades.

Choosing to move away from a strictly BCT-centric force toward MEBs or special skills companies would have consequences for the number of troops the Army could deploy for conventional conflicts. The new administration must take this into account in deciding if it wants to commit to the unconventional, rather than conventional, conflict track.

CAP Recommendation

Move forward slowly on the Brigade Combat Team model, but carefully review the operations of the Maneuver Enhancement Brigades and determine whether more are needed. BCTs are full-spectrum forces. They are capable of adapting to unconventional wars, yet the challenges faced by the Army in Iraq and the delay in retraining service members for training and stabilization activities suggests that forces specifically oriented to unconventional missions would be a wise investment. This

option may eventually yield modest cost savings, as MEBs may require less of the advanced technology, such as FCS, that combat brigades hope to acquire. At this stage, neither the conventional nor unconventional options entail additional cost.

Savings/Cost: Neutral until the Army and next administration determine the effectiveness of MEBs.



BRIGADE COMBAT TEAM

Prioritize reset funding for vehicles needed for linear battlefields, as well as the multipurpose Joint Light Tactical Vehicle for full-spectrum operations; or delay other priorities and press for the fast development and purchase of All-Terrain Mine Resistant Ambush Protected armored vehicles that are better suited for counterinsurgency operations in complex terrain. The next administration should be prepared for the long-term cost of resetting Army equipment. This could require as much as \$17 billion per year for two to three years after the end of operations in Iraq and Afghanistan, although this funding could be spread out over several more years if necessary.

If the next administration opts to pursue a full-spectrum vision of the military, it should push for recapitalization to begin with heavy machinery, such as the Abrams tank, which may require a substantial time commitment to fully repair, but which will continue to be a staple of conventional warfare—particularly since the new FCS version will not be issued to all brigades. Completely refurbishing just one tank can take up to 54 days at a cost of \$1 million.⁷⁶

The Army may want to forgo reset on a number of Mine Resistant Ambush Protected, or MRAP, armored vehicles, which are primarily designed for operations in Iraq. Lieutenant General John Castellaw of the U.S. Marine Corps has argued that “the Marine Corps views the MRAP vehicles as mission and theater specific and are not intended to become a program of record or retained in the permanent inventory.”⁷⁷ If MRAPs do not need to be reset, DOD could direct those funds to the design and production of the multi-purpose Joint Light Tactical Vehicle, the next generation High Mobility Multipurpose Wheeled Vehicle, or the Humvee.

The JLTV program is still in early stages of development. The Army and Navy combined requested only \$66.2 million for the project for FY09, exclusively for research and development.⁷⁸ DOD recently awarded the first contracts to begin prototype development, and production is slated to begin in 2013 at the end of the next administration’s first term.⁷⁹ Finished JLTVs may cost up to \$418,000 each and the Army projects that it will eventually require approximately 140,000 of the vehicles.⁸⁰ The JLTV will be useful in a variety of combat and non-combat situations, and a full-spectrum approach to the ground forces would suggest that the next administration should aggressively fund this program’s development.

If the next administration opts to focus more exclusively on non-conventional operations, it should recapitalize MRAPs as needed for the war in Iraq and direct funding to the MRAP II, or MRAP All-Terrain Vehicle, program to provide vehicles for Afghanistan. The JLTV will still be needed, but production of this ultimately costly program could be delayed in favor of meeting current counterinsurgency needs. The Humvee is still in production and the Army could continue to buy these vehicles in the interim.

The conventional MRAP has brought about impressive advances in safety for American troops in Iraq. However, the vehicle was rushed into production for Iraq and is not well adapted for use in Afghanistan. Troops in Afghanistan face less developed infrastructure than U.S. forces encountered in Iraq and are often required to go off road, which is a difficult mission for the bulky MRAP.⁸¹ DOD originally projected buying 5,000 of the smaller M-ATVs, but has recently revised its request to include “up to 10,000” of the vehicles. Prototypes will be tested in early 2009 and production will progress on an expedited schedule in order to get the vehicles to troops in Afghanistan.⁸² The original 15,000 MRAPs for Iraq cost approximately \$22 billion, so the new administration should be prepared for a similar price tag if it agrees with DOD’s plans to rush production of the smaller model.⁸³

CAP Recommendation

Maintain funding for the Joint Light Tactical Vehicle at the current level, allowing for development and testing, but delay production in favor of purchasing M-ATV armored vehicles for Afghanistan. U.S. operations in Afghanistan and on the Pakistan border are becoming the central front for the war on terror. The next administration should not rush headlong into the purchase of M-ATVs in the same way that it did for MRAPs in Iraq, but it should invest in this program to provide well-designed, adaptable vehicles to protect against IEDs. DOD should be held to its original estimate for 5,000 of the vehicles. Costs for each vehicle are yet to be determined, but the Pentagon estimates that they may cost

from \$500,000 to \$800,000 each. The expedited production schedule suggests that costs may be even higher. Buying 5,000 at DOD's lowest estimate will add at least \$2.5 billion to the Army's budget over the next four years.⁸⁴

Past MRAP acquisitions were funded through supplemental appropriations bills. The next administration should fold M-ATV funding into the baseline defense budget as far as is practicably possible.

Cost: \$2.5 billion



Ground Forces (Marine Corps)

The Marine Corps budget is a subsection of the larger Navy Department's budget, but the Corps' Expeditionary Fighting Vehicle (EFV) will be considered with ground forces for the purposes of this report. The EFV is intended to replace an older fleet of amphibious assault vehicles and is designed to launch from a ship within 25 miles of the shore and be able to transport marines up to 345 miles on land in order to carry out their mission.

Fully fund, slow down, or cut the EFV program. EFV prototypes constructed during the development stage revealed significant flaws, including leaks and a failure of amphibious steering technology. Additionally, during an operational assessment in 2006, the EFV experienced breakdowns every 4.5 hours on average and could only complete "2 out of 11 attempted amphibious tests, 1 out of 10 gunnery tests, and none of the 3 scheduled land mobility tests." Based on these failures, the Corps has begun working with contractors to redesign the vehicle. The project is now scheduled to cost \$13.2 billion for 573 of the vehicles, or almost a quarter of a million dollars for each vehicle.⁸⁵

Designing the budget to strengthen conventional force capabilities would suggest continuing the development of the EFV. The Center for Strategic and Budgetary Assessments reports that during the First Gulf War, the threat of amphibious attack occupied "an estimated seven to ten divisions of Iraqi troops," leaving a smaller overall force for coalition ground troops to defeat.⁸⁶ The vehicles were also used in the Corps' advance into Kuwait City during the same conflict.⁸⁷ The EFV could enhance the Corps' ability to perform similar missions, although the project would have to be carefully scrutinized for continuing design flaws, and the planners would have to accept that enemies may have adapted further than the project initially assumed. For example, numerous experts have pointed out that launching 25 miles off shore still might not be far enough to protect troops against anti-ship missiles.⁸⁸

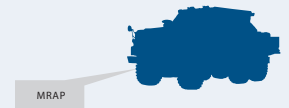
If the next administration chooses to focus more on unconventional capabilities, the EFV will not be an ideal tool. The United States' recent opponents have been non-state actors who frequently rely on the use of IEDs. DOD has made strides in protecting troops from these devices through the introduction of heavy MRAPs. The MRAP's v-shaped hull deflects some of the impact of blasts, and its heavy armor provides superior protection for troops. Unfortunately, even the bulky MRAP is not impervious to large IEDs.⁸⁹ The EFV, which is designed with a flat bottom to improve amphibious speed, would make troops extraordinarily vulnerable. The MRAP, or the smaller version in development, would be a better investment for unconventional operations.⁹⁰

CAP Recommendation

Cancel the Expeditionary Fighting Vehicle program, allowing the MRAP family of vehicles to temporarily fill the gap in Iraq and Afghanistan. The Navy requested \$316.1 million for the EFV program for FY09, but the Senate Defense Appropriations Subcommittee cut \$35 million from the program.⁹¹ The program should be canceled because the vehicle does not contribute in an essential way to current tasks, and

design flaws would make it unusually susceptible to the explosive devices troops are encountering in Iraq and Afghanistan. This will save \$1.1 billion at the current rate of funding over four years.

