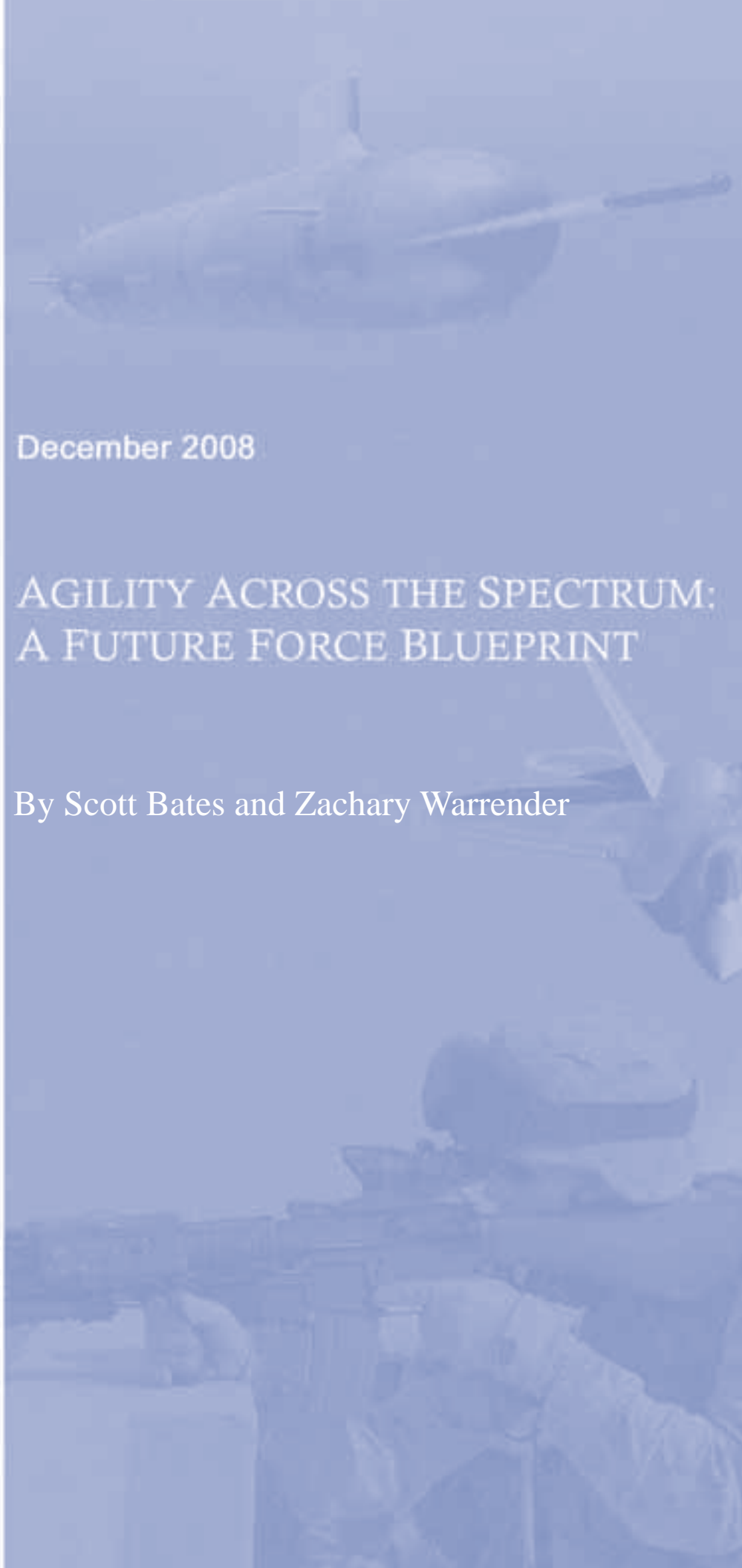




December 2008

AGILITY ACROSS THE SPECTRUM: A FUTURE FORCE BLUEPRINT

By Scott Bates and Zachary Warrender



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FOREWORD

The Center for National Policy would like to express its appreciation to the many substantive contributors whose wisdom and knowledge inform this report.

Future Force Advisory Group. The recommendations, findings and views expressed in this report are CNP's alone and do not reflect the views of those who served on the Future Force Advisory Group, nor their affiliated organizations. Members of the Advisory Group have provided invaluable advice, insights and information, and we are grateful for their contributions. Any errors are solely CNP's.

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Donors. CNP would like to acknowledge its generous financial contributors for their support of this project and all of our work. We are deeply appreciative for their enthusiasm for the subject matter and their commitment to CNP's goal of finding solutions to the complex national security issues facing our country. This work would not be possible without them.

Future Force Blueprint Staff and Fellows. The authors of this report have benefitted immeasurably from the generous advice and assistance of our colleagues at CNP, including our Defense Fellows, Dr. John F. Garofano and Michael Schiffer. We would like to thank CNP staff Willis Bretz Jr., Liz Packard and Adam Rawnsley for their extraordinary efforts from research to strategy to outreach and graphic design. This report and program of study was also made possible with the management and leadership of CNP's President Tim Roemer and Executive Director Jennifer Collins-Foley. This has been an extraordinary year for CNP, and this report has been an exciting component.

Sincerely,

Scott Bates, CNP Vice President

(*Serving on the Advisory Group as a private citizen)

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ABOUT CNP

The Center for National Policy, celebrating a quarter century of expertise in Washington, directly engages Capitol Hill and the executive branch on the nation's most important national security issues. As an organization dedicated to fostering productive, insightful dialogue, CNP is uniquely able to bring together experts and policymakers from both sides of the political aisle for study, discussion, and action. Finding solutions to the complex national security issues facing our country requires building consensus and bipartisan cooperation, a vital role that CNP will continue to play through leveraging its comparative advantages and utilizing its knowledge of the policy making process.

STATEMENT OF PURPOSE

In this decade we have witnessed change in the global security environment at a breathtaking pace. After an attack on the American homeland, engagement in two wars and historic shifts in economic power on the global scene, there have been deep policy divisions at home on how to influence this changing world. From these divisions, however, one immutable fact seems to have emerged: It is time for a new way forward.

At the Center for National Policy (CNP), we are committed to presenting decision makers with the information and options necessary for making a stronger America in a safer world. In the spring of 2008, CNP launched its defense reform study in an effort to present a comprehensive plan for maintaining a Department of Defense able to protect America and our interests in the 21st century.

In preparing this report, we drew upon the knowledge of experts from the military, the private sector and the executive and legislative branches of the federal government. Overall, we consulted 50 such subject matter professionals and relied on the counsel of an Advisory Group comprised of some of the nation's top military scholars, retired flag rank officers and front

line officers from our current wars. The depth and breadth of their expertise and their willingness to participate was immensely beneficial to this endeavor, and we are grateful to all of them.

We also held forums with featured speakers such as General Brent Scowcroft, Thomas Fingar and others who mapped out the global security challenges that America will confront in the decades ahead. We heard about lessons from the wars we are fighting today from General James Mattis and Anthony Cordesman. We learned about how wars may be fought tomorrow from the Air Force Cyber Command.

This report represents our best effort at weaving this knowledge together and presenting it to America's citizens and policymakers. We do so in recognition of the fact that military strength is but one element of America's national security, and that our security is most enhanced when all facets of our national power are employed in concert. These other elements will be the subject of further study at CNP; this report, however, is focused solely on our military strength. We hope that our findings might in some small way contribute to the effective defense of our nation and the promotion of a more safe and secure world.

Agility Across the Spectrum: A Future Force Blueprint

The Threat Environment: Expanding Threats, Unlimited Scope

The variety of battlefields upon which the United States must compete has never been as great as it is today, from remote mountainous regions, to the high seas, to cyberspace and everywhere in between. One battle may be against insurgents, another may be against a conventional military, and still another against computer hackers hiding in the shadows. The same conflict might encompass a number of these elements, calling for a combination of counterinsurgency tactics, conventional power and technological prowess. Many of the conflicts in which the United States is currently engaged in fact do combine the various extremes of the threat spectrum. With the forces of globalization shaping a daunting present and an uncharted future, the only thing known for sure is that we must have a defense strategy that makes us capable of competing across the spectrum on all types of battlefields, against all types of foes. We must be able to transition between them swiftly, seamlessly and effectively—within each branch of the military, and between them. This requires the United States Armed Forces to have a strategy for agility and adaptation. The following recommendations comprise such a strategy. The blueprint is based around an Army that is rebuilt and prepared for modernization; a larger Navy; a Marine Corps returned to its expeditionary roots; and a smaller, more advanced and focused Air Force. We propose a sequential

timeframe for implementing these changes in recognition of the financial constraints thrust upon the United States from the fiscal crisis currently facing our nation.

The World Today

In the first decade of the 21st century, the world is witnessing a continuing historic shift in power with the rise of great nations like China and India, the resurgence of Russia and the largest cash transfer in history from the nations of the West to oil-producing nations in other parts of the world. The power projection capacities of these and other nations have increased while America's relative power has arguably declined.

Simultaneously, America's Armed Forces have been at war for seven years. The cost has been high in terms of lives lost, treasure expended and reputation diminished. As new security challenges arise—be they in North Korea, Iran or the Caucasus—the world suspects that America's capacity and will to respond is diminished due to the military and domestic burdens of the conflicts in Iraq and Afghanistan.

A generation of scholars and analysts have debated how to understand the changing international system and what should constitute the most effective national security strategy in response. While the debate will continue, several features of the emerging security landscape of the 21st century seem to pose clear and present challenges: the slow but inexorable rise of potential peer competitors and, at a minimum, alternative centers of significant conventional military power; the dispersion

of the tools of mass destruction that could threaten America and its citizens; and the persistence for the foreseeable future of transnational terrorist networks.

Going forward, Americans must judge our national security policies by the following threshold questions: How are we best able to shape the emerging security environment? Do our policies reassure allies and deter foes? Are we searching out and finding new friends and effective techniques in the war on terror? How can we guarantee energy security and control our economic destiny?

America Today

For the first time in a generation, a majority of Americans are not certain that tomorrow will be better than today. Economic growth has stagnated, our financial system is in crisis, budget and trade deficits are at record levels, and the first bills are coming due for the retirement of the “Baby Boom” generation.

In light of these conditions, national security policymakers must proceed with the understanding that resources available for the military will be limited and restoring and maintaining public trust in the institutions of national security will be paramount. We therefore present an outline for a sequenced implementation of reforms, repairs and modernizations necessary to maintain our Armed Forces at the highest levels of strategic and tactical readiness—for now, and into the future, given the expanding scope of threats we face. We suggest an immediate-term focus on winning today’s wars, supporting our troops and expanding the forces. Next, we propose Defense Department reforms that would help prevent future conflicts. Finally,

we discuss ways to ensure success in winning future wars, and overall cost-cutting measures.

Winning Today’s Wars

At this very moment, the U.S. Armed Forces are fighting from the hills of Kandahar to the streets of Baghdad. Our first priority in national security policy in 2009 must be to win these wars by defeating Al Qaeda and those who oppose stability in Iraq and Afghanistan. To win today’s wars we must ensure a reliable equipment stock for current and future combat operations. Troops in the field must have the tools they need to get the job done. Congress should make good on its promises to increase the troop strength of the U.S. Army and Marine Corps.

The ongoing combat operations in Iraq and Afghanistan are indicative of some of the kinds of conflicts in which the U.S. military will be asked to fight for decades to come. American superiority in conventional warfare has left our foes only one avenue of viable opposition—the asymmetric warfare strategy of insurgency and terrorism. The Department of Defense must prepare for future prolonged battles against these tactics in hostile environments.

To more effectively fight against insurgent and terrorist forces such as Al Qaeda, the United States should double the strength of our Special Operations Forces from within the ranks of an expanded Armed Services. To secure the peace after winning the war, the State Department and Defense Department must be forced to work together to create joint plans of action and budgets for all stability operations. Civil Affairs teams should be shifted from reserve to full active duty units, and expert

knowledge of local language and customs should be better incorporated in all units involved in stability operations to improve situational awareness and enhance effectiveness.

Supporting the Troops and Expanding the Forces

America's Armed Forces have battled for the last seven years in hostile environments far from home. Since 2001, the United States toppled two governments in quick succession. Subsequent to those initial victories, well over 100,000 troops have remained deployed to support combat and stability operations in Afghanistan and Iraq. The cost in American lives lost has passed 4,000, and the wounded 30,000, with related non-physical disorders perhaps just as large.