Savings: 1.1 billion



Naval Forces

Regardless of the overall strategic path the next president and secretary of defense choose, the Navy will need to make painful choices between competing shipbuilding priorities. Current Navy shipbuilding plans center on achieving and maintaining a 313-ship battle fleet, up from 285 ships in late 2008.⁹² The Navy presents a 30-year shipbuilding plan every fiscal year to Congress to estimate costs. Yet the Congressional Budget Office has noted that the Navy's most recent plan would cost \$27 billion a year on average, compared with just over \$13 billion in shipbuilding appropriations for FY09 and \$13.6 billion for FY08.⁹³ Its near-term shipbuilding plan for fiscal years 2009-2013, while cheaper than its 30-year plan, would cost \$21 billion a year according to CBO estimates.⁹⁴ This plan is not affordable under current budgets without either doubling its shipbuilding budget or crowding out other important priorities in the Navy or DoD budgets.

Its innovative new maritime strategy notwithstanding, the Navy's shipbuilding plans call for a force structure that is roughly similar to its current fleet. Eleven aircraft carriers would comprise the core of the Navy's battle force, with destroyers and littoral combat ships rounding out the surface fleet. Attack submarines would be slightly reduced, as would the amphibious ships that transport marines.⁹⁵ This plan has received little substantial altera-

tion since 2006, even as the Navy's own cost estimates have grown closer to those of the CBO. The Navy would still not meet all of its own requirements for a 313-ship fleet even with a dramatic real increase in shipbuilding funds.⁹⁶

The next president and defense secretary will face a mounting crisis in Navy shipbuilding; even doubling the Navy shipbuilding budget will not guarantee a future force equivalent to the current force. And making a strategic choice to focus on conventional or irregular warfare will not resolve the Navy's shipbuilding problems. Both the incoming administration and the Navy will be forced to make hard choices about the Navy's future fleet. They will need to make budgetary sacrifices in certain areas in order to properly fund priorities. No matter which route the next administration chooses, it is likely that the size of the Navy's fleet will shrink rather than grow in size.

There are multiple choices for the next president and secretary of defense regarding the Navy's future force structure. CBO laid out the parameters of these options in early 2006, when it first raised the cost concerns of the Navy's shipbuilding plans. These options generally fall into two baskets: options suited for conventional operations such as power projection and navy-on-navy combat, and options suited for irregular warfare such as expeditionary operations, humanitarian relief, antiterrorism, and antipiracy. Three of CBO's options are suitable for conventional-style naval warfare: maintaining current aircraft carrier levels, emphasizing attack submarines, or making across-the-board cuts to the Navy's force structure. The remaining options emphasize modernizing the Navy's surface combatant force—destroyers, cruisers, and littoral combat ships—or shifting to support of Marine expeditionary operations.⁹⁷

In addition to choosing overall strategic direction, the next administration will face budgetary choices on individual programs that will reflect its strategic priorities. Among these are:

Continue the Zumwalt-class (DDG-1000) destroyer or cancel it and procure more Arleigh Burke-class (DDG-51) destroyers. The Zumwalt-class destroyer is a new class of guided-missile destroyer incorporating a host of new technologies, including stealth, a new power system, and advanced computer networks. The DDG-1000 is characterized as a multimission destroyer and was designed with two 155-millimeter Advanced Gun System cannons to provide naval fire support to ground forces ashore.⁹⁸ The Zumwalt-class is far larger than the Navy's current surface combatants, displacing roughly 15,000 tons compared to the Ticonderoga-class Aegis cruiser's 9,500 tons.⁹⁹

Costs for the Zumwalt-class have skyrocketed, with CBO estimates for the first two ships of the class (already authorized by Congress) hitting \$5 billion a piece. CBO estimates that subsequent ships would cost an average of \$3.6 billion each.¹⁰⁰ The Navy planned originally to buy seven DDG-1000s, but last summer Chief of Naval Operations Admiral Gary Roughead stated in testimony to Congress that the Navy wants to cease DDG-1000 production at the two ships currently authorized and restart production of the currently-

The next president
and defense
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face a mounting
crisis in Navy
shipbuilding...

in-service Arleigh Burke-class (DDG-51) destroyer.¹⁰¹ CBO estimates that the Navy can procure eight DDG-51 destroyers for slightly less than the \$18.5 billion cost of the five remaining DDG-1000s.¹⁰² Congress essentially deferred a decision until the next administration in its most recent defense authorization and appropriations legislation by appropriating money to both build two additional DDG-1000s and retain the capacity to build more DDG-51s.¹⁰³

The decision on the DDG-1000's future represents more than a simple budgetary choice. Continuing the DDG-1000 through its seven-ship build would represent an embrace of conventional warfighting ideas because it emphasizes advanced technology. Truncating the Zumwalt-class' line at the two currently authorized ships and procuring eight DDG-51s in lieu of five DDG-1000s would serve both conventional and irregular strategies. On the conventional side, the latest "Flight IIA" DDG-51s have 96 Vertical Launch System (VLS) tubes for firing Tomahawk cruise missiles, Harpoon antiship missiles, and SM-2 and -3 anti-aircraft and antiballistic missiles. The DDG-1000 has 80 VLS tubes that are slightly larger and more heavily armored.¹⁰⁴ The DDG-51s are not ideal for irregular warfare, but purchasing a greater quantity of ships also benefits high-density missions such as antipiracy operations.¹⁰⁵¹⁰⁶

But the Navy may not be able to afford the cost of either a single DDG-1000 or two DDG-51s annually. According to CBO, purchasing four DDG-51s in lieu of five DDG-1000s over fiscal years 2009-2013 would cost \$9.6 billion, or slightly more than half the projected DDG-1000 cost. This course would leave the Navy with one fewer ship by 2013, but would allow DDG-51 production to continue beyond this timeframe.

CAP Recommendation

Cancel the Zumwalt-class DDG-1000 destroyer and build two Arleigh Burke-class DDG-51 destroyers a year for the next four years. CBO estimates that procuring the DDG-1000 at one ship per year over the next four years will cost \$18.5 billion. Canceling the DDG-1000 at two ships and procuring eight DDG-51s over the next four years will save \$2.8 billion according to CBO estimates, while giving the Navy twice as many ships with only marginally inferior conventional capabilities. Additional

hulls will give the Navy broader capability to patrol sea lanes, as well as additional VLS cells in case of conventional contingencies. If further savings are necessary, the next administration could procure just four DDG-51s over the same time period, saving \$8.9 billion.

Savings: \$2.8 billion



Continue, slow down, or cancel the production of Virginia-class (SSN-774) attack submarines. The Virginia-class submarine is designed as a more affordable alternative to the very costly Cold War-era Seawolf-class (SSN-21) attack submarine and is intended to replace the aging Los Angeles-class (SSN-688) submarines as the backbone of the Navy's undersea force. Like the later Los Angeles-class boats, Virginia-class subs possess four torpedo tubes and 12 VLS tubes capable of launching Tomahawk or Harpoon missiles.¹⁰⁷ The Navy plans currently to procure 30 Virginia-class subs; five are already in service, four are under construction, and two have been paid for by Congress.¹⁰⁸¹⁰⁹ New submarines are currently purchased one a year, but Congress has made clear its intention to ramp up to two subs sooner than the Navy's initial plans.¹¹⁰

The Virginia-class has suffered from cost overruns despite being intended as an inexpensive alternative to the Seawolf-class. The Navy has made progress in reducing the cost per unit of new Virginia-class submarines, but CBO estimates that the latest sub authorized by Congress will cost \$2.9 billion.¹¹¹ CBO estimates also that the average per-unit cost of the Virginia-class over the next 30 years will be \$2.8 billion, well above the Navy's \$2 billion per unit goal.¹¹²¹¹³ If CBO estimates hold up, the Navy will spend an additional \$15.2 billion on submarines without meeting its stated requirement of 48 attack submarines.¹¹⁴

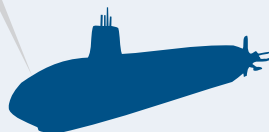
Continuing with existing plans to purchase two Virginia-class submarines per year after FY 2012 would heavily benefit a conventional defense strategy. Attack submarines are particularly useful in conventional naval operations, with their ability to operate stealthily against enemy naval forces both above and below surface. Conversely, attack submarines are ill-suited to tackle irregular challenges like piracy or expeditionary operations. Canceling production of the Virginia-class would free up resources to be spent on ships

CAP Recommendation

Keep SSN-774 attack submarine production steady at one per year instead of ramping up to two per year in FY 2013. Keeping production of Virginia-class submarines steady at one per year will keep the nation's submarine industrial base alive while hedging against a future conventional threat. Cutting the additional submarine from the FY 2013 budget will save \$2.8 billion according to CBO cost estimates.

Savings: \$2.8 billion

SSN-74 ATTACK SUBMARINE



better suited to irregular warfare such as small surface combatants and amphibious vessels. Alternatively, the production of new submarines could be slowed in order to preserve the submarine-industrial base and hedge against future conventional threats while freeing up a small but significant amount of money for other priorities.

Move forward with or scrap the Littoral Combat Ship program. The Navy envisioned the Littoral Combat Ship as a cheap, small, and fast ship capable of operating in shallow close-to-shore or “littoral” waters. The LCS has three primary intended missions: anti-submarine warfare, antimine countermeasures, and defeating small fast attack boats. The Navy decided to plug specialized “mission modules” into a basic LCS seaframe rather than equipping each LCS as a multimission ship similar to the DDG-51 class of destroyers. Switching the mission module would change the LCS’ primary mission; for example, an antimine module could be swapped out for an antisubmarine module. Current Navy plans call for 55 LCS seaframes and 64 mission modules to be procured over the next decade.¹¹⁵

The Navy’s intent is for the LCS to be an inexpensive project, but it has seen considerable cost overruns. The LCS was originally expected to cost \$260 million a copy, but prices ballooned to \$550 million a ship according to CBO estimates. The first two LCS packages are expected to cost \$700 million each; cost overruns caused the Navy to pare the initial LCS order from four to two prototypes.¹¹⁶ Congress has authorized and funded two more LCS sea frames at \$510 million each based upon the Navy’s restructuring of the program to control cost growth.¹¹⁷ Yet the LCS remains an inexpensive platform compared to the DDG-51 or DDG-1000 despite cost overruns. The Navy could purchase four LCS systems with \$200 million left over for the price of one DDG-51 (\$2.4 billion).

Moving forward with the LCS program would be a boon to an irregular strategy. More ships would be available for high-density operations in ungoverned seas, such as the pirate-infested waters off of Somalia. The LCS is designed to confront irregular threats such as small fast attack boats operated by pirates and states with weak conventional navies. On the other hand, scrapping the LCS would free up a modest amount of money that could be invested in more conventional systems such as DDG-51 destroyers or SSN-774 attack submarines.

CAP Recommendation

Move forward with current plans for the Littoral Combat Ship.

The Littoral Combat Ship program, despite its cost difficulties, should move forward. If costs hold to the most recent CBO estimates of \$550 million a ship, Navy plans to procure 16 LCSs over the next four years would come at a cost of \$8.8 billion—or more than four times less per ship than the DDG-51 class. Small, fast ships such as the LCS would

be a boon in irregular naval operations such as antipiracy patrols and de-mining. Congress and oversight agencies should keep a close watch on LCS costs, but the planned 16-ship procurement should go forward.

Cost: \$8.8 billion



Continue, slow down, or cancel production of the Gerald R. Ford-class (CVN-78)

aircraft carrier. The Gerald R. Ford-class aircraft carrier is the successor to the venerable and successful Nimitz-class (CVN-68) supercarrier. The Navy currently operates 11 aircraft carriers: the last conventionally powered carrier, USS Kitty Hawk (CV-63); USS Enterprise (CVN-65); and nine Nimitz-class ships (CVN-68 through -76). USS George H.W. Bush (CVN-77) is slated to replace Kitty Hawk early in 2009, which will make the entire U.S. carrier fleet nuclear-powered. Current Navy plans call for an 11-strong carrier force. Enterprise is scheduled for retirement at the end of its design life in 2013, but its replacement, the Ford, is not scheduled for commission until 2015 at the earliest. The Navy would therefore have its carrier force reduced to 10 in the interim, and delays in the Ford's construction would further lengthen this period without 11 carriers.¹¹⁸

The Gerald R. Ford incorporates new technologies designed to increase aircraft sorties and decrease crew complement. An electromagnetic catapult system will replace the traditional steam catapult used to launch aircraft, and new radar systems and advanced arresting gear for recovering aircraft will also be installed. The Navy estimates that construction costs for the Ford will be cheaper than for those of its predecessor, the George H.W. Bush, and CBO estimates that the Ford will cost \$11.2 billion. CBO also puts a greater than 50 percent chance that the Ford's construction costs will be greater than \$11.2 billion, however.¹¹⁹ Congress has already appropriated over \$9 billion to construct the Ford, including nearly \$2.7 billion in FY 2009.¹²⁰

The strategic implications of canceling, slowing down, or moving forward with the Ford-class of aircraft carriers are not entirely clear. The aircraft carrier is generally associated with traditional conventional missions such as power projection, but it is a versatile ship capable of a wide range of missions. The carrier has proven valuable in irregular operations, such as serving as a floating Army helicopter base during the 1994 Haiti intervention or as a relief hub during the post-Indian Ocean tsunami recovery effort in 2004-05. It should be possible to delay the production of the second Ford-class carrier to coincide with the end of the USS Nimitz's service life in 2025 rather than commission it in 2018 as currently planned. Such a step would free up more resources for other priorities in the short term and defer costs of another new carrier until later.

Ultimately, though, the next administration will likely be required to make a longer-term decision about the future of America's carrier force. As a 2006 CBO study noted, the only way to maintain an 11-carrier force within current budgets over the long term is to sacrifice all of the Navy's other shipbuilding priorities.¹²¹ The Navy's carrier force will likely shrink to single-digit numbers in the long term unless much greater funding is found in the department's budget. The next administration could pursue a long-term approach of building a larger number of smaller carriers in lieu of the massive supercarriers of today's force.¹²²

CAP Recommendation

Deploy the Gerald R. Ford (CVN-78) aircraft carrier but delay the construction of the CVN-79 aircraft carrier for five years. The USS Gerald R. Ford is currently needed to keep U.S. carrier strength at 11 following the retirement of the USS Enterprise. Construction of the Ford should move forward as planned, but construction of the next carrier—CVN-79—should be delayed five years so that it launches in 2025 as the USS Nimitz

reaches its planned retirement age. This delay will save \$4.5 billion over the next four years; in the meantime, the administration and Congress should consider the future role of the aircraft carrier in an overall U.S. defense strategy.

Savings: \$4.5 billion



Build more amphibious ships or forgo them to focus on conventional naval forces.

Current Navy plans call for the production of four new America-class (LHA-6) amphibious assault ships. The America is based on the design of the Makin Island (LHD-8), the last Wasp-class ship, but it will be optimized to serve as a vertical/short take-off and landing aircraft carrier. The America will not have a well deck for launching amphibious landing craft, unlike the Wasp class.¹²³ One LHA-6 will join the Navy's regular fleet and two are slated to join the ambitious Maritime Prepositioning Force (Future) in addition to the currently under-production America.¹²⁴

The Maritime Prepositioning Force (Future)'s goal is to be able to deploy and support a Marine Expeditionary Brigade from the sea without resorting to land bases—a concept known as “sea basing.” To create an MPF(F) capable of sea basing, the Marine Corps and Navy have designed a 14-ship squadron consisting of two new LHA-6 class ships, one existing Wasp-class LHD, six new supply and cargo ships (T-AKEs and T-AKRs), three new mobile landing platforms, and two existing MPF supply ships.¹²⁵ The Navy would have to procure 10 new ships to fill out this squadron. In its most recent shipbuilding plan, the Navy axed two T-AKEs; the CBO estimates the cost of a 12-ship MPF(F) to be roughly \$14 billion from 2009 to 2014.¹²⁶

Congress has appropriated money for a 10th San Antonio-class (LPD-17) amphibious vessel in addition to the LHA-6 and MPF(F) programs. The San Antonio suffered major cost overruns and massive post-commissioning problems, resulting in two overhauls. Its follow-on, the New Orleans, has also had its own difficulties.¹²⁷ Despite these issues, CBO notes that the cost for further San Antonio-class ships has stabilized at between \$1.5 billion and \$1.7 billion.¹²⁸ The next administration will need to decide whether or not to go forward with the purchase of a 10th LPD-17 or use the additional approximately \$800 million for other purposes.