The men and women of the United States Armed Forces and their families have been asked to go above and beyond the call of duty year after year, and deserve the sincere appreciation of a grateful nation. The operational tempo of the past several years, however, is unsustainable. Policy must change to save and strengthen the all-volunteer force America will need to meet future security requirements. A brief period of mandatory national service, with one of many options being the military, could greatly expand the pool of potential recruits. To encourage recruitment and uphold fairness, the Armed Forces should honor the spirit of recruitment contracts by ending the "stop-loss" policy as well as "Don't Ask, Don't Tell."

Preventing Future Conflicts

A survey of the current global threat environment reveals a growing set of emerging threats for which we must

prepare—during a time of domestic financial crisis. Even the most advanced weapons systems in the world will not totally safeguard our security if we continue to find ourselves in a world of failed U.S. diplomacy or fraying alliances. New presidential leadership is required to strengthen our alliances and support efforts at conflict prevention across the globe.

The U.S. Defense Department can contribute to this effort by taking a few steps, which, if successfully implemented, can change the global security environment in our favor and away from endless conflict. The Department of Defense should work with the Department of State and others to create a unified strategy and budget for stabilization and reconstruction operations. Military officers should be encouraged to serve tours of duty in the Consortium for Complex Operations to promote the skills necessary to have effective stability and peacekeeping operations. In *A Cooperative Strategy for 21st Century Seapower* the United States Navy, Coast Guard, and Marine Corps aim to prevent the conditions that lead to conflict and instability through forward engagement and grassroots confidence building collective security arrangements. These efforts should be encouraged and institutionalized. The United States Marine Corps should be encouraged in its efforts to provide training for allied militaries to reduce the need for U.S. combat forces in global trouble spots. The Marines have taken significant steps to improve their standing as America's premier expeditionary force. They should be encouraged to continue development of regional teams that specialize in understanding and operating in particular areas of the world. Better regional understanding will go a long way in

enhancing the effectiveness of initial combat operations, should they be necessary.

Winning Future Wars

The United States must retain conventional force superiority in order to deter rising powers from choosing a path of conflict. But if deterrence does fail, America's Armed Forces must be strong enough to soundly defeat any near-peer competitor far from our own shores.

On the open water, the United States maintains its decades-old role of preserving freedom of the seas. Yet given the current state of world affairs, the U.S. Navy must now prepare to support both ground combat operations and more humanitarian operations, as well as a longer-term threat from the conventional navies of nations on the rise that may seek to alter the global status quo. The dilemma for the U.S. Navy is quite simply that there are more places to be and more tasks to perform—yet fewer ships available. Currently the Navy is undergoing a shipbuilding crisis, unable to afford ships built with the newest technology and unwilling to set a plan and stick to it.

To break out of this situation, the U.S. Navy should set the goal of becoming a 325-ship Navy by the year 2025. The Navy of tomorrow should have more submarines and a greater number of low-cost platforms. The one thing the Navy can count on is the need to be in more places at once, dictating more platforms. Naval aviation should seek to increase range and persistence by steadily moving towards the development and deployment of unmanned combat aerial vehicles (UCAVs).

The United States Air Force must move its force from a reliance on fleets of expensive manned fighter and bomber aircraft to the delivery of firepower from more cost-effective UCAVs. These UCAV systems increase battlefield surveillance, increase loiter times over battlefields, reduce the cost in terms of the loss of manned aircraft, and provide deadly force where necessary. The Air Force should be encouraged to institutionalize its role in protecting America's communications networks in space and cyberspace. Our nation's economic and military lifelines depend on these networks; it should be up to the Air Force to train and staff a joint body to protect them from any disruption.

The cost of this future force is tremendous. Fortunately for the United States, our military capabilities are years ahead of our near-peer competitors. We encourage the next administration and the U.S. Congress to use the next two years as a "strategic pause" during which large spending on new weapons systems is deferred and vigorous debate can lead to a sustainable plan for the creation of a future fighting force that can guarantee America's national security well into the 21st century and beyond.

A New Way Forward

We find ourselves in an era of ever-expanding threats matched only by ever-increasing fiscal constraints. The United States must chart a new way forward in defense policy in order to preserve a force capable of winning today's wars, preventing tomorrow's conflicts and enhancing our ability to project power across the globe to support our allies and defend our values. To meet these challenging objectives requires a strategy for agility across the spectrum. This will require a sustained

commitment of resources in a time of economic uncertainty. It will not come cheaply, and America's political leadership must be clear with the American people about the high cost of national security. The individual Services should make the case outlining their contribution to current and future wars. Congress should accept responsibility for the weapons systems they

approve and conduct vigorous oversight of all aspects of Department of Defense operations. In the end, clear direction must be given to the Services and all will need to act together to promote the overall effectiveness of the U.S. Armed Forces. In this new age, there is little room for error or inefficiency.

community. The Army should work closely with the social science community to dispel myths about the program and encourage greater participation.

Supporting the Troops and Expanding the Forces

★ The United States must embark upon a program of mandatory national service for high school graduates to include a spectrum of activities from community to military service.

★ The Department of Defense should end its “stop loss” policies, and adhere to the spirit of enlistment contracts in order to rebuild trust with service members and the general public.

★ Aptitude standards need to be raised back to 2003 levels, and Department of Defense policymakers need to more carefully examine the use of “moral waivers.”

★ Congress should phase out use of private security contractors in war zones by 2014.

★ The Department of Defense should create a “civilian youth liaison program” that involves service members more deeply with young people in their communities, in order to shrink the growing civil-military gap and encourage greater enlistment.

★ The Defense Department should end discriminatory policies based on sexual orientation.

Preventing Future Conflicts

★ The National Security Council should lead and coordinate a quadrennial national security review to coordinate America’s

overall practice of national security, such as the one sketched out by Clark Murdock and Michèle Flournoy.

★ The Department of State, Department of Defense and other relevant agencies should be required to create a unified strategy and budget for stabilization and reconstruction operations.

★ Congress should expand and monitor the recent establishment of the Consortium for Complex Operations where the institutionalization of stabilization and reconstruction operations can take place.

★ To promote jointness in stability operations planning, rotations in the Consortium for Complex Operations should be counted towards the Goldwater-Nichols requirements for interservice tours, and towards promotion requirements for Foreign Service Officers.

★ The nation’s three sea services outlined steps they could take to prevent conflict and instability in *A Cooperative Strategy for 21st Century Seapower*. Efforts to do so through forward deployment and engagement, and participation in confidence building collective security arrangements should be encouraged and institutionalized. The Navy should take a leadership role in these endeavors.

★ The U.S. Marine Corps should continue to enhance its ability to fight and win irregular conflicts while maintaining its core competencies in conventional war. To that end, the Marine Corps should continue enhancing specialized units with unique regional language and customs training to be used in peacekeeping and stability

operations. Troops assigned to these units should spend significantly more time in the regions where they specialize to enhance their familiarity. Finally, these efforts should be backed up by an effort to enhance interagency cooperation.

★ The Marine Corps' goal of reestablishing itself as primarily an expeditionary force should be encouraged and institutionalized. An expeditionary Marine Corps benefits national defense by providing for rapidly deployable and renewable military power. The challenge for an expeditionary Marine Corps, however, is the timely procurement of required lift capabilities. The Marine Corps should report on the Air Force and Navy lift capacities necessary for its most likely contingencies over the near and medium term.

Winning Future Wars

★ Congress and the President should adopt a general policy of deferring, for the next two years, commitments to major new and experimental weapons systems outside the scope of what is necessary for today's wars. Existing commitments should proceed apace. This "strategic pause" should be used as a period during which America's political and military leaders debate and decide the future force needed to meet our national security goals for the next generation.

★ Congress and the Army should proceed with the research and development of the 14 remaining systems within Future Combat Systems (FCS)—the Army's cornerstone modernization program. They should also explore expanding even further its delivery timeline in order to accommodate ongoing

development of critically-needed FCS technologies.

★The U.S. Navy will require a greater number of ships to meet coming contingencies such as deterring a near-peer competitor in the Taiwan Strait, contributing to the global war on terrorism, combating pirates in the littorals of the Indian Ocean Region, or conducting humanitarian missions in South America. Congress and the Navy should set a target fleet of 325 ships. To get there, the Navy should build more submarines and eliminate unnecessary and costly requirements from existing or planned designs. A widespread move to lower-cost platforms should be considered.

★The Navy should use the money saved from canceling the last four DDG-1000s to continue to build DDG-51 *Arleigh Burke*-class destroyers. To capitalize on the investment the Navy has already made in the DDG-1000 program, the advanced technology (especially automation systems and the new radar) should be incorporated into DDG-51s where possible. Systems that cannot be incorporated in the DDG-51s should be incorporated into other platforms.

★Free of the limits of human endurance, Unmanned Combat Aerial Vehicles (UCAVs) would allow Aircraft Carriers to strike at far greater ranges than they currently can with manned fighters. The Navy and Congress need to more rapidly embrace the Unmanned Combat Air System-D concept to ensure the aircraft carrier's continued dominance. The Navy should study the possibility of launching unmanned aircraft from vessels the size of amphibious ships

with the goal of developing an all-UCAV carrier.

★ It is no secret that the submarine fleets of potential competitors are rapidly growing. It is also clear that American submarines are perhaps the most versatile, and definitely the stealthiest platforms in the Navy's inventory. To ensure continued dominance over a growing People's Liberation Army-Navy (PLAN) and a resurgent Russian Navy, the U.S. Navy should support a force of at least 50 nuclear attack submarines (SSNs). To do so, Congress should immediately accelerate procurement to two Virginia-class SSNs per year beginning in 2009, and perhaps increase to three per year as older *Los Angeles*-class boats are retired. To support the design and engineering portion of the submarine industrial base, the Navy should accelerate development of the successor to the *Virginia*-class. Congress should consider allowing American defense contractors to develop a non-nuclear submarine for training exercises and export to allied navies.

★The Navy should carefully review amphibious ship capabilities and plan to procure an adequate number based on the lift requirements of the Marine Corps. The Navy should report its finding to Congress by December 2009.

★By December 2009, the Air Force should provide to Congress a complete vision for maintaining global air dominance through coming decades by increasing the role of unmanned combat aerial vehicles (UCAVs). The Air Force should review research, development and procurement schedules for advanced UCAVs and plan for a

concomitant decline in the number of manned fighters.

★The Air Force should immediately intensify research and development of a long-range global strike capability. The best option would be to pursue new types of UCAVs to serve as global strike aircraft. UCAVs would have an edge over manned aircraft when it comes to range and persistence, and are well suited to long-range strike missions.

★In light of current threat analysis and the planned growth of the Army and Marine Corps, by December 2009 the Air Force should outline to Congress and the new administration its plan for meeting the near- and medium-term strategic airlift requirements. If more lift is required, then the C-17 transport production lines should remain open.

★The Air Force should develop a corps trained for and dedicated to the cyber mission. This new "Cyber Warfare Corps" would be designed to appeal to the "computer geek" who might otherwise choose private enterprise over military service. Pay for these positions should be competitive to attract the most highly qualified candidates.

★The Department of Defense should set up a Joint Cyber Command. The Air Force would have a critical role in this new command and supply much of the specialized personnel.

Cutting Costs

★Each combatant command and service headquarters should, within a one-year time frame, conduct a personnel audit with

the goal of identifying redundant positions, promoting efficiency and allowing at least 5 percent of headquarters staff to return to other units.

★ To confront coming financial challenges, the Navy should: do a better job estimating the costs of future ships; establish clear and concrete requirements before construction begins; and exercise a more active design and oversight role in shipbuilding through a strengthened and supported Navy ship design office.

★ To strengthen the Littoral Combat Ship (LCS) program, the Navy must: eliminate requirements that are not vital for the ship's success—particularly the 40-plus knot speed; finalize requirements; and negotiate contracts for a reasonable fixed cost. Next, the Navy must engage in an open dialogue about the operational and cultural preparation required to operate Littoral Combat Ships. Finally, the Navy and Marine Corps should report to Congress about the possibility of acting on the suggestion of adding Marine Corps specific mission modules to the LCS to increase its versatility. These could include ideas already suggested by the Navy such as a surface fire-support module, a special operations module and humanitarian assistance module.

★ The Navy should hold frank discussions of exactly what requirements it considers essential for future surface combatants.

The Navy must learn from the DDG-1000 project and resist the temptation to procure unproven technologies. In times of smaller budgets, only essential requirements can be considered.

★ The Air Force cannot afford all the F/A-22s it is asking for. It should procure only the 203 currently authorized by Congress, and shift focus to funding the F-35 Joint Strike Fighter (JSF).