Going forward with the purchase and construction of amphibious ships will be a clear signal toward an irregular strategy. Amphibious ships have proven their mettle in antipiracy and humanitarian relief missions from Somalia to Indonesia in recent years, in addition to transporting marines and other ground forces ashore.¹²⁹ Their large complement of helicopters and landing craft allow for large flexibility. A shift away from amphibious ships would show adherence to a conventional maritime strategy focused on traditional surface combatants, submarines, and aircraft carriers. In effect, it would trade away the ability to operate in irregular environments in favor of preparing to take on a near-peer competitor.

The choices that the Navy will be forced to make over the next few years should be dependent on the next administration's national security strategy. If the new president and defense secretary opt for a conventional strategy, fewer numbers of more conventional surface ships, submarines, and aircraft carriers will be on the Navy's procurement list. If the next administration goes for an irregular strategy to police the world's ungoverned spaces, the Navy's procurement emphasis should shift to amphibious ships, Littoral Combat Ships, and proven conventional ships such as the DDG-51. All told, this revised shipbuilding plan will cost just over \$50 billion over four years, a savings of just under \$2 billion over an extension of current shipbuilding funding over the next four years.

CAP Recommendation

Cancel the LPD-26 amphibious ship and move forward with the Maritime Prepositioning Force (Future). The next administration should close out the problem-plagued San Antonio-class at nine ships. Unlike Wasp-class LHDs or Tarawa- and America-class LHAs, the San Antonio-class' primary function is to conduct amphibious assaults—something the Marine Corps has not done since 1950. Compared with other amphibious ships, it has minimal helicopter capabilities.

The \$800 million saved by canceling LPD-26 would be put to better use building the Maritime Prepositioning Force (Future). Purchasing the 10 new ships necessary to complete the MPF(F) will cost \$14 billion over five

years according to CBO. The MPF(F) will allow the United States to initiate a rapid, large-scale response to amphibious contingencies ranging from humanitarian disasters to conventional operations. The next administration should also go forward with the two LHA-6s planned to be part of the MPF(F) at a combined cost of \$7 billion.

Cost: \$13.2 billion



Air forces (Air Force, Army, Navy, Marines)

The Defense Department's military aviation modernization programs are currently in their worst situation in decades. Congress appropriated over \$27 billion for Navy, Marine Corps, and Air Force aircraft procurement in FY 2009 after approving a combined \$24.8 billion in FY 2008.¹³⁰ Appropriators gave the Army roughly \$5 billion for its aircraft procurement needs in FY 2009. Yet despite the fact that Congress has appropriated over \$60 billion for aviation modernization over the past two years, the Air Force and Navy leaders are warning of "fighter gaps" in the 5- to 10-year future.^{131 132}

The Navy's
FY09 unfunded
requirements
nearly equaled
those of the other
services combined.

Advanced new fighters such as the F-22A Raptor and F-35 Joint Strike Fighter have exceeded both their budgets and schedules. For example, the unit costs of the F-22 have risen by 177 percent. Aging tankers and cargo aircraft need replacement due to contract foul-ups by the Air Force and the Office of the Secretary of Defense and the priority given to combat aircraft. The Air Force submitted over \$11 billion in unfunded aircraft requirements with its FY 2009 budget request in early 2008, which included 4 new F-22s, 5 F-35s, 8 C-130J cargo lifters, and 15 C-17s.¹³³ This total compares to \$12 billion in unfunded requirements for the Army, Marine Corps, and Navy combined.¹³⁴

The United States' military aviation programs have largely remained on a conventional course without broader strategic guidance from the president or secretary of defense as the nation fights two unconventional wars in Iraq and Afghanistan. The Air Force's procurement plan is predicated on the dangers that a high-tech, high-intensity conventional air campaign would pose to its "legacy" fleet of F-15 Eagle and F-16 Fighting Falcon fighters. As a result, the service has mortgaged its future conventional fighter force to buy the increasingly expensive F-22 and F-35 fighters at the expense of both irregular threats and its aging air logistics fleet.¹³⁵

Defense Secretary Robert Gates urged the Air Force to do more to confront the irregular challenges facing the United States in Iraq and Afghanistan, but he has not backed up his words with action. Indeed, he has expressed great faith in the capabilities of the F-35 Joint Strike Fighter. And despite basically calling the F-22 worthless in irregular wars and pressing the Air Force to deploy more unmanned aircraft to Iraq and Afghanistan,^{136 137} Gates preserved the option for future F-22 buys by providing money in the FY 2009 budget to keep Lockheed Martin's assembly lines open. His public clashes with Air Force leadership notwithstanding, the Air Force continues to emphasize conventional systems and stay away from irregular challenges.

The new administration's overall strategic direction will greatly affect the direction of the military's aviation programs. A conventional strategy will entail more purchases of the conventional fighters at the expense of drones, gunships, and logistics aircraft. Going the irregular route would give more priority to platforms with long loiter times, heavy payloads, and greater surveillance capabilities. No matter which strategy the next president decides upon, neither the Navy, the Air Force, nor the Marine Corps will likely be able to

afford their entire wish lists. Difficult choices will be necessary within, as well as across, strategic paradigms. No service will be able to obtain everything on its wish list.

Continue or shut down production of the F-22A Raptor. The F-22 is the most capable air-to-air fighter in the Air Force inventory. It combines all-aspect stealth technology, supercruise—the ability to achieve supersonic speeds without the use of fuel-guzzling afterburners—thrust-vectoring engines, advanced radar, and increased pilot awareness.¹³⁸ ¹³⁹ The F-22 has proven to be an excellent air-to-air fighter—racking up 144 kills versus 0 losses in its first training exercises¹⁴⁰—but it has only limited air-to-ground attack capabilities. It has an internal payload of just two 1,000-pound satellite-guided bombs and is less capable in the ground attack role than the now-retired F-117A Nighthawk stealth fighter.

The Air Force has maintained it needs 381 Raptors, but the Bush administration and Congress have provided enough funds for a force of only 183. There are currently 91 F-22s in service, and the last fighters currently appropriated are scheduled to roll off the assembly lines in 2011.¹⁴¹ Air Force FY 2009 budget documentation indicates that the last 20 F-22s will have a price of \$146.4 million per plane minus research and development costs.¹⁴² Congress appropriated \$523 million in advanced procurement to keep the F-22 production line open in the FY 2009 defense budget cycle in order to give the next administration the option of buying more Raptors.¹⁴³ The next administration will therefore have an early decision to make regarding both its overall defense strategy and whether or not more F-22s factor into it.

Keeping the F-22 production line open and buying an additional 20 Raptors would be highly consonant with a conventional national security strategy. The F-22 was designed to fight next-generation Soviet fighters that never materialized, and it is therefore capable of securing air supremacy over current and likely future aerial threats. On the other hand, as Secretary Gates has noted, the F-22 is nearly useless for irregular warfare. Shutting down the F-22 production line as scheduled would align with an overall shift to an irregular strategy.

CAP Recommendation

End production of the F-22 Raptor immediately at 183 planes.

The F-22 is a superb fighter aircraft, but it is unsuited for the irregular challenges of the near future. Ending F-22 production after 183 planes will still leave the Air Force with a strong silver-bullet force to meet any conventional contingency. Continuing F-22 production at

20 aircraft a year for the next four years would cost \$12 billion; that sum would be better spent on other priorities.

Savings: \$12 billion



Continue, slow down, or cancel the F-35 Lightning II Joint Strike Fighter and replace or supplement it with upgraded legacy fighters and armed unmanned aerial vehicles. The F-35 Joint Strike Fighter, officially named “Lightning II,” is slated to replace the Air Force’s F-16 and A-10 Warthog fleets, the Navy’s older F/A-18A/B/C/D Hornets, and all of the Marine Corps’ tactical fighters (F/A-18s and AV-8B Harriers). It is being produced in three variants: the F-35A, a conventional take-off version for the Air Force; the F-35B, a short take-off/vertical landing version for the Marine Corps; and the F-35C, a carrier-capable version for the Navy. All versions of the F-35 incorporate stealth technology, advanced sensors, and improved pilot situational awareness.

The F-35 is primarily a strike aircraft and not a pure fighter like the F-22. The Air Force’s F-35A can carry two 2,000-pound satellite-guided bombs and two air-to-air missiles internally, which allows it to maintain stealth and offer a strike capability similar to the F-117. The Navy’s F-35C will carry a similar internal loadout, but will not have the F-35A’s gun; the Marine Corps’ F-35B will have a reduced internal payload of two 1,000-pound satellite-guided bombs and not carry the F-35A’s gun. All F-35 variants will be capable of carrying external stores at the expense of stealth capabilities.^{144,145} The Defense Department currently plans for the Air Force to purchase 1,736 F-35As and the Navy to purchase an undetermined mix of 680 F-35Bs and F-35Cs for the Navy and Marine Corps.

The Joint Strike Fighter has experienced a series of delays and technical problems that have increased the overall cost of the entire program. The Government Accountability Office currently estimates that the entire JSF program will run \$300 billion, an increase over the \$233 billion estimated when the program started in 2001.¹⁴⁶ This new figure represents a roughly \$30 billion or 12.8 percent increase in cost in real terms. Unit costs have also risen; excluding research and development costs, the Air Force now expects the F-35A to cost \$91 million per plane when full-scale procurement begins in fiscal year 2013.¹⁴⁷ The Navy and Marine Corps versions are expected to cost more; the average cost for an F-35B or F-35C will be approximately \$133.6 million by the beginning of full-scale production.¹⁴⁸

The Defense Department has collapsed the test-flight program to try and reduce costs; this move means that the F-35 will still be undergoing flight testing while the military takes delivery of full-scale production aircraft. In effect, the military will be buying unproven aircraft in large quantities that may need substantial overhauls to function properly. GAO concluded that overall program cost increases and delivery delays are more likely given the compressed nature of the test program.¹⁴⁹ Despite these problems, the Air Force, at least, is plunging full speed ahead with the F-35. It recently announced large cuts in its force structure (particularly F-16s and F-15s) in part to help pay for an accelerated F-35 production schedule.¹⁵⁰

A decision regarding the future of the F-35 is not as clear-cut as a decision on the F-22. Canceling the F-35 altogether and substituting cheaper, upgraded current-generation fighters would be congruent with a wholesale strategic shift to irregular warfare on the part of the next administration. The substitute fighters could include the F-16 Block 60, which has an estimated \$50 million unit cost;¹⁵¹ the F/A-18E/F, which has an estimated \$79.9 million unit cost,¹⁵² roughly \$50 million cheaper than the Navy and Marine Corps F-35B/C unit cost; and armed

drones such as the MQ-9 Reaper, which has an estimated \$10.78 million unit cost.¹⁵³ The Navy is already hedging against future F-35 delays,¹⁵⁴ but both the Air Force and Marine Corps are heavily invested in the F-35.

The Air Force could cope with a canceled F-35 by purchasing more new-build F-16s, F-15Es, or even F/A-18E/Fs, and the Navy could buy F/A-18E/Fs, but the Marine Corps would be left without the short take-off and vertical landing capability provided by the Harrier. Canceling the F-35 would free up money to fund the development of next-generation unmanned combat aerial vehicles such as the Navy's X-47 program,¹⁵⁵ but it would cause problems with several NATO allies such as the United Kingdom, Italy, the Netherlands, Canada, Norway, Denmark, Australia, and Turkey, who are financial partners in developing the plane.

A conventional strategy, by contrast, would proceed full steam ahead with the F-35, with the view that its new capabilities—particularly stealth—will be necessary on future conventional battlefields. Yet the military will probably not be able to field all the F-35s currently planned if cost growth and delays continue. Alternatively, the next president and defense secretary could choose to hedge on the F-35 by slowing development to work out the fighter's problems, procuring advanced legacy platforms and armed drones to negate the "fighter gap," and buying a smaller number of F-35s when it is ready to enter full-scale production. This decision hedges on conventional threats by purchasing a mix of new legacy fighters and F-35s while also buying the armed drones that have proven useful in the United States' current conflicts. The hedge option could be weighted toward meeting irregular or conventional threats depending on the overall thrust of the next administration's national security strategy.

CAP Recommendation

Continue development of the F-35 Lightning II Joint Strike Fighter, but do not start full-scale production until flight tests have been completed. In other words, return to the David Packard practice of "fly before you buy." F-35 development should continue to ensure that the Air Force, Marine Corps, and Navy all possess an advanced strike fighter, but it should have all its problems ironed out before it goes into full-scale production. The military should thoroughly test the F-35 before it buys the aircraft. Delaying F-35 production will save \$15.17 billion over the next four years. To make up for the scheduled gap in fighter aircraft, the Defense Department should:

- Buy F-16 Block 60 fighters. The Air Force should procure the same number of advanced F-16 Block 60s as F-35s that it had planned to buy over the next four years. A force of 126 F-16 Block 60s will cost \$6.3 billion over the next four years or an estimated \$50 million per plane.
- Buy two wings of MQ-9 Reaper drones. Armed MQ-9 Reaper drones are

a more cost-effective alternative to manned aircraft in low-intensity operations such as counterinsurgency. The Reaper can carry up to four 500-pound guided bombs or eight Hellfire missiles, and it has greater persistence over the battlefield than manned fighters, while carrying comparable payloads. Purchasing two wing equivalents of MQ-9s or 144 drones will cost only \$1.55 billion over four years.

- Buy 69 F/A-18E/F Super Hornets. The Navy has considered buying additional Super Hornets as the F-35C continues to be delayed. Holding off F-35 procurement to complete flight testing will necessitate the purchase of more F/A-18E/Fs to make up for a potential shortfall in tactical naval aviation. Buying additional F/A-18s will cost just over \$5.5 billion over four years.

Savings: \$1.8 billion



Continue or cancel V-22 Osprey production. The MV-22B Osprey is a tilt-rotor transport intended to replace the Marine Corps' aging CH-46 transport. The Air Force is also procuring a modified Osprey, the CV-22B, for its special operations forces. The V-22 is a unique aircraft because its engine nacelles, mounted on each wing tip, can rotate in flight, allowing the V-22 to take off and land vertically while maintaining fixed-wing performance in normal flight. Marine MV-22s have deployed to Iraq performing cargo and transport runs, while Air Force CV-22s have deployed to western Africa for multinational exercises.¹⁵⁶¹⁵⁷

Current plans call for procuring 50 CV-22s for the Air Force Special Operations Command and 360 MV-22s for the Marines. Forty-eight Navy versions, HV-22s, may be purchased, bringing the total V-22 buy up to 458 aircraft.¹⁵⁸ Congress has appropriated funds for 21 CV-22s and 153 MV-22s thus far. The Air Force wants to accelerate the purchase of its CV-22s, increasing production from five Ospreys a year to eight.¹⁵⁹ CV-22s coming off the production line currently cost \$67.3 million per aircraft, while MV-22s cost \$93.9 million, though costs are expected to drop by \$15 million as production reaches capacity, excluding research and development costs.¹⁶⁰