★ The JSF program has done a good job of balancing capabilities with cost. Because fighter modernization is necessary (and considering sunk costs and the impact cancelling the project would have on the other Services) the JSF program should be continued. However, the Air Force should revise downward the number it plans to buy now, as any change in purchases will have an effect on the other Services involved.

★ A Presidential Commission on Defense Spending Reform should be created to review Operations and Maintenance budgets and practices, as well as procurement policies and health care costs for the Department of Defense. Recommendations should be prepared for implementation beginning no later than December 2010.

and win the war. New equipment to replace that worn down by seven years of operation—and new troops—will be needed to win the war in Afghanistan.

Global War Against Al Qaeda

Al Qaeda is a transnational terrorist organization that operates from dozens of countries. According to the Congressional Authorization for the Use of Force, winning the war against Al Qaeda occurs when those who committed the attacks of Sept. 11th are brought to justice and future terrorist attacks against the United States are prevented. In the war against Al Qaeda,

Denying Al Qaeda sanctuary and keeping it on the run constitutes victory in the war on terror.

there have been mixed results. While no further attacks have taken place inside the United States, the National Intelligence Council has stated that Al Qaeda has reconstituted itself. In addition, Osama Bin Laden is still at large.³

To win the war against Al Qaeda, the U.S. Department of Defense should double the strength of Special Operations Forces (SOF). More SOFs are needed for two main strategic reasons. The first is to strengthen allied forces to prevent the rise of extremism in their own lands. As SOCOM Commander Adm. Eric T. Olson recently stated, “We pride ourselves, for good reason, on our ability to respond to the sound of guns. We also pride ourselves on our ability to move ahead of the sound of guns. If we can move ahead of the sound of guns, and prevent them, we're all better off.”⁴ The second reason is to increase our

ability to use America’s elite fighters for targeted strikes against an adversary adept at concealing itself in some of the most difficult terrain on the planet. Denying Al Qaeda sanctuary and keeping it on the run constitutes victory in the war on terror.

Iraq

In March 2003 the United States invaded Iraq for the twin stated goals of eliminating weapons of mass destruction and toppling the government of Saddam Hussein. More than five years later these goals have been overcome by events. A new definition for winning this war must be set so that the approximately 144,000 U.S. troops inside Iraq—as well as the American people—can know what it takes to win this war, achieve success and go home. One baseline measure of success in Iraq is to have a central government that is capable of exerting control over its own territory and is able to deny any effective sanctuary to Al Qaeda or other transnational terrorist organizations.

Achieving these goals can only be met with the willing cooperation of the Iraqi people and the political reconciliation necessary to build a stable Iraqi state. Assuming these factors are present, what do American troops need to meet these goals and win the war? To accomplish our objective of creating a secure Iraqi state, the United States will need to revitalize our efforts by ensuring a reliable stock of equipment for future and current operations, and building a larger force to reduce the strain on those who have served multiple tours of duty. The Army should also greatly expand its number of Civil Affairs teams to strengthen Iraqi governing capacity.

The combat operations of the past seven years have been arduous and costly. By remembering our original war goals and taking specific steps to accomplish those goals, we can defeat those who attacked America on September 11th, leave peace and stability in our wake, and turn our attention toward other national security and domestic priorities.

Repairing the Land Force Equipment

Inadequate attention is being paid to the mounting costs of current conflicts on the Army's existing weapons and equipment stock. The projected cost to reset the Army's basic level of equipment and expand the force is \$190 billion by 2013, and could easily change as events on the ground in Iraq and Afghanistan evolve.⁵ Thus, in a shorter period than the 2032 due date that the Army expects to field the Future Combat Systems (FCS), it must also re-field and expand its current stock of equipment for a similar price tag. At a time of extreme fiscal constraint, repairing and resetting the Army's equipment stock will be a major challenge.

Although the tempo of operations in Iraq and Afghanistan have greatly exacerbated the challenges the Army faces in maintaining an adequate and ready arsenal of weapons and other warfighting equipment, the roots of this "reset" challenge predate Iraq and Afghanistan, and are grounded in the broader depletion of an arsenal built in the 1980s but not renewed since the end of the Cold War. While the Army made efforts to update its forces during this period—adding new armor and electronics, for example—with the end of the Cold War and the early post Cold War military operations, the rate of replacement and repair was slowed, compounding the

problems associated with an aging equipment stock. There was little question—even before Iraq and Afghanistan—that the equipment stock was gradually wearing out.

With Iraq and Afghanistan—where equipment is being operated much more intensively than in peacetime and in harsh operating conditions—the problems associated with the gradual erosion in Army capabilities have reached a crisis point. Indeed, in 2005 the operational tempo for the Army's tracked vehicles in Iraq was five times greater than during peacetime and 10 times greater for its trucks.⁶ Given both the tempo of operations and the harsh operating environment—and even with intensive battlefield maintenance—the Army has concluded that the stress of Iraq and Afghanistan means that some types of equipment, such as up-armored vehicles, will never get fully repaired and replenished.

To address this challenge the Army has put in place a system of repair, restoration and replacement—referred to as reset—that is designed to maintain readiness both for Iraq and Afghanistan, as well as to provide the capabilities necessary for whatever other near- and mid-term scenarios might evolve.

Army reset is intended not simply to maintain Army equipment, but also to modernize the force and provide new communications technologies and enhanced protection. Ultimately, the goal is to feed into modular "brigade combat teams" to enable flexible, networked operations that can better respond to the new realities of the 21st century battlefield.

The challenge of reset, however, is that it requires the Army to fight two wars and maintain its equipment stock in a state of readiness necessary for ongoing combat operations while at the same time adapting and introducing new technologies and reorganizing for the networked operations of the future. Although pursuing all these goals at the same time is laudable—and may indeed be necessary—attempting to achieve these different objectives simultaneously, and at a time of heightened fiscal constraints, may simply be a bridge too far.

Despite the clear need to assure the Army that reset is fully funded, with budget constraints as they are, there are nonetheless several areas that merit greater attention as sources of potential cost savings. A recent Congressional Budget Office (CBO) study found that “more than 40 percent of the requested [reset] funds have been designated for activities other than replacing lost equipment or repairing returned systems.”⁷ Moreover, the CBO found that “the practice of upgrading some equipment on its return from Iraq, a practice that the Army includes as part of its reset program, may contribute to the shortages being experienced in some equipment fleets.”⁸ Requiring the Army to approach these issues with greater discipline and clarity as to what constitutes “reset” activities and what ought better be classified as upgrades and new procurement may allow the Army to more efficiently allocate funds and capture some cost-savings—or at least more realistically allocate real budget impact—going forward.

Recommendation: The land force reset needs must be fully funded to ensure a

reliable equipment stock for current and future operations. Additionally, Congress needs to exercise its oversight role and ensure that funds are being properly used to repair worn out equipment.

Expanding the Armed Forces

The breadth and nature of the current and emerging threats to the United States as well as the conflicts in Iraq and Afghanistan have strained America’s national security resources, from money, to people, to intelligence. But nowhere is this strain felt more acutely than among the men and women who wear the uniforms of the U.S. military.

For the first time since Vietnam, the specter of a “hollow force”—described as a situation in which “military readiness declines and the Services lack the resources to provide trained and ready forces, support ongoing operations, and modernize”—is beginning to haunt the Army and Marine Corps.⁹ There is no doubt the harrowing toll of near-constant conflict in America’s current war portfolio, and the divisive political controversies associated with them, greatly affect individual decisions to enlist and re-enlist. But there remain a variety of measures that can be taken to augment the size of the military in the near and interim term.

The most pressing solution to this problem is to increase the size of the Army and Marine Corps. Towards this end, the Pentagon has proposed growing the size of the Army and Marine Corps by 65,000 and 27,000 troops, respectively, by 2013. This provides a sound blueprint for meeting the spectrum of threats both Services will be facing in coming decades. While the total funding request of \$20 billion is a worthy

investment, meeting this goal will require not only straightforward appropriations but also a variety of innovative personnel, recruiting and retention policies.¹⁰

Recommendation: The Defense Department should proceed with, and Congress should maintain, funding for an increase of 65,000 soldiers and 27,000 Marines by 2013.

Civil Affairs Capacity

Some of the most important reform efforts to make the Army relevant for 21st century threats are already underway in the form of soft power capability development. Often overlooked at the expense of technological transformation is the need for human capital transformation. All told, the systems, equipment and weapons that the Army procures and fields will only ever be as useful as the skills and professionalism of the servicemen and women behind them.

Civil Affairs (CA) units possess some of the most critical skills necessary for fighting and winning the wars of today and tomorrow—be they medical personnel, teachers, policemen or engineers. In an unconventional environment, the allegiances of largely impoverished and underdeveloped populations are critical to victory. Securing these allegiances means aligning the aspirations of local populations with the strategic objectives of the United States.

Unfortunately, the overwhelming majority of Civil Affairs units reside in the Reserve component, leaving a meager four percent on active duty.¹¹ The immense demand for skilled Civil Affairs personnel has taxed this four percent enormously. In order to relieve this strain, the Army must move

more Civil Affairs units from the Reserve to the Active component, so that their skills can be of greater benefit in the current conflicts.

Enticing more skilled personnel to sign up for Civil Affairs duty will require more than just opening new positions. The Civil Affairs Association, a non-profit association of Civil Affairs veterans, has advocated the establishment of a clearly-defined Civil Affairs career path within the Army. It states that “[a] Civil Affairs career path with a robust, meaningful training and education program will motivate Civil Affairs professionals and thereby assist in recruitment and retention.”¹²

Moving more Civil Affairs units out of the reserve and into the active component will not only make their critical skills available where they are most needed, it will sharpen those skills as well. The minimum time commitments of non-deployed reserve personnel may not always be enough to keep training up to the level needed in conflict zones.¹³ More importantly, Civil Affairs demands interaction with local populations on a deeper level than is asked of most other deployed personnel. This means that close bonds with indigenous leaders and intimate local knowledge must be developed—knowledge that can only be obtained through deployment to local communities for extended periods of time.

Recommendation: The Army should increase the number of Civil Affairs units by creating a more defined career progression course, and move an even greater percentage of CA personnel from Reserve to Active components than is currently proposed.

Special Operations Forces

Perhaps no other component of the U.S. military provokes as much interest as the Special Operations Forces (SOF). The elite of the elite, they are tailor-made for maximum utility under the current threat conditions, whether in clandestine kinetic operations to remove acute terrorist threats in sensitive territory, or training allied forces to take over operations against threats to our mutual security.

Currently, there are approximately 43,000 Special Operations Forces in the active component of the U.S. military and 10,000 in the Reserve, meaning that a doubling of these units would require more than 50,000 new SOF operators.¹⁴ Progress towards this goal is limited. Currently, 13,000 extra SOF are being assigned to Special Operations Command in Florida.¹⁵ The full attainment of this goal must be necessarily slower than other forms of force enhancement. The rigorous training and vetting process to become one of the finest warriors in the world's best military can take years, as only the best of the best can and should make it through.

Nonetheless, the massive demand for SOF by commanders on the ground—due to the types of conflict we face in the ongoing war on terror, and the types of conflict we are likely to face for decades to come—dictate that the effort to recruit and train an increased number of SOF from within the ranks of an expanded Armed Services must be made. In a recent interview, Major General Thomas R. Csrnko stated that the unprecedented number of requests for SOF missions is likely to continue in the next presidential administration.¹⁶

Recommendation: The Special Operations Forces should be increased to 100,000 by the year 2020 with current levels of high standards maintained. Special Operations Command should enhance the linguistic capacity of Special Operations Forces through an increased number of military linguists or military intelligence personnel.

Human Terrain System

The Human Terrain System (HTS), run out of the Foreign Military Studies Office (FMSO) of the United States Army's Training and Doctrine Command (TRADOC), was created to "address cultural awareness shortcomings at the operational and tactical levels by giving brigade commanders an organic capability to help understand and deal with 'human terrain'—the social, ethnographic, cultural, economic, and political elements of the people among whom a force is operating."¹⁷ Under HTS, specialized teams of anthropologists, sociologists and linguists are embedded with units in the field to collect and analyze what is, in essence, ethnographic intelligence (EI).