The V-22 has had a long and troubled development. A prototype first flew in 1989, but operational testing did not begin until 10 years later. The V-22 was plagued by accidents during its test phase; two prototypes crashed in the early 1990s, killing seven people. Later accidents jeopardized the entire program. Two V-22 crashes in 2000 killed 23 marines and led to redesigns of critical systems.¹⁶¹ The Marine Corps sacrificed critical features to make the V-22 workable, such as autorotation—the ability of helicopters to safely land without engine power—and critics still doubt its combat capability.¹⁶²

If the V-22 performs as advertised, it offers capabilities to both conventional and irregular strategies. The Air Force's CV-22 can be a boon to its special operations forces, allowing it to support special operations missions with its long range and high speed. Yet it remains unclear whether the MV-22 provides enough added capability over contemporary transport helicopters like the Sikorsky H-92 and AugustaWestland AW101. The AW101 can carry 24 combat-equipped troops—the same number as the V-22—but the V-22 has greater range and speed; the H-92 can carry 22 troops.¹⁶³ It is unclear whether these additional capabilities are worth the approximately \$30 million to \$35 million more that the V-22 costs over the AW101 and H-92.¹⁶⁴ The decision to continue or cancel the V-22 will come down to a determination as to whether the next administration believes the slightly increased capabilities of the V-22 are worth the extra cost.

CAP Recommendation

Cancel the MV-22 Osprey and substitute cheaper helicopters while continuing production of the CV-22. The MV-22's advantages in speed and range over helicopters such as the AW101 and H-92 do not make up for its much higher cost. The Navy has already procured 153 Ospreys and it has 255 more planned. This would cost approximately \$9 billion over the next four years. We recommend substituting AW101s or H-92s which will cost between \$6.6 billion and \$7.8 billion. At the same time, the Air Force

should continue procuring the CV-22 for its special operations forces. The combination of speed and range makes the Osprey an attractive candidate for special operations over normal helicopters.

Savings: Between \$1.2-2.4 billion, Average equals \$1.8 billion



Continue or cancel production of the C-17 Globemaster III. The C-17 is a long-range heavy airlifter that can perform both strategic and tactical missions.¹⁶⁵ It can carry 170,900 pounds of cargo, 102 troops, or 36 litter and 54 ambulatory patients depending on the mission.¹⁶⁶ C-17s are capable of operating on rough or unfinished landing strips, allowing them to lift large quantities of equipment or personnel directly into a combat or disaster zone. It has proven itself valuable in combat missions in Kosovo, Afghanistan, and Iraq, as well as humanitarian missions in Indonesia, Pakistan, and New Orleans.

Current Air Force plans call for a fleet of 190 C-17s, 174 of which are already in service.¹⁶⁷¹⁶⁸ The Bush administration did not include additional C-17s in its last two regular defense budget requests, effectively ending the production line. Congress has instead added funds for more C-17s to the war supplemental bills, which has added \$20 million to the \$280 million average C-17 unit cost although it keeps the C-17 line open.¹⁶⁹ In the 2009 regular defense budget, Congress authorized \$2.1 billion for six more C-17s, bringing the unit cost up to \$350 million per plane.¹⁷⁰

Production of more C-17s has resulted in budgetary competition with the program to modernize the Air Force's C-5 Galaxy strategic airlifters. The C-5 offers far more transport capacity than the C-17, but it cannot operate in unimproved environments like the C-17. Because of the cost growth in the modernization program, only 52 of 111 total C-5s will receive full upgrades to C-5M standards; the remaining 59 will receive avionics upgrades only.¹⁷¹ The Congressional Research Service estimates that the Air Force's C-5 modernization plan will cost \$146.7 million per plane for a total program cost of \$16.2 billion.¹⁷²

Discontinuing production of the C-17 would tend to favor a more conventional national security strategy, while continuing regular production of the C-17 would favor an irregular strategy. The C-17's ability to carry large payloads long distances and land at unimproved airstrips makes it an ideal platform for both counterinsurgency and humanitarian missions common to an irregular strategy. The C-5's ability to handle large equipment—it can carry

loads the C-17 cannot and can carry more of what the C-17 can—is offset in the irregular view by its inability to operate in austere environments. This inability is not as relevant in the conventional war paradigm; the C-5's greater cargo capacity makes up for its lack of rough-field capability. The C-17 is therefore more important to an irregular strategy than it is to a conventional one, and a conventional strategy may look to save money for other priorities such as F-22 or F-35 production by curtailing C-17 production. A conventional strategy would therefore argue for continuing modernization of the C-5 fleet as currently planned while halting production of the C-17; an irregular strategy would favor continuing C-17 production and make cuts to C-5 modernization only if necessary.

CAP Recommendation

Build more C-17 cargo aircraft. The C-17's ability to carry large loads to unimproved airstrips makes it an ideal system for the Air Force's role in irregular operations. Yet the C-17 remains expensive; procuring five a year for the next four years will cost between \$5.6 billion and \$7 billion. But buying 20 C-17s over the next four years will leave the Air Force with a

210-strong C-17 fleet and relieve some of the stress on U.S. cargo capacity.

Cost: Between \$5.6-\$7 billion, Average equals \$6.3 billion



Make a decision on the KC-X tanker program. The KC-X program is designed to replace a number of the Air Force's aged KC-135 Stratotankers. A corruption scandal involving Boeing and the Air Force's number two procurement official derailed the Air Force's first attempt at acquiring a new tanker,¹⁷³ and the Defense Department requested proposals for a new tanker competition in January 2007. Two consortiums responded: Boeing with a modified 767 airliner dubbed the KC-767, and Northrop Grumman and the European Aeronautic Defense and Space Company with a modified Airbus A330 airliner called the KC-30.¹⁷⁴ The Northrop-EADS proposal was selected by DOD in February 2008 and named the KC-45A. However, Boeing filed a protest with GAO that was upheld because the acquisition process was flawed.¹⁷⁵ Secretary of Defense Gates pledged to resolve the protest quickly and sent out another KC-X solicitation, but later canceled it, thus delaying the decision until 2009.¹⁷⁶

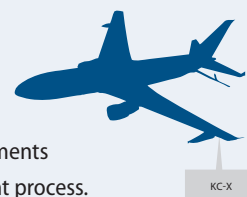
Procuring a new tanker is critical to the Air Force's ability to maintain its tanker fleet and a contract must be awarded as soon as possible. Before the KC-45 protest was upheld, CBO estimated the average age of Air Force tankers would reach nearly 50 years by the end of the next president's first term.¹⁷⁷ The canceled contract would have provided the first 68 out of 179 planned tankers at an average unit cost of \$178 million. The entire KC-X program is expected to cost roughly \$35 billion.¹⁷⁸

The new administration will face a critical decision on how to proceed with the KC-X program. Tankers are critical to both conventional and irregular strategies because they extend the range of all types of aircraft. They are more critical to conventional strategies relying on short-range tactical aircraft such as the F-16, F-22, or F-35 than conventional strategies relying on long-range bombers such as the B-2 or irregular strategies that employ cargo aircraft such as the C-17 and armed drones, which cannot refuel mid-air. The KC-X is a force multiplier—it enhances the capabilities of other platforms rather than bringing its own to bear.

CAP Recommendation

Move forward on KC-X. The next administration has the opportunity for a fresh start on the KC-X program minus the shenanigans and protests and lack of oversight by the Office of the Secretary of Defense that have delayed it for the past eight years.

It should take advantage of this opportunity to issue a clear set of requirements and evaluate proposals using a transparent process.



Savings/Cost: Neutral as costs are not yet projected

Make a decision on a future armed reconnaissance helicopter. The Army intended to replace its aging OH-58C/D Kiowa fleet and the cancelled RAH-66 Comanche with the ARH-70 Armed Reconnaissance Helicopter. The ARH-70 is based on the commercial Bell 407 helicopter and was intended to be a cheap replacement for the Kiowa fleet. Because its costs soared and it faced lengthy delays, the Defense Department canceled the program in October 2008.¹⁷⁹ The Army continues to desire the capability provided by an armed reconnaissance helicopter, and the next administration will face a decision on whether or not to renew the search for an ARH.

Light, armed helicopters such as the OH-58 and the proposed ARH-70 are equally useful in conventional and irregular strategies. An ARH can scout ahead of the main force in conventional scenarios, while ARHs can also be used as light attack helicopters in irregular scenarios. But some of the capabilities provided by ARHs may now be provided adequately by unmanned aircraft such as the MQ-1 Predator, MQ-8 Fire Scout, and MQ-9 Reaper. Indeed, the Army plans to buy 132 MQ-1C Warrior drones—a variation of the Predator—for a total cost of \$1 billion.¹⁸⁰ The next administration should look carefully at procuring more MQ-1Cs instead of starting a new armed reconnaissance helicopter program.

CAP Recommendation

Substitute MQ-1C Warrior drones for Armed Reconnaissance Helicopters. In an era of armed drones, it makes little sense to buy more expensive helicopters to perform similar missions. Yet that is what the Army intends to do with its revived Armed Reconnaissance Helicopter program. Instead of seeking new bids for a light helicopter that has little added value in either conventional or irregular strategies, the Army should substitute an equal number of its MQ-1C Warrior armed un-

manned aerial vehicles. Previous Army plans called for 222 ARHs over the next four years; procuring an equal number of MQ-1Cs would cost just \$1.1 billion over that timeframe.

Cost: \$1.1 billion



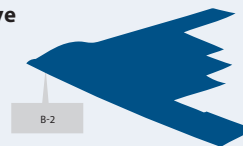
Start working toward a new long-range bomber, restart B-2 production, or forgo a new long-range bomber. The 2006 Quadrennial Defense Review set a goal of fielding a new long-range strike aircraft by 2018.¹⁸¹ This new strike aircraft is described as having a “penetrating” capability, implying a degree of stealth technology. Although no specifications have been announced for a new bomber, Northrop Grumman and a Lockheed Martin-Boeing combination have already begun forming teams to compete for the bomber contract.¹⁸² For its part, the Air Force is looking for a basic production model by 2018, with technological improvements coming in blocks similar to the upgrade program for the F-16.¹⁸³

The next administration will have to make a critical decision at the very beginning of the program. A stealthy, long-range strike aircraft is essentially a platform geared to conventional and semiconventional national security strategies, but it can provide a potent conventional hedge in irregular-dominant strategies. The incoming administration can choose to go forward with the Air Force’s proposed 2018 timeline for fielding a new bomber, opt to restart the B-2 production line and buy more of that aircraft, or forgo a new long-range bomber altogether. The last option would be suitable for a national security strategy that bets all-in on an irregular strategy, while the previous two would favor a hedged irregular strategy or a conventional strategy. The cost of developing and purchasing a new long-range bomber is not currently known, but Northrop Grumman offered to restart B-2 production in late 2001 at a cost of \$30 billion for 40 aircraft.¹⁸⁴ In 2008 dollars, this would total \$37.2 billion or \$930 million per plane, but it would likely cost more to restart production at this time.

CAP Recommendation

Move forward the new long-range bomber. Development of a new long-range bomber should focus on meeting the ambitious goal of fielding a new bomber by 2018 through the use of existing technology. The Air Force should not seek to acquire a “gold-plated bomber” that can offer everything. Rather, the next administration should specify that the new bomber incorporate existing technology, including low-observability, but not necessarily at the level of the B-2.

Savings/Cost: Neutral aside from research and development costs which are unknown and have yet to begin.



Missile defense

The Missile Defense Agency manages the Defense Department’s antiballistic missile defense systems. It currently has a \$9 billion budget¹⁸⁵ and oversees the development and testing of seven primary missile defense systems: Aegis ballistic missile defense (Aegis BMD), the Airborne Laser (ABL), Kinetic Energy Interceptors (KEI), ground-based mid-course defense (GMD), the Multiple Kill Vehicle, Patriot Advanced Capability-3 missile (PAC-3), and the Terminal High Altitude Area Defense (THAAD). MDA also manages missile defense tracking and command-and-control systems.

Each of these systems is designed to intercept an incoming ballistic missile at different phases in flight. The ABL and KEI systems are designed to knock out a missile during its boost phase, when the missile’s rocket engine is still burning. Aegis BMD, GMD, and Multiple Kill Vehicle systems target the missile or its warhead in outer space after the missile has burned out but before the warhead re-enters the atmosphere. Aegis BMD, PAC-3, and THAAD missiles target the warhead during its re-entry phase.¹⁸⁶ Of MDA’s seven systems, only Aegis BMD, GMD, and PAC-3 are currently fielded and operational.¹⁸⁷ Eighteen Aegis ships—3 cruises and 15 destroyers—have been modified to carry the SM-3 missile,¹⁸⁸ and 24 of 44 planned GMD interceptors have been deployed in Alaska and California.¹⁸⁹ PAC-3s are deployed with Army air defense units.

Questions remain about how effective and how necessary MDA’s systems are. Scientists argue that simple physics make boost-phase intercepts extraordinarily difficult—potential interceptors cannot reach target missiles fast enough to destroy them before they release their payloads.¹⁹⁰ Mid-course defenses remain vulnerable to basic countermeasures and can be overwhelmed by simple numbers of targets.¹⁹¹ Terminal defenses are still plagued by the problem of “hitting a bullet with a bullet.” On top of these technical questions, missile defense critics such as Philip E. Coyle, former director of test and evaluation in the Department of Defense, question the strategic rationale for missile defenses, arguing that they needlessly provoke Russia.¹⁹²

Independent investigators have also questioned the wisdom of MDA's deployment schedule. GAO reported in March 2008 that in MDA's latest block of testing, procurement, and deployment, "fewer assets were fielded than originally planned, the cost of the block increased, some flight tests were deferred, and the performance of fielded assets could not be fully evaluated."¹⁹³ A congressionally mandated study of MDA's mission, roles, and structure further concluded that MDA should focus on ensuring that its systems work rather than deploying more of them.¹⁹⁴

The future of missile defense is clear under a national security strategy focusing on irregular conflict and murky under one focusing on conventional war. Canceling some or all of the current missile defense programs would free up resources for both irregular and conventional strategy priorities. Canceling missile defense wholesale would be entirely logical if the next administration chooses to pursue an irregular strategy. Choosing a conventional strategy does not make the future of missile defense any brighter. Depending on the next administration's assessment of the ballistic missile threat and the feasibility of missile defense systems currently under development, many alternatives exist.

Missile defense in a conventional strategy could be cut wholesale to pay for other conventional priorities. MDA's \$9 billion FY 2009 budget equals just over two thirds of the Navy's \$13 billion shipbuilding budget, it could also pay for 60 F-22 Raptors. The next president and defense secretary could alternatively slow down or eliminate unproven missile defense systems such as the Airborne Laser. Congress reduced funding for unproven systems in the latest defense budget and added it for Aegis BMD, GMD, and THAAD systems.¹⁹⁵ But if the next administration shares the Bush administration's optimistic assessment of missile defense and pessimistic threat assessment, it can fully fund MDA.

CAP Recommendation

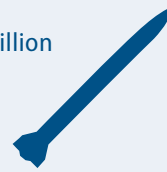
Cancel unproven missile defense programs. Missile defense programs such as the unproven Airborne Laser, Kinetic Energy Interceptor, Space Tracking and Surveillance System, and Multiple Kill Vehicle should be canceled. Given the uncertainty over the effectiveness of existing, less technically challenging systems such as ground-based midcourse defense and THAAD, it is unwise to fund more advanced systems for missile defense while current ones are only semisuccessful. The Missile Defense Agency needs to prove that its existing systems work as advertised before plowing ahead as if these systems have been proven to be effective.

- **Halt deployment of the ground-based missile defense system until it has proven itself in realistic operational tests.** Further deployment of the GMD system should be halted until it proves itself in realistic operational tests. Doing so also means halting construction of missile defense sites in Poland and the Czech Republic. The United States military would not field an aircraft that does not fly or a ship that does not float, and it should not deploy a missile defense system that has not been proven to work properly.