The value of placing academics from what can be occasionally abstract disciplines may not be obvious without further examination of the context of their deployment. In the

But as the age of asymmetry dawns, many of America's opponents are no longer positioned on an open battlefield, but rather are hidden behind and within civilian populations, making it just as critical to map this battle space as well.

four regions where the United States has engaged in kinetic operations in the post 9/11 era—Iraq, Afghanistan, Somalia and to a lesser extent Pakistan—the tribe, an ancient social formation alien to most Americans, represents one of the most important units or organizations and de-facto government. In Afghanistan and Pakistan, it is the Pashtun tribes that shelter Al Qaeda and whose allegiances ISAF contests with the Taliban. In Iraq, it was the successful exploitation of vast cultural differences between the traditions of Anbar's Sunni tribes and the neo-fundamentalist extremism of Al Qaeda that contributed to the success of the "Anbar Awakening Movement."¹⁸ Indeed, it was al-Qaeda's own ignorance of East Africa's culture and tribal systems that led to its largely failed efforts to build a large-scale presence there in the early and mid 1990s.¹⁹

During the Cold War, topographical intelligence in the form of maps, satellite imagery and radar represented some of the most important intelligence for warfighters. But as the age of asymmetry dawns, many of America's opponents are no longer positioned on an open battlefield, but rather are hidden behind and within civilian populations, making it just as critical to map this battle space as well. HTS, though still a fledgling effort, provides soldiers with crucial intelligence on the social structures in which our enemies hide, and the tools necessary to root them out.

HTS is not without its critics. In November 2007, the American Anthropological Association released a statement declaring HTS as "likely to place anthropologists in positions in which their work will be in violation of the AAA Code of Ethics and

that its use of anthropologists poses a danger to both other anthropologists and persons other anthropologists study."²⁰

Others point to the alleged ineffectiveness of the current program. A recent report indicated that only a handful of the 19 HTS team members sent to Iraq have Arabic language capability and few have Middle East expertise.²¹

Clearly, these problems are related. The anthropological community's leading experts will be hesitant to participate in HTS if doing so would render them pariahs in their academic communities. HTS' difficulties in recruiting enough anthropologists should not be viewed as a unique failure in the program's concept but as part of the Department of Defense's larger challenge in working with others outside the Department. Whether it is coordination with the State Department on reconstruction priorities in Iraq or Provincial Reconstruction Teams liaising with non-governmental organizations on agricultural efforts in Afghanistan, the threats of the 21st century have demanded that government bureaucracies work "outside their lane." In the case of HTS, this means the Department of Defense must continue its outreach to the anthropological community to build trust and understanding. Many of the AAA's concerns are based on misconceptions of the nature of HTS activities and about the intentions and practices of the military itself.

By making itself and the HTS program more transparent to the anthropological community, some of these misunderstandings can be dispelled. In order to encourage greater engagement,

the Army should consider drafting a code of ethics for HTS anthropologists and invite AAA Executive Board members to advise it during the drafting process. Former HTS team members should be made available to brief social science professional organizations and anthropology departments at major universities. As ever, the Army's grassroots personnel are always its greatest ambassadors and should be utilized to the greatest extent in outreach programs.

In the meantime, Congress should expand the \$120 million funding currently allotted to HTS. Critical needs language speakers are in high demand, and luring them towards a dangerous career path while facing professional ostracism will be

expensive. But the successes with Sunni tribal members in Anbar and the remaining challenges for Pashtun tribes in Afghanistan illustrate the imperative for quality ethnographic intelligence for America's soldiers.

Recommendation: The Army should maintain and expand the Human Terrain System, designed to gain intelligence on the human aspect of next generation battlefields. Resource allocation should be based upon relevant threat assessments from the intelligence community. The Army should work closely with the social science community to dispel myths about the program and encourage greater participation.

program that involves active duty and retired Service members more deeply with their community could help shrink the growing civilian-military gap and encourage enlistment.

Policy changes can be made to encourage continued service of those already in the Armed Forces. Ending the current “stop-loss” policies affecting enlistment contracts would help restore the faith of new recruits that their terms of enlistment will not be changed without their consent. Raising aptitude levels back to pre-2003 standards will increase professionalism, and ending discrimination based on sexual orientation will save resources and assist in the retention of highly skilled personnel.

Mandatory National Service

As volunteer blood donors lined up by the thousands in the immediate aftermath of the attacks of 9/11, it became evident that the events of that day had tapped into a deep desire of Americans to reconnect with their community, neighbors and country. Polls taken by the Corporation for National and Community Service indicate that this sentiment is part of a longstanding and growing trend. Volunteerism in the United States is at a 30-year high at 27 percent, up from an all time recorded low of 20.4 percent in 1989.²³

The idea of “universal national service” has circulated among think tanks and editorial pages for some time. President-elect Obama²⁴ has called for some variant of a national service program, though not mandatory. Various forms of national service programs already exist in the form of Americorps and Teach for America.

What is needed is for such service to be mandatory and to encompass a wide spectrum of activities, from community-oriented work to military service. Professor Larry Sabato of the University of Virginia’s Center for Politics has articulated perhaps the most specific plan towards this end.²⁵ Dr. Sabato argues for a constitutional amendment requiring a period of mandatory service to be completed at anytime between the ages of 18 and 26 in fields ranging from public to private and civilian to military.²⁶

By making some form of national service inevitable for America’s young people, policymakers make it much more likely that many will choose to serve their country in the Armed Forces. Even if only a small percentage choose to do so, it would still go a long way in helping with the recruitment rate in the military.

Recommendation: The United States needs to embark upon a program of mandatory national service for high school graduates to include a spectrum of activities from community to military service.

Stopping “Stop Loss”

As the Iraq war began to place strains on the military personnel system, Defense Department policymakers instituted a “stop loss” policy, whereby the active service component of individual service members’ enlistment contracts were involuntarily extended. Characterized by some as a “backdoor draft,” the policy temporarily provided much needed manpower for the wars in Iraq and Afghanistan, but created a measure of resentment from affected service members and distrust from the general public.

Despite a pledge from Secretary of Defense Robert Gates to limit the use of stop loss orders, a recent study indicates that with the advent of the surge the use of such orders has risen 43 percent as of March 2008, up from an all time low just a year ago.²⁷ This must end.

Though technically legal, stop loss programs are practically counterproductive. By dredging up fine print with weighty implications for enlistees' lives and careers, the Department of Defense shakes potential enlistees' confidence in the declared terms of their enlistment. Just as economies cannot prosper without clear contract laws, military recruitment will suffer if recruits feel that "hidden" clauses in their enlistment agreements could spring upon them at any time.

Just as significantly, the toll of extended and repeated deployments into combat theaters is having an adverse effect on reenlistment rates. Commonly held wisdom indicates that the ratio of forward-deployed brigades in combat zones to those rotated out should be between 3:1 and 5:1.²⁸ Unfortunately, current deployment statistics indicate that U.S. forces have been granted nowhere near appropriate rest and recuperation time. As former Reagan administration Assistant Secretary of Defense Lawrence Korb has noted:

- Five brigades have had one tour in Iraq or Afghanistan;
- Thirteen brigades have had two tours in Iraq or Afghanistan;
- Nineteen brigades have had three tours in Iraq or Afghanistan; and
- Six brigades have had four tours in Iraq or Afghanistan.²⁹

This situation cannot hold. Whether the United States expedites transfer of responsibility for security operations to indigenous forces in Iraq or begins a phased redeployment, something must be done to ease the strain on Armed Forces personnel before the damage done becomes irreparable.

Recommendation: The Department of Defense needs to end its "stop loss" policies and adhere to the spirit of enlistment contracts in order to rebuild trust with service members and the general public.

Maintaining High Standards

The professional military faces a problem of long-term strategic blowback if it continues making excessive exceptions in its recruitment standards. In 2007, issuance of so-called "moral waivers" for Army recruits with criminal pasts increased 65 percent over a three-year period.³⁰ This included an 11 percent increase for those with felony convictions.³¹

Allowing this policy to continue could create problems for the military down the road. Though service can be redemptive for some with criminal backgrounds, a larger percentage of irreconcilable offenders will be let in, creating management and discipline problems where fewer previously existed. In a post Abu-Ghraib era, the ability of a single "bad apple" to do strategic damage to military operations is greater than ever. Where instantaneous communications and media saturation reign, bad discipline must be curtailed at all possible opportunities. In the long run, it will likely take more U.S. troops to undo the damage of a single "bad apple" let in with an eye towards maintaining force strength

than it would to keep him or her out in the first place.

Recommendation: Aptitude standards need to be raised back to 2003 levels, and Department of Defense policymakers need to reconsider the use of “moral waivers.”

Reducing the Private Security Contractors

An unsettling trend in recent warfare has been the employment by the Departments of State and Defense of private security contractors (PSCs) to provide security for stabilization and reconstruction operations as well as personnel security.

PSCs are likely to compete with the military both for experienced veterans and potential recruits. They can expect to earn more than enlisted and commissioned personnel and have greater control over their time spent in combat zones.

By curtailing the use of private security contractors in war zones, congressional appropriators could save millions of dollars in excess fees paid to contractors who perform the same tasks as service personnel for a much greater price. More importantly, though, phasing out PSCs would assist in maintaining retention rates by helping to stem the drain from the volunteer service to private sector service. Controversial as they may be, private security contractors do perform a critically necessary function. PSCs supplement security for the U.S. reconstruction projects and officials that are key to the success of the campaigns in Iraq and Afghanistan and to success in counterinsurgency writ large. A precipitous removal of PSCs as a tool in the military’s arsenal would thus undercut a crucial pillar of American strategy in these conflicts. Thus, the Defense Department

should gradually phase out the use of private security contractors over a period of five years, substituting uniformed servicemen in their stead. The expansion of the Army and Marine Corps by 92,000 over a concurrent period should help alleviate potential shortfalls in available forces.

Recommendation: Congress should phase out use of private security contractors in war zones by 2014.

Bridging the Gap Between the Military and Civilians

Part of the reason fewer young Americans than necessary choose to serve in the military is because of the wide gulf that exists—and is growing—between the military and the rest of society. A 2007 poll by Pew Research showed that only 27 percent of Americans have a close family member or friend who served or is serving in the military.³² The gap goes both ways, too. A variety of reports indicate that returning service personnel increasingly feel alienated from American society.³³

One of the best ways to close this gap is by deploying military liaisons consisting of those recently returned from service abroad, to mentor, teach, coach and speak to young people across the country. It is not surprising that residents of towns and members of families with long traditions of military service often inspire each new generation to follow in its predecessors’ footsteps. This is because the military’s best ambassadors are always its grassroots privates, corporals, sailors and airmen. Through greater proximity to serving members of the military, young people will be able to witness firsthand the viability of military service as a career choice, providing

more Americans with firsthand knowledge of its personal value.

Recommendation: *In order to shrink the growing civil-military gap and encourage greater enlistment. The Department of Defense should create a “civilian youth liaison program,” that involves service members more deeply with young people in their communities.*

Repealing “Don’t Ask, Don’t Tell”

During the Clinton administration, the Defense Department modified its policy of mandatory discharge for homosexual service members towards a policy of “Don’t Ask, Don’t Tell.” Under “Don’t Ask,” gay and lesbian service members were allowed to continue serving as long as they did not openly admit to their sexual orientation.

It is time to end this outdated and misguided policy. Two of the world’s premier fighting forces, the British and Israeli militaries—battle tested in Iraq, Afghanistan and Lebanon—allow openly gay and lesbian men and women to serve in the Armed Forces without discrimination. For its part, the American public largely supports change. A recent poll conducted by the *Washington Post* and ABC News indicated that 75 percent of Americans would support homosexuals serving openly in the United States military.³⁴

To continue such a policy is shortsighted. Enforcing “Don’t Ask” has already cost the Department of Defense more than \$364 million in its first 10 years³⁵ and prevented more than 11,000 dedicated men and women thus far from continuing to serve their country, many of whom have critical skills.³⁶ Thus far, the Pentagon has dismissed at least 322 personnel with fluency in critical needs languages such as Arabic, Mandarin, Farsi and others.³⁷

By abandoning this unnecessary and wasteful policy, the United States can safely count on the continued service of the estimated 65,000 gay and lesbian men and women currently in uniform and welcome the much-needed contributions of many more like them.³⁸ The United States military should scrap this policy and allow gays and lesbians to serve their country openly.

Recommendation: *The Defense Department should end discrimination based on sexual orientation.*

to prevent future conflicts and mitigate the effects of those that are unavoidable.

The Department of Defense should encourage and support an effort that would coordinate America's overall practice of national security policy. Such an effort would harmonize the work of all federal players in the national security field to leverage assets and ensure that all the resources of the federal government are being used wisely and efficiently in the pursuit of a common strategy.

To ensure this level of cooperation, State and Defense should be required to create a unified strategy and budget for stabilization and reconstruction operations. Military officers should be given the option of serving a tour of duty with the State Department or the U.S. Agency for International Development (USAID) to promote operational jointness in conflict prevention situations and to facilitate a wider diffusion of institutional knowledge.