- **Continue work and testing on lower-risk missile defense systems.** Lower-risk missile defense systems such as the Aegis ballistic missile defense, Patriot PAC-3, and THAAD should continue development. All of these systems protect American forces in the field from the more realistic threat of theater ballistic missiles, while Aegis BMD is also being developed to protect against longer-range missiles. Each of these systems should continue to be developed and perfected to provide the most cost-effective means of missile defense available.

Cutting unproven systems and delaying further deployment of GMD will save \$13.15 billion over the next four years overall. Further savings of roughly \$25 billion can be achieved by canceling missile defense altogether.

Savings: \$13.15 billion



Conclusion

The United States has confronted unexpected military challenges during President George W. Bush's two terms in office. This coming year the new president and Congress will be tasked with implementing a swift and safe withdrawal from Iraq, directing much-needed military and humanitarian resources to the worsening conflict in Afghanistan, rebuilding the armed forces after seven years of war, and preparing our military for future conflicts. They must do this all while treating the ailing domestic economy and safeguarding the American quality of life. These are considerable constraints, and the Obama administration must choose its priorities wisely.

The United States is more likely to face future threats akin to the counterinsurgency campaigns and peace and stability operations we are waging in Iraq and Afghanistan instead of conflicts such as the First Gulf War. The next administration will inherit a defense budget plagued with procurement cost overruns and weighed down by weapons systems built for wars of the past. This report presents our plan for reorienting the military toward the unconventional conflicts of the 21st century, while managing defense spending in a responsible way. Only by realigning national security and defense priorities can the United States military successfully deter and defeat current and future threats to U.S. national security at a reasonable cost.

Glossary of terms

Afloat pre-positioning force – Shipping maintained in full operational status to afloat preposition military equipment and supplies in support of combatant commanders' operation plans. The afloat pre-positioning force consists of the three maritime prepositioning ships squadron, the Army's afloat prepositioning stocks-3 ships, and the Navy, Defense Logistics Agency, and Air Force ships. (JP 4-01.2)

Armed Reconnaissance Helicopter – The ARH is a program by the United States Army to replace around 375 Bell Textron OH-58D Kiowa Warrior helicopters. The Army's initial replacement, the \$14.6 billion RAH-66 Comanche program, was canceled in 2004. Instead, the Army would buy a larger number of less expensive platforms, with reduced capabilities.

Bell ARH-70 – A four-bladed, single-engine, light military helicopter designed for the United States Army's Armed Reconnaissance Helicopter program. With a crew of two and optimized for urban combat, the ARH-70 was slated to replace the Army's aging OH-58D Kiowa Warrior. Excessive delays and growth in program costs forced its cancellation on October 16, 2008, when the Department of Defense failed to certify the program to Congress.

BCT – Brigade Combat Team. The basic deployable fighting unit for the United States Army. There are three types of BCTs: Heavy (equipped with mechanized vehicles--M1 Abrams Tanks & M2 Bradley Fighting Vehicles), Infantry (includes light infantry, Airborne and Air Assault units), and Stryker (equipped with Stryker family of vehicles). BCTs

have organic logistics support, artillery, military police, engineer, intelligence, and communications units. They are commanded by a combat arms branch colonel (O-6) and have between 3,200-4,000 personnel.

Civil Affairs operations – (joint) Those military operations conducted by civil affairs forces that (1) enhance the relationship between military forces and civil authorities in localities where military forces are present; (2) require coordination with other interagency organizations, intergovernmental organizations, non-governmental organizations, indigenous populations and institutions, and the private sector; and (3) involve application of functional specialty skills that normally are the responsibility of civil government to enhance the conduct of civil-military operations. (JP 3-57)

Combatant Command (COCOM) – A unified or specified command with a broad continuing mission under a single commander established and so designated by the president, through the secretary of defense and with the advice and assistance of the chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities. See also specified command; unified command. (JP 5-0) e.g. CENTCOM

Counterinsurgency (COIN) – (joint) Those military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat insurgency. (JP 1-02)

DDG – Guided missile destroyer

DOD – Department of Defense

Expeditionary Fighting Vehicle – EFV is a keystone for both the Marine Corps Expeditionary Maneuver Warfare and Ship-to-Objective Maneuver warfighting concepts. It represents the Marine Corps' primary means of tactical mobility for the Marine Rifle Squad during the conduct of amphibious operations and subsequent ground combat operations ashore. The EFV is an armored amphibious vehicle capable of seamlessly transporting Marines from Naval ships located beyond the visual horizon to inland objectives.

FM – field manual

Gross Domestic Product – The monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory.

Gross National Product – Is the total dollar value of all final goods and services produced for consumption in society during a particular time period. Its rise or fall measures economic activity based on the labor and production output within a country. The figures used to assemble data include the manufacture of tangible goods such as cars, furniture, and bread, and the provision of services used in daily living such as education, health care, and auto repair. Intermediate services used in the production of the final product are not separated since they are reflected in the final price of the goods or service. The GNP does include allowances for depreciation and indirect business taxes such as those on sales and property.

Insurgency – An organized movement aimed at the overthrow of a constituted government through use of subversion and armed conflict. (JP 3-05)

JLTV – The Joint Light Tactical Vehicle is a U.S. Army, USSOCOM, and U.S. Marine Corps program to replace the current HMMWV with a family of more survivable vehicles with greater payload. In particular, the HMMWV was not designed to be an armored combat and scout vehicle but has been employed as one, whereas the JLTV will be designed from the ground up for this role.

JP – Joint Publication

Linear Battlefield – The American Air-land Battle Doctrine was based on linear maneuver warfare suitable for fighting the Warsaw Pact forces in Europe. Envisioned battles took place between massed forces typically along lines of contact, a style of warfare common in Europe throughout the 19th and 20th centuries. Linear battlefields were the construct of industrial-age armies; non-linear battlefields are the construct of the information age.

Littoral – The littoral comprises two segments of battlespace: 1) Seaward: the area from the open ocean to the shore, which must be controlled to support operations ashore; and 2) Landward: the area inland from the shore that can be supported and defended directly from the sea. (JP 3-32)

MRAP – Mine-Resistant, Ambush-Protected vehicle. These vehicles have raised, V-shaped underbellies, that deflect the force of improvised explosive devices and other blasts from below better than other vehicles in use.

MRAP-II – Similar to MRAP with a higher level of protection

MV – merchant vessel; motor vessel

Nongovernmental Organization (NGO) – (joint)
A private, self-governing, not-for-profit organization dedicated to alleviating human suffering; and/or promoting education, health care, economic development, environmental protection, human rights, and conflict resolution; and/or encouraging the establishment of democratic institutions and civil society. (JP 3-08)

PRT – Provincial Reconstruction Team

Security – (joint) 1. Measures taken by a military unit, an activity or installation to protect itself against all acts designed to, or which may, impair its effectiveness. 2. A condition that results from the establishment and maintenance of protective measures that ensure a state of inviolability from hostile acts or influences. (JP 1-02)

Stability Operations – (joint) An overarching term encompassing various military missions, tasks, and activities conducted outside the United States in coordination with other instruments of national power to maintain or re-establish a safe and secure environment, and provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief. (JP 3-0)

THAAD – Terminal High Altitude Area Defense, formerly Theater High Altitude Area Defense, is a United States Army project to develop a system to shoot down short- and medium-range ballistic missiles using a hit-to-kill approach. The missile carries no warhead but relies on the kinetic energy of the impact. THAAD was designed to hit Scuds and similar weapons, but also has a limited capability against ICBMs.

UAV – Unmanned Aerial Vehicle. Examples include Predator and Hunter.

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Projected cost savings from redeployment from Iraq in billions of dollars (annual cost)

	2010	2011	2012	2013	CAP's Projected Costs	Costs under current policy	Projected Savings
Iraq	\$75	\$25	\$10	\$0	\$110	\$480	\$370
Afghanistan	\$30	\$40	\$40	\$40	\$150	\$96	\$-54
Total	\$105	\$65	\$50	\$40	\$260	\$576	\$316

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