An effective exercise of U.S. power in such efforts can prevent conflicts from escalating and can save thousands of lives and billions of dollars. This recommendation coupled with support for the new "Consortium for Complex Operations," —that institutionalizes stabilization and reconstruction efforts—goes into the category of "an ounce of prevention is worth a pound of cure."

America's three sea services have also taken positive steps to prevent conflict through forward engagement abroad and fostering partnership in collective security arrangements. These efforts were spelled out in *A Cooperative Strategy for 21st Century Seapower*. These are steps in the

right direction and should be supported and further institutionalized.

The U.S. Marine Corps is well suited for conflict prevention, although not regularly associated with that mission. The Corps is uniquely placed to serve as America's expeditionary force and in that capacity to help deter and contain conflict anywhere our interests or those of our allies are threatened. The Marine Corps should continue enhancing units with regional specializations. Marines assigned to these units can support stabilization and reconstruction efforts in coordination with other elements of national power. The Marine Corps should be encouraged to expand its efforts to provide training for allied militaries to reduce the need for U.S. forces in global trouble spots.

Diplomacy, alliances and the "soft power" of traditional American values such as respect for and advocacy of human rights can be "force multipliers" that can help change the global threat environment in a way that enhances the national security of the United States. The Department of Defense can assist in this strategy by working with all elements of the federal government, and in support of allied nations, on efforts to prevent and contain conflicts. These efforts will be critical in our ability to maintain an effective force in an era of global commitments and limited budgets.

Quadrennial Defense Review for National Security Policy

The Department of Defense remains the only foreign policy-oriented federal agency that possesses any substantial strategic planning capability. But if the United States is to mobilize "all instruments of national

power”— as we are so often urged—then strategic planning must take place at the highest levels to blend capabilities; assign priorities; eliminate redundancies; and clarify responsibilities and mission across the U.S. government.

Integral to the Defense Department’s success in strategic planning is the practice of the Quadrennial Defense Review (QDR). The origins of the Defense Department’s first QDR in 1996 are relevant to the challenges faced by the national security bureaucracy in 2008. Following the fall of the Soviet Union, the Defense Department found itself having to reorient its massive capabilities for a revolutionized threat environment. To assist in the planning of that mission, Congress mandated that the Department “conduct a comprehensive examination of the national defense strategy, force structure, force modernization plans, infrastructure, budget plan, and other elements of the defense program and policies of the United States with a view toward determining and expressing the defense strategy of the United States and establishing a defense program for the next 20 years.”⁴⁰

Today, we must to do the same for all elements of national power—and a new Quadrennial National Security Review (QNSR) is central to that mission. Clark Murdock and Michèle Flournoy have sketched a vision of what a QNSR process would look like, stating that every four years, the President and National Security Council would articulate specific national security objectives and “[devise] a national security strategy for achieving these objectives, identifying the capabilities required to implement the strategy, and

delineating agency roles and responsibilities.”⁴¹

Recommendation: The National Security Council should conduct a Quadrennial National Security Review of all relevant agencies to coordinate America’s overall practice of national security.

Joint Budgeting for Stability Operations

As part of the QNSR process, each department should create a sub-strategy for its current and prospective stabilization and reconstruction operations. Creating a strategy, however, is rarely sufficient to ensure that a given mission is implemented. In order to ensure continued cross-agency cooperation, the Departments of State and Defense should be required to submit a joint budget for stability operations in accordance with the developed strategy for stabilization and reconstruction operations. In this way, stakeholders will be incentivized to work through the bureaucratically unpleasant aspects—cooperation on strategic decision making for stability operations—in order to receive funding.

Recommendation: The Department of State, Department of Defense and other relevant agencies should be required to create a unified strategy and budget for stabilization and reconstruction operations.

Expanding the Consortium for Complex Operations

The idea for a Consortium for Complex Operations has reportedly been discussed at least provisionally in both the Departments of State and Defense for almost two years.⁴² The Consortium would act as a “‘hub’ for integrating existing

training, education, research and lessons-learned efforts throughout a stability operations and irregular warfare 'consortium,'" in much the same way as the United States Army's Training and Doctrine Command does. As a center of excellence, creating the institution would help provide stability operations with a reservoir of "best practices" knowledge from which to draw at required times.

The Fiscal Year 2009 Defense Authorization Act authorized the creation of just such an interagency group to meet the following objectives

- To provide for effective coordination in the preparation of Department of Defense personnel and other United States Government personnel for complex operations.
- To foster unity of effort among the departments and agencies of the United States Government, foreign governments and militaries, international organizations, and nongovernmental organizations in their participation in complex operations.
- To conduct research, collect, analyze, and distribute lessons learned, and compile best practices in matters relating to complex operations.
- To identify gaps in the education and training of Department of Defense personnel, and other United States Government personnel, relating to complex operations, and to facilitate efforts to fill such gaps.⁴³

Given the multiple, continued and lackluster efforts to harmonize such operations,

Congress needs to fully fund and support the Consortium for Complex Operations. In recent years, the litany of abandoned Stabilization Security, Transition and Reconstruction (SSTR) coordination efforts have led to what one RAND corporation study referred to as "SSTR fatigue."⁴⁴ In such a climate, it is critical that Congress demand success as the bureaucratic momentum for effective change begins to slow.

Recommendation: Congress should expand and monitor the recent establishment of the Consortium for Complex Operations, an interagency hub where the institutionalization of stabilization and reconstruction operations can take place.

Enhancing Stability Operations Through Jointness

A useful framework for overcoming bureaucratic turf fights in foreign policy and defense agencies already exists in the form of the Goldwater-Nichols Act of 1986. Goldwater-Nichols was created in response to the many mistakes made during the botched Iranian hostage rescue of 1979; service coordination issues during the invasion of Grenada; and myriad issues which arose throughout the Vietnam War. The landmark legislation made a variety of changes that go beyond the scope of what is possible between separate agencies, but one innovation in particular is relevant to institutionalizing stability operations in the executive branch.

Goldwater-Nichols created a new "Joint Specialty Officer" (JSO) position. JSOs were required to undergo Joint Professional Military Education Programs where officers from all Services come together to receive

the same training. JSOs were also required to perform tours of “Joint Duty” wherein they worked with members of all the Services on joint missions. To incentivize joint duty, only those officers who had performed such tours could be promoted to the level of Brigadier General or Rear Admiral and above.⁴⁵

The model has been highly effective in promoting jointness between the military Services. More recently, it has been applied by Director of National Intelligence Michael McConnell for use between the intelligence community’s various component agencies.⁴⁶ The next administration should credit service in the Consortium for Complex Operations towards joint duty requirements. Congress should pass legislation amending the Foreign Service rules to include a fast track for promotion for those Foreign Service Officers who complete a rotation in the Consortium for Complex Operations.

Recommendation: To promote jointness in stability operations planning, rotations in the Consortium for Complex Operations should be counted towards the Goldwater-Nichols requirements for inter-service tours, and towards promotion requirements for Foreign Service Officers.

Navy Leadership in Conflict Prevention

In October 2007, the United States Navy, Coast Guard, and Marine Corps released a new national maritime strategy titled *A Cooperative Strategy for 21st Century Seapower*. This document is notable both because the Coast Guard is included and because the services have now publicly stated that “we believe that preventing wars is as important as winning wars.”⁴⁷

The strategy goes on to explain how this important new objective of preventing war can be accomplished.

“By being there, forward deployed and engaged in mutually beneficial relationships with regional and global partners, maritime forces will promote frameworks that enhance security. When natural or manmade disasters strike, our maritime forces can provide humanitarian assistance and relief, joining with interagency and non-governmental partners. By participating routinely and predictably in cooperative activities, maritime forces will be postured to support other joint or combined forces to mitigate and localize disruptions.”⁴⁸

These efforts are laudable. The Navy in particular should play a leadership role in this effort by engaging with an increasing array of partner nations. By working with others to “promote the rule of law by countering piracy, terrorism, weapons proliferation, drug trafficking, and other illicit activities” new norms centered on “cooperation, interoperability and responsibility for the shared commons” can be established.⁴⁹

Recommendation: Efforts to prevent conflict through forward deployment and engagement and participation in confidence building collective security arrangements should be encouraged and

institutionalized. The Navy should take a leadership role in these endeavors.

Focus of Future Marine Corps Missions

The Marine Corps argues in their new operational employment concept, *Send In The Marines*, that in the foreseeable future “there will be fewer high-spectrum combat operations that require our Marines to bring the full force of our combined arms capabilities to bear.”⁵⁰ The *Marine Corps Midrange Threat Estimate: 2005-2015* states:

“The growing trend towards violent, transnational extremism is deemed to be the most significant destabilizing factor in many parts of the world today. For the foreseeable future, irregular warfare will be the method of choice for many of these extremists.”⁵¹

The Marine Corps is therefore placing a greater emphasis on preparing for non-traditional operations. Steps taken include the creation of the Center for Advanced Operational Culture Learning (CAOCL), the Security Cooperation Education and Training Center (SCETC), and a Career Marine Regional Studies Program. The latter provides Marines the opportunity to learn strategies to deal with irregular opponents and more about the environments where they will likely operate. In *Send in the Marines*, the Marine Corps has also developed a continuum of military operations ranging from Phase 0 operations that focus on shaping the environment by “enhancing partner nation capacity and alleviating the underlying conditions that give rise to instability” to

Phase 2-5 operations which include seizing the initiative, dominating the enemy, stabilizing the environment, and ultimately enabling civil authority. Phase 0, Shaping the Environment, and Phase 5, Enabling Civil Authority, are formal lower spectrum additions to Marine Corps doctrine. They comment further on these two phases by stating:

“Excluding Phase 5, our Corps is currently optimized for operations higher on the phasing model. This must change. Although we will not compromise our ability to fight and win our Nation’s battles, we must focus training to better address the complex challenges we now face.”⁵²

Beyond doctrinal changes the Marine Corps is introducing a new, task-organized unit called the Security Cooperation Marine Air-Ground Task Force (SC MAGTF). These units will be designed specifically for purposes of building partner capacity via security cooperation and civil-military operations. They will focus on three emerging regions—Africa, Southwest Asia, and South America. SCMAGTF units will have a specialized, region-specific orientation and receive appropriate specialized training. Marines with prior relevant training or native-speaking abilities will be assigned to such units.⁵³

A second capacity the Marine Corps is significantly enhancing is the Marine Corps Training and Advisor Group (MCTAG). According to *Send In The Marines*, MCTAG’s purpose is to “source the Marine Corps’ advisory capability to support mission

requirements that exceed those of SC MAGTFs.” This group is currently in its infancy, but will be further strengthened so that it becomes a “cadre of trained advisors organized into regional branches that deploy scalable teams for Marine advisors to partner nations.”⁵⁴

There is considerable debate about whether this approach has gone far enough—or conversely—if it has gone too far. Analysts such as Michael Mazarr of the National War College claim that shifting U.S. “force structure, doctrine, planning, and procurement to meet asymmetric threats” is misguided for three reasons:

“First, it allows U.S. national security officials and military planners to ignore the real degree of the revolution in conflict that is underway. Second, it promises to get and keep the United States involved in conflicts in which it is often counterproductive to become military embroiled. Finally, it risks forfeiting the much more important global role for U.S. military power: deterring and responding to major conventional aggression.”⁵⁵

On the other hand, in congressional testimony on July 9, 2008, Andrew Krepinevich of the Center for Strategic and Budgetary Assessments (CSBA) argued that it is a mistake to use additional manpower to train and equip these forces for conventional high-intensity operations.⁵⁶ While U.S. ground forces “must remain dominant in conventional operations. ... [i]t does not follow that the Army and Marine

Corps must be principally, or even primarily, devoted to this task.”⁵⁷ In a related argument, Max Boot has argued in a 2005 article in *Foreign Affairs* that the most important task of military transformation is the training of large numbers of infantry soldiers for nation building and irregular war.⁵⁸ Thus, an approach that is balanced must be found.

Recommendations: The Marine Corps should continue to enhance its ability to fight and win irregular conflicts while maintaining its core competencies in conventional war. To that end, the Marines should continue enhancing specialized units with unique regional language and customs training to be used in peacekeeping and stability operations. Troops assigned to these units should spend significantly more time in the regions where they specialize to enhance their familiarity. Finally, these efforts should be backed up by an effort to enhance interagency cooperation.

The Return to Expeditionary Roots

The second element of Marine Corps transformation is a bit like “back to the future.” In the post-Iraq War environment, the Marine Corps intends to refocus and return to its expeditionary roots. *A Cooperative Strategy for 21st Century Seapower* suggests that the Marine Corps plans to redeploy to Navy warships and Coast Guard cutters to conduct boarding operations and maritime security missions. It is interesting to note that the practice of stationing Marines on Navy ships to serve as part of their crews was abandoned in 1998 after 223 years of doing so. Since 1998 Marines are stationed exclusively aboard amphibious ships as parts of their own units.⁵⁹ Specifically, the report states that

"Marines will continue to be employed as air-ground task forces operating from amphibious ships to conduct a variety of missions, such as power projection ... but they will also be employed as detachments aboard a wider variety of ships and cutters for maritime security missions."⁶⁰

This is a step Marine Corps Commandant General James Conway feels is necessary because he worries that the Marines are losing focus on who they are as a result of the land wars in Iraq and Afghanistan. In particular, he said, "We are an expeditionary force by our nature, we go

down to the sea in ships. But right now we are very much taking on the profile of a second land army."⁶¹ The new joint strategy would effectively change all of that.

Recommendations: The Marine Corps' goal of re-establishing itself as an expeditionary force should be encouraged and institutionalized. An expeditionary Marine Corps benefits national defense by providing for rapidly deployable military power. The challenge for an expeditionary Marine Corps, however, is the timely procurement of required lift capabilities. The Marine Corps should report on the Air Force and Navy lift capacities necessary for its most likely contingencies over the near and medium term.

4 Winning Future Wars

A FUTURE FORCE BLUEPRINT



WINNING FUTURE WARS

Fortunately for the United States, our Armed Forces on land, sea and air have large technological advantages over all current and potential foes. In particular it may be on the order of a generation before American air power can seriously be contested by near-peer competitors.

In light of this, and in recognition of the current financial crisis and economic stagnation in the United States, it may be wise to turn a necessity into a virtue and consider the next two years a “strategic pause” during which large spending commitments on new, experimental, future-war oriented weapons systems are deferred. This strategic pause should be used as a period during which America’s

political and military leaders can discuss and debate the contours of what kind of military systems will be needed to meet our national security goals for the next 20 years.

Priorities will need to be set, and needs met, as funding becomes available. While research and development should proceed apace, our procurement of multi-billion dollar weapons systems should be placed on temporary hold while we set priorities based on budget realities and security needs. Existing commitments should proceed as scheduled.

The next Congress presents an excellent opportunity for just such a review, a time during which the new administration can work in partnership with the Congress and the Armed Services to develop a reality-based defense budget that funds systems in order of their importance to the national

security needs of the American people. The systems that follow are all worthy of advancement, but very expensive, and should all be considered for just such a review.

There is ample room for debate on this topic. Today we are asking the military to prevail in a myriad of global operations: carrying out counterinsurgency campaigns in the Middle East; launching strikes against Al Qaeda elements in Somalia; patrolling against pirates off the shores of Africa; demonstrating diplomatic commitment in the Caucuses; and guarding the Strait of Hormuz—just to name a few. In the next 20 years, in addition to conducting all of these types of missions, our Armed Forces will be called upon to deter and, if necessary, prevail in a conflict against a near-peer competitor like China or Russia.

To create and maintain a force structure agile enough to prevail across the spectrum of armed conflict is a daunting and hugely expensive task. In this section we present ideas for the outlines of a force capable of winning future conflicts.

We propose an Army providing its troops on the ground with real-time intelligence that allows individual soldiers, possessing unparalleled firepower, to seize the initiative in situations as diverse as counterinsurgency operations in the Middle East to large unit combat in Central Asia. The Future Combat Systems currently under development by the U.S. Army promises such a force.

We propose a Navy larger than today's to meet an increasing array of challenges from maintaining freedom of the seas, to providing transport and firepower for

counterterrorist operations, to interdicting shipments of WMD related cargo, to deterring and if necessary prevailing against near-peer competitors operating in their home waters. While the U.S. Navy is currently the smallest it has been in a century,⁶² the Chinese Navy is expanding at a rapid pace and its fleet of submarines is expected to surpass that of the United States by 2015.⁶³

To prevail in any future conflict with a near-peer competitor while carrying out its various missions, the United States should build a 325 ship Navy with more submarines, lower cost destroyers and Littoral Combat Ships. At the same time, the United States should research an all-UCAV carrier capable of projecting force from a thousand miles offshore.

We propose an Air Force that can achieve global air dominance by the dramatically increased use of unmanned combat aerial vehicles capable of strategic bombing and fighter aircraft support anywhere on the planet.

Building such a future force is critical for maintaining our ability to control our own destiny and prevail against any threat to our vital interests around the world. Paying for this future force, considering current trends, is a tremendous challenge.

Future Combat Systems

The Army's primary response to the challenge of transformation, its "cornerstone of modernization," is Future Combat Systems (FCS). FCS currently consists of a series of 14 unmanned and manned ground and aerial vehicles, sensors, communications equipment and a "system of systems" management

network.⁶⁴ The goal of FCS is to create a future “Objective Force” of 15 brigades that “will be organized, manned, equipped and trained to be more strategically responsive, deployable, agile, versatile, lethal, survivable and sustainable than we are today—across the full spectrum of military operations as an integral member of a cohesive joint team.”⁶⁵

The FCS program is currently scheduled to complete development by 2030.⁶⁶ In the period between the Legacy Force and the final Objective Force, the Army would deploy an “Interim Force” composed of “Stryker Brigade Combat Teams” with the new Stryker Armored Personnel Carrier connected to a larger network as its basic unit. The first unit of the Objective Force was to be operational in 2011, though that has since been pushed back to 2015.⁶⁷

Unfortunately, FCS has been plagued by a variety of technical setbacks. The amount of code required to run the program’s software, on which 95 percent of its capability depends, has tripled since FCS’s inception in 2003.⁶⁸ The complex, ambitious nature of the software architecture has led the Government Accountability Office (GAO) to conclude that it is “not yet clear if or when the information network that is at the heart of the FCS concept can be developed, built, and demonstrated by the Army.”⁶⁹

Such technical hurdles have exacerbated cost concerns. Official Department of Defense estimates place the cost of FCS at \$230 billion, making it one of the most expensive weapons systems in American history.⁷⁰ However, varying independent cost estimates combined with FCS’s history

of cost growth cast doubt on the total costs of FCS.⁷¹

Moreover, the “system of systems” is reliant upon technologies outside the purview of both the FCS program and the Army that some claim may prove unreliable. Some question whether the Joint Tactical Radio System—a communication system separate from but complimentary to the FCS network—will overwhelm the Army’s current bandwidth capabilities. Delays in the development of the Air Force’s Transformational Satellite Communications program, a series of satellites intended to increase the bandwidth available for systems such as FCS, are likely to adversely affect Future Combat Systems’s functionality.⁷²

FCS’s underlying difficulties lie in the program’s overly ambitious technological goals relative to its proposed timeline. But the Army’s excessive optimism relative to FCS’s cost and delivery projections does not undercut its fundamental need for the capabilities these technologies could provide. The Army’s aging Cold War infrastructure was designed as a heavy obstacle to Soviet armor in Europe. In a 21st century threat environment, ground forces need to be more mobile, survivable, fully-aware and lethal.

The Army should proceed with the existing 14 systems that make up the restructured Future Combat Systems. Rather than accelerating the deployment of immature FCS components in the absence of supporting software and communications equipment, Congress and the Army should accept the potential delays and wait to field FCS technologies only when they have met demanding Technology Readiness Level

assessments. Specifically, no FCS technology should be purchased until it has reached TRL 6.

Recommendation: Congress and the Army should proceed with the research and development of the 14 remaining systems within FCS and explore further expanding its delivery timeline to accommodate the ongoing development of critically-needed FCS technologies.

A 325 Ship Navy

Today the United States Navy operates 11 aircraft carriers, 22 cruisers, 50 destroyers, 55 nuclear attack submarines, 14 nuclear ballistic missile submarines, four nuclear cruise missile submarines, and 10 amphibious assault ships. Together these

At 279 ships, the United States Navy is the smallest it has been in a century and roughly one-half the size of its Cold War peak in the mid-1980s.

vessels are the most advanced in the world, and the technology found onboard makes them far more capable than their predecessors of only a generation ago.⁷³ Looking at the modern American fleet led one analyst to conclude “in every category the U.S. Navy combines presumptive numerical superiority with a significant ship-to-ship advantage over any foreign navy.”⁷⁴

However, at 279 ships, the United States Navy is the smallest it has been in a century and roughly one-half the size of its Cold War peak in the mid-1980s. Indeed, in terms of numbers the Navy has been

drastically shrinking: from 6,700 hulls in the water at the end of the World War II, to 600 vessels at the height of the Cold War, to fewer than 350 in the 1990s.⁷⁵ With the collapse of the Navy’s only peer competitor at the end of the Cold War, traditional metrics for determining required fleet size have been viewed as less useful. The new focus on the war on terror has not led to clarity regarding the size and nature of a fleet required for the war.⁷⁶

The water, so to speak, was muddied further by the 2001 Quadrennial Defense Review (QDR), which focused on measuring capabilities rather than numbers of ships. This, in conjunction with the Navy’s habit of looking to technology to provide the solution to all perceived vulnerabilities, has stifled critical thought on how to employ existing technology in new and innovative ways. It has also kept the Navy wedded to existing platforms that it tries to make more robust through technology.

No one would argue with the assertion that today the U.S. Navy is more capable than at any other time in history. However, the capabilities-based logic is only logical to a point. As one analyst noted, “if [...] the combat power of 10 ships today could be concentrated in a single vessel, it would be foolish to build a fleet one-tenth the size of the current one, because a force that small could not cover all the places where the U.S. needs to apply naval power.”⁷⁷ Indeed, both capabilities and numbers are important considerations when measuring or justifying naval plans.⁷⁸

Unfortunately, there is additional concern that if current budget and cost overrun trends continue the Navy may well be on its way to a fleet that numbers in the low

200s.⁷⁹ This comes amid great change in the global security environment. Challenges are cropping up in a wider range of locales than ever before, from combating piracy off the coast of Africa, to supporting the wars in Iraq and Afghanistan from the Persian Gulf, to maintaining security in the Pacific. Additionally, the Navy is increasingly tasked with non-combat roles including humanitarian assistance missions (like those that followed the December 2004 tsunami in the Indian Ocean, the Pakistani earthquake of October 2005 and the domestic assistance mission that followed hurricane Katrina); engaging with foreign countries through port visits; and maintaining a forward presence and engagement through global fleet stations.

Thus, the Navy is currently at a crossroads, trying to find the right balance between a focus on traditional, large-scale conventional war and a need to meet asymmetric threats and project soft power capabilities. On one side of the spectrum the Navy must maintain the dominance it has established in the global commons while also deterring a potential near-peer rival in the modernized Chinese People's Liberation Army- Navy (PLAN). On the other side, the Navy is focused on joint expeditionary operations and increasing its relevance to the irregular conflict that has emerged in the Global War on Terrorism.⁸⁰

While the Navy contends that all critical missions around the globe are being met and technological advances have made even a smaller American fleet far more capable than the larger fleet of a generation ago, lower priority intelligence and surveillance missions are being ignored due to a shortage of submarines.⁸¹ The effects of a shortage of ships is likely to be felt

more acutely in the decades ahead unless something is done to arrest the decline.

Aware of the increasing challenges and the need to cover a greater geographic area, the former Chief of Naval Operations Admiral Mike Mullen released the "Thousand-Ship Navy" concept in late 2006. This concept was "the intellectual generator" of the Global Maritime Partnership initiative.⁸² The Thousand-Ship Navy is described as:

"... a global maritime partnership that unites maritime forces, port operators, commercial shippers, and international, governmental and nongovernmental agencies to address mutual concerns.

Membership in this 'navy' is purely voluntary and would have no legal or encumbering ties. It would be a free-form, self-organizing network of maritime partners — good neighbors interested in using the power of the sea to unite, rather than to divide. The barriers for entry are low. Respect for sovereignty is high."⁸³

However, it is important to remember that the American Navy is not the only one that is shrinking. Indeed, the Navy of our most reliable partner, the United Kingdom, is also in decline—half the size it was at the end of the Cold War. A recent report issued by the Royal United Services Institute (RUSI) acknowledged that the shrinking size of the

British Fleet “should send a sharp message to all those concerned that the Royal Navy no longer has the capacity to support interests—both military and economic—which are fundamental to the longer term security of the UK.”⁸⁴ The report notes that the defense budgets of the UK’s European allies and partners are also declining in relative terms,⁸⁵ a fact covered well by Paul Kennedy, who has chronicled the shrinking size of European fleets.⁸⁶ These trends suggest that the ability of American allies to participate in the “Thousand-Ship Navy” would be limited as well.

At the same time, other non-NATO navies are rapidly growing. Of particular concern to the U.S. Navy is the growth and modernization of the Chinese Navy. Particularly troubling are the projections that the PLAN’s submarine force will be twice the size of the American submarine force by 2010 and the Chinese fleet is projected to surpass the American fleet in size by 2015.⁸⁷

These challenges require a larger U.S. Navy with the right mix of ships. However, the Navy, like the massive 100,000-ton aircraft carriers it operates, cannot turn on a dime. The ships and capabilities we need today may not be the ones we need tomorrow. Thus, for the Navy—where a new class of ship can take years or even decades to develop and build and once launched must last for roughly 30 years—a clear idea of future requirements, or at least a plan that hedges against all realistic future scenarios, is paramount. One thing is clear: The Navy of the future will face an increasingly wide array of threats in a growing number of locales.

The U.S. Navy also needs to act on the fact that budgets will be increasingly tight. To achieve the goal of more ships, the Navy needs to consider moving to lower-cost platforms that use existing technology in new and innovative ways. A critical step in this process is recognizing that the Navy will not need the latest and greatest technology to do many of the roles it plans for itself. Major conventional warfare against an actual peer competitor may require new technology, but forward presence, deterrence of less capable adversaries, peacetime engagement with allies, and chasing pirates off the coast of Somalia do not require \$5 billion destroyers.

Recommendation: The U.S. Navy will require a greater number of ships to meet coming demands. We suggest a fleet of 325 ships.⁸⁸ To get there, the Navy should: build more submarines, eliminate unnecessary and costly design requirements from new or planned ships, and move to lower-cost platforms.

DDG-1000 Zumwalt-Class Destroyer

The DDG-1000 land attack destroyer is intended to be a very large (14,500 ton) “multi-mission surface combatant incorporating an advanced stealth design, a new anti-air warfare combat system, a new integrated electric power and propulsion system,” and a wide variety of other technological advances.⁸⁹ It will be roughly 50 percent larger than the Navy’s current destroyer, the DDG-51 *Arleigh Burke*-class. The design is centered on two 155mm (6.1-inch) guns that are planned for land attack in support of forces ashore.⁹⁰

Current plans call for just three of these ships, down from the 32 the Navy originally said it required.⁹¹ The July 2008 decision to

end the production run of DDG-1000s at just two ships (later increased to three by Congress) was ostensibly the result of an analysis of capabilities and needs. However, it seems more likely that cost was the deciding factor and the ship was deemed too expensive. The Navy projects that the first DDG-1000 will cost roughly \$3.3 billion (in FY 2007 dollars), the Cost Analysis Improvement Group within the Office of the Secretary of Defense predicts \$4.1 billion, while the Congressional Budget office predicts a first ship cost of \$4.7 billion.⁹² This is more than twice as expensive as the current DDG-51 design (which costs \$1.6 billion).

The DDG-1000 program ultimately succumbed to assault from a variety of sources for a variety of reasons including a lack of rationale for the new ship,⁹³ a perceived overreliance on new and untested technology,⁹⁴ a dubious intended mission⁹⁵, and what is likely the most important reason, the staggering cost. However, the decision to truncate the class was a wise one. The three ships can and will be used as technology demonstrators to provide valuable insight when the time comes to construct a new surface combatant in the CG(X) cruiser.

The Navy should resist the temptation to try to replace many of the systems the DDG-1000 was to deliver without carefully considering if doing so would be worth the additional cost. The Marines have argued for years, since the decommissioning of the last battleships following the first Gulf War, that current Navy ships lack the firepower required to support amphibious landings. The DDG-1000's advanced gun system was intended to remedy this deficiency. However, it seems that in an age of cruise

missiles and ever-advancing shells for existing five-inch naval guns, this requirement can be accomplished by existing alternatives. In addition, the entire scenario of land attack from the sea with guns has been questioned. Loren Thompson of the Lexington Institute described the scene this way: "Imagine floating off the coast of China or Iran and firing shells ashore. How long would such a ship survive? The whole idea is improbable."⁹⁶

Recommendation: The Navy should use the money saved from canceling the last four DDG-1000s to continue to build DDG-51 Arleigh Burke-class destroyers. To capitalize on the investment the Navy has already made in the DDG-1000 program, the advanced technology (especially automation systems and the new radar) should be incorporated into DDG-51s where possible. Systems that cannot be incorporated in the DDG-51s should be incorporated into other platforms.

Aircraft Carriers

Many have questioned the continued dominance of the aircraft carrier and have wondered if the era of the supercarrier is drawing to a close. Stories of dominant naval systems becoming instantly obsolete are familiar in naval circles. One only has to look back to the introduction of iron-hulled warships in the mid-1800s, the British Navy's introduction of the all big gunned battleship *HMS Dreadnought* in 1906, or more recently, the rise of the aircraft carrier in the wake of the Japanese attack on Pearl Harbor, to see that revolutions in naval affairs can be dramatic and rapid.

Fears about the continued relevance of supercarriers may not be misplaced. These are massive warships—100,000 tons with a

flight deck that covers four and a half acres. They also have enormous crews, up to 6,000 in some cases. And at \$7 billion to \$9 billion apiece and yearly operating costs over \$200 million, they are hugely expensive. Additionally, it is clear that in future decades countries will invest in new anti-access/area-denial networks that will increasingly make U.S. carrier operations more dangerous. The efforts of the Chinese to develop an anti-ship ballistic missile are a well-documented case in point.

Additionally, manned aircraft launched from carriers are best suited for missions within 200 to 450 nautical miles away. Aircrew endurance is limited to roughly 10 hours, meaning that in most situations carriers must close to within a short distance to shore and mass several carriers to achieve the persistence over a target that is often required. However,

"Emerging national security challenges—including defending the homeland in depth, defeating global terrorist networks, operating in a world with more nuclear-armed regional powers, and hedging against the appearance of new anti-access/area-denial networks—will likely require future carrier task forces to stand off and fight from far greater distances than in the past, and to maintain a far more persistent presence over future battlefields. Moreover, when under constant threat of guided weapons attack, carriers will need to operate dispersed

and mass their aircraft over targets from widely distributed operating areas."⁹⁷

A first step to address some of these requirements was met when the Navy contracted to design an Unmanned Combat Air System Carrier Demonstration (UCAS-D) in August of 2007. This system promises to deliver increased range, persistence and stealth over current and planned manned systems. In the words of a recent CSBA report on the topic, "UCAS-D is the only program that will provide the Navy's future carrier air wings with the organic, extended-range, survivable, and persistent surveillance-strike capability needed to meet a number of emerging 21st century security challenges."⁹⁸

Recommendations: Free of the limits of human endurance, Unmanned Combat Aerial Vehicles (UCAV) would allow Aircraft Carriers to strike at far greater ranges than they currently can with manned fighters. The Navy and Congress need to more rapidly embrace the UCAS-D concept to ensure the aircraft carrier's continued dominance. The Navy should study the possibility of launching unmanned aircraft from vessels the size of amphibious ships with the goal of developing an all-UAV carrier.

Submarines

Submarines are the stealthiest platforms in the Navy's inventory. The U.S. fleet currently includes a mix of 14 *Ohio*-class nuclear-powered ballistic missile submarines (SSBNs), four converted *Ohio*-class nuclear-powered cruise missile submarines (SSGNs), and 53⁹⁹ nuclear-powered attack submarines (SSNs) of

various types—47 *Los Angeles*-class, three *Seawolf*-class, and three *Virginia*-class.¹⁰⁰ Plans for maintaining 14 SSBNs have attracted little attention and appear to be a rational and reasonable goal. However, there has been much concern about the projected SSN force in both Congress and the media for two main reasons: the planned SSN fleet will drop below the 48 SSNs the Navy has identified as lowest number required to meet demand, and the effect current plans will have on the submarine design and engineering capacity of the United States.

SSNs are America's "general purpose" submarines. They perform a range of valuable missions including intelligence, surveillance, and reconnaissance (ISR); power projection through conventional land attack (via Tomahawk cruise missiles); sea control against surface ships and enemy submarines; mine warfare; and inserting Special Operations Forces. SSNs are not only versatile, but efficient. Indeed,

"On a crew-size-per-tonnage basis, attack submarines are among the most efficient ships in the Navy inventory. They make up about 24 percent of our major combatants but use only seven percent of the people and 12 percent of the budget. Further they require no replenishment-at-sea logistics train and no protective escorts. They provide pure offensive firepower at next to no cost in logistics ships or support infrastructure ashore in foreign countries."¹⁰¹

The 47 *Los Angeles*-class boats are part of a 62-vessel production run launched between 1976 and 1996. These submarines are beginning to reach the end of their service lives. So far, 15 of the 62 boats have been retired. The *Seawolf*-class was originally intended to be a 30-boat class, but production ceased after the third boat was built. This decision was reached after analysis suggested that submarine requirements had changed following the collapse of the Soviet Union. These three submarines entered service between 1997 and 2005. Finally, the *Virginia*-class was designed to be "less expensive and better optimized for post-Cold War submarine missions than the *Seawolf*-class."¹⁰² *Virginia*-class boats cost roughly \$2 billion each to procure and production is planned to continue at one boat per year until fiscal year 2012.¹⁰³

The SSN force has been dropping steadily since the 1980s, after a peak of 98 boats in 1987. Currently down to 53 boats, the force is expected to drop below 48 boats in 2022 and stay there until 2034 (at its lowest point the SSN force will number 41 boats in 2028 and 2029). The Navy has concluded in internal studies that a 48-boat SSN fleet is required to sustain a peak projected wartime demand of 35 deployed SSNs. The 48-boat fleet is the minimum number that can support such a wartime contingency and is considered a moderate-risk force. Allowing the fleet to drop below this number would imply the SSN fleet would be a high-risk force.¹⁰⁴

Additionally, current plans create problems for the design and engineering portion of the submarine industrial base. With design work for the *Virginia*-class coming to a close

and no new submarine under development, “the submarine design and engineering base is facing the near-term prospect, for the first time in about 50 years, of having no major submarine project on which to work.”¹⁰⁵ If no new submarine-design project begins, the design capacity will “begin to atrophy with the departure of experienced personnel.”¹⁰⁶ If this is allowed to happen, the amount of time and money it takes to design the next class of American submarine will increase. To help mitigate this threat, the Navy plans to accelerate design work on the next generation SSBN into the near term.¹⁰⁷

At the same time, missions where submarines are required are increasing. In the Pacific, a wide range of anti-access technologies are being developed by China that make stealth a valuable asset in any potential conflict. Intelligence, Surveillance and Reconnaissance missions are increasingly a requirement to fight the global war on terror, and already submarines are in short supply. Finally, the submarine fleets of our potential competitors are rapidly growing. Current estimates suggest that China operates 30 advanced submarines¹⁰⁸ and dozens of older types. Their numbers are rapidly increasing due to increasingly advanced indigenous designs as well as purchases of Russian designs. By the end of the decade China will have more submarines than the United States.¹⁰⁹

Recommendations: *To ensure continued dominance against a growing People’s Liberation Army-Navy (PLAN) and a resurgent Russian navy, the U.S. Navy should support a force of at least 50 SSNs. To do so, Congress should immediately accelerate procurement to two Virginia-*

class SSNs per year beginning in 2009, and perhaps increase to three per year as older Los Angeles-class boats are retired. To support the design and engineering portion of the submarine industrial base, the Navy should accelerate development of the successor to the Virginia-class. Congress should consider allowing American defense contractors to develop a non-nuclear submarine for training exercises and export to allied navies.

Amphibious Ships

Current Navy plans include 31 amphibious ships that are designed to transport Marines and their equipment as well as enable Marines to conduct expeditionary operations. These ships are divided primarily into two groups: “big-deck” amphibious assault ships (LHAs and LHDs) and smaller LSD and LPD-type amphibious ships.¹¹⁰

The Marine Corps however has publicly stated that it requires at least 33 amphibious ships to support its lift requirements.¹¹¹ Bearing in mind that the Marine Corps is slated to grow by 27,000 troops and planning to return to its expeditionary roots, their concerns should be carefully considered.

Recommendation: *The Navy should carefully review amphibious ship capabilities and plan to procure an adequate number based on the lift requirements of the Marine Corps. The Navy should report its findings to Congress by December 2009.*

Creating an Affordable Fighter Fleet

Many of the aircraft currently in the Air Force’s fighter fleet date from the Reagan defense buildup of the 1980s. Following the

collapse of the Soviet Union, defense spending was reduced for all the Services. Air Force Fighter procurement shrank from a peak of 228 planes in 1986 to just 24 in 1993, to zero in 1995.¹¹² The Air Force weathered the financial storm of the 1990s by pouring its money into what it considers its most important project—the F/A-22 Raptor. During this period the average age of Air Force fighters doubled from 10 years old in 1991 to more than 20 years old today.¹¹³ This process was less visible because the Air Force was modernizing and employing the use of precision-guided munitions. Despite a shrinking and aging fleet of aircraft, the Service was becoming more capable. The Air Force argues, however, that we might be at the end of the line and the only solution is to purchase new aircraft. The Air Force has two particular models in mind, the F/A-22 Raptor and the F-35 Joint Strike Fighter (JSF), but these options may not be affordable at the level requested by the Air Force. The rapid development of unmanned aerial vehicles promises a new and more cost-effective option.

Recommendation: The Air Force should devise by December 2009 a complete vision for maintaining global air dominance through coming decades by shifting from manned fighters and bombers to unmanned combat aerial vehicles (UCAVs). The Air Force should review research, development and procurement schedules for advanced UCAVs and plan for a concomitant decline in the number of manned fighters.

Fighter Modernization Plans and Global Strike

Aside from the specific criticisms of the F/A-22 and the JSF, there have been questions

raised about the wisdom of the Air Force's modernization efforts. The Air Force has stated publicly that there will be a "fighter gap" or shortage of fighter aircraft beginning in 2017, growing to more than 800 aircraft by 2024. This gap, according to the Air Force, is due to a reduced number of F/A-22s and the planned purchase of only 48 JSFs per year through 2034. However, there has been significant skepticism of this fighter gap. In particular, Loren Thompson of the Lexington Institute has stated that "at some point you have to say to yourself, a gap compared to what? Against what? If [another nation] was buying [fighters in large quantities], you'd say, 'yeah, we need to keep up.' But they're not. It seems as though we're posturing ourselves for the threat we want to fight rather than the fight we are actually in."¹¹⁴

In addition, Center for Strategic and Budgetary Assessments (CSBA) has argued that Air Force modernization plans are skewed too heavily towards fighters. Instead, they argue that there is a growing need for longer-range strike aircraft. They note:

"In future wars, U.S. aircraft may have to operate at far greater distances than they have in the recent past. In particular, U.S. air forces operating in Asia and the Pacific might well have to travel several times farther than U.S. air forces typically had to during the Cold War. There also appears to be a growing need for aircraft that can loiter over the battlefield long enough to find emerging, fleeting, or

otherwise time-sensitive targets. In recognition of the importance of these evolving requirements, the 2005-2006 Quadrennial Defense Review directed the U.S. Air Force to field an air-breathing follow on to the B-2 by 2018. But it is unclear how committed the Air Force is to this program, and there is reason to worry that the JSF's funding requirements will crowd out future investments in long-range strike capabilities."¹¹⁵

Indeed, in a second report by CSBA, it was argued "long-range strike is a core area of U.S. strategic advantage in the current era."¹¹⁶ Currently, long-range strike capabilities are largely in the hands of the Air Force, but unfortunately they seem to be on the back burner in comparison to fighter modernization. If the Air Force does not begin to pay more attention to long-range strike options, it will have lost a valuable opportunity. Specifically, according to CSBA, the opportunity costs of ignoring this capability are: the ability to hold enemy targets at risk with conventional munitions with global reach; reducing America's reliance on nuclear weapons; denying enemies sanctuary; shaping enemy investments by forcing them to spend on defending against long-range strike options; and the ability to prosecute emergent and time-sensitive targets within contested airspace.¹¹⁷

The Air Force has explored a number of platforms for this long-range strike capability, both manned and unmanned. These include traditional ICBMs such as

existing Peacekeepers and Minuteman missiles, B-1B and B-2As, an "arsenal plane" such as a 747 loaded with missiles, a strike variant of the F/A-22, or even a Mach 8 hypersonic cruise missile.¹¹⁸

Recommendation: The Air Force should immediately intensify research and development of a long-range global strike capability. The best option would be to pursue new types of UCAVs to serve as global strike aircraft. UCAVs would have an edge over manned aircraft when it comes to range and persistence, and are well suited to long-range strike missions.

Strategic Airlift

Often crowded out by plans for fighter modernization and the Air Force's own intense focus on F/A-22s is debate and discussion about strategic airlift capability. It is no secret that in modern war there is no faster way to move troops to distant trouble spots than with the Air Force's fleet of C-5s and C-17s. This fleet of cargo aircraft provides "timely worldwide reach for both combat and humanitarian relief operations"¹¹⁹ and is an essential enabling capability for U.S. power projection. Conflicts of the future are likely to be more widely dispersed than those of the past, and with the Army and Marine Corps slated to grow by 92,000 troops, there is likely to be a greater strain to the Air Force's strategic airlift capability. This coupled with the extensive forward base closure that followed the end of the Cold War means that strategic airlift is a critical capability that is coming under strain.¹²⁰

Current Air Force plans are to extensively modernize 52 C-5s and partially modernize the remaining 59. Additionally, the C-17 will likely end production unless additional

orders are placed, leaving the Air Force with a fleet of 205.¹²¹ However, there are still questions whether these plans will result in a sufficiently robust strategic airlift capacity.

Recommendation: In light of current threat analysis and the planned growth of the Army and Marine Corps, by December 2009 the Air Force should outline to Congress and the new administration its plan for meeting the near- and medium-term strategic airlift requirements. If more lift is required, then the C-17 transport production lines should remain open.

The Air Force In Cyberspace

Control of information has, and will continue to be, a central component of military operations. However, with the ever-increasing reliance on the internet, cyberspace is emerging as a new domain in which war will be conducted, making information both a target and a weapon. Although each of the Services has an organization that is tasked with Information Operations (IO) and Electronic Warfare (EW) responsibilities, the Air Force has taken a step further by changing its mission statement to “fly and fight in Air, Space, and Cyberspace.”¹²² [emphasis added] After claiming cyberspace as a domain in which the Air Force will fight, the 8th Air Force was redesignated Air Force Cyber Command. Under the original plan, this new command would have responsibility for the Air Force’s portion of cyber warfare as well as the “protection of U.S. critical infrastructure networks that support the telecommunications systems, utilities, and transportation.”¹²³ In an effort to operate in the new digital front, the 8th Air Force, headquartered at Barksdale Air Force Base, La., was designated the operational Cyber Command.¹²⁴ Following the shake up of Air

Force leadership and organization, however, the decision was made to halt the establishment of Cyber Command until new leadership can review the scope and mission of the new command.¹²⁵ Then on October 7, 2008 the Air Force, citing concerns for more jointness, “decided to establish a numbered Air Force for cyber operations within Air Force Space Command.”¹²⁶

Because U.S. critical-infrastructure sectors are composed of a diverse mix of public and private entities, linked together by the cyberspace domain, it is exceedingly difficult for a single military service to protect them. For example, the power grid is controlled by information stored, modified, and transmitted on private computer systems and networks. By attacking an adversary in cyberspace, or responding to a cyber attack that was directed against the United States, the military will have to work with private entities in unprecedented ways. Unfortunately though, operational concepts and strategy for operation in cyberspace is poorly understood and ill-defined to date. Specifically,

“[T]he long lead time to formalize and standardize cyberspace operating concepts and definitions has given rise to a lack of conceptual as well as doctrinal clarity and consensus on the ends, ways, and means of operating in cyberspace; furthermore, it has resulted in an unfocused foundation on which to plan strategy, build and organize forces, and find resources for

endeavors. Consequently, the ability to develop, deliver, and employ sovereign cyber options that achieve and maintain an advantage in the cyber domain—thus assuring information superiority—is encumbered.”¹²⁷

To help meet these new challenges, the numbered Air Force dedicated to the cyber mission will need to attract a highly intelligent and motivated group of people. To do so, it may need to retool its traditional recruiting focus.

Recommendation: The Air Force should develop a new corps trained and dedicated to the cyber mission. This new “Cyber

Warfare Corps” would be designed to appeal to the “computer geek” who may traditionally have avoided military service. Pay for these positions should be competitive to attract the most highly qualified candidates.

Additionally, the need to operate effectively in the cyber realm is shared by all the Services, not just the Air Force. Thus, the wisdom of placing cyberspace under the purview of just one component of the Defense Department is dubious.

Recommendation: The Department of Defense should consider setting up a Joint Cyber Command. The Air Force would have a critical role in this new command and would supply much of the specialized personnel.

5

Cutting Costs

A FUTURE FORCE BLUEPRINT



CUTTING COSTS

In the decades after World War II, America was in the privileged position of having been the only major power to have its homeland escape largely unscathed and its industrial base intact. This advantage, coupled with the hard work and ingenuity of the American people, provided the United States with a position of economic strength unrivaled in human history. Over time, this absolute advantage has dissipated and the first decades of the 21st century will be marked by the “rise of the rest” as noted by Fareed Zakaria.¹²⁸

From a national security standpoint, this means that there is little room for error when it comes to building a cost-effective Armed Forces. Waste and inefficiency can make the difference between training troops or making due, procuring a weapons

system or delaying its development. This can translate to limiting our options and, in the worst-case scenario, hampering victory on the battlefield.

We propose a series of cost-cutting measures by today’s Pentagon not as punishment for having a large budget, but as a serious effort to suggest the hard choices that must be made when there is a gap between capability needs and resource limitations. Because the Air Force has a generational advantage in air power over other powers, we propose ending the production run of F/A-22 fighters and scaling back purchases of the Joint Strike Fighter. Because shipbuilding budgets have been increasing at an unsustainable rate, we propose strengthening shipbuilding design and oversight capacities within the Navy and establishing fixed-cost contracting on a case-by-case basis.

We also propose a presidential commission, comprised of civilian and military experts, whose findings can only be rejected with great difficulty. This Commission on Defense Spending Reform would review operations and maintenance budgets and practices, as well as procurement policies and health care costs. Actions should be proposed for implementation beginning no later than December 2010. The success or failure of such an effort will make the difference between the United States getting the future force outlined in this report, or having to make choices that limit our ability to control our own destiny.

Reducing Waste and Inefficiency

The Department of Defense is the world's largest planned economy with a budget larger than that of many mid-sized countries, and represents the largest portion of the U.S. government. Like any large organization, it is prone to bureaucratic inefficiency and waste.

Admiral William Fallon recently illustrated as much. In March, the CENTCOM commander eliminated 1,100 positions at CENTCOM headquarters at MacDill Air Force Base in Tampa Bay, Fla.¹²⁹ That the layoffs took place without noticeable decline in the performance of arguably the Department's most crucial command illustrates that a variety of similar efficiencies, particularly within management, may also be achieved elsewhere in the military. Such moves are not likely to yield decisive availability of new personnel, but in a time of severe shortages and tradeoffs, every little bit counts.

Recommendation: Each combatant command and service headquarters

should, within a one-year time frame, conduct a personnel audit with the goal of identifying redundant positions, promoting efficiency and allowing at least 5 percent of headquarters staff to return to other units.

Ship Design in a Time of Financial Constraints

The Navy's most recent iteration of its 30-year shipbuilding plan would provide a force of 313-ships by FY2019.¹³⁰ This fleet would be "built around 11 carrier strike groups and 88 large surface combatants."¹³¹ However, the 313-ship plan is under financial attack. To finance it, the Navy is requesting a significant increase in its shipbuilding budget. Particularly, to build the roughly ten ships a year required for the plan to come to fruition the Navy will need to spend an estimated \$27 billion per year (FY09 dollars) or roughly twice the Navy's shipbuilding budget.¹³² Even with this request, though, critics at the Congressional Budget Office (CBO) and the Government Accountability Office (GAO) have argued that the Navy request significantly underestimates true shipbuilding costs. In addition, because of the costly land wars in Iraq and Afghanistan and the significant sums of money that will be required to repair damaged and worn-out equipment when those conflicts end, the budgetary assumptions the Navy is counting on to finance the plan are increasingly unlikely. This financial situation puts even the 313-ship Navy plan in jeopardy. These factors have led the GAO to state "the Navy plan requires more funds than may reasonably be expected."¹³³

Recommendations: To confront coming financial challenges, the Navy should: do a better job estimating the costs of future

ships; establish clear and concrete requirements before construction begins; and exercise a more active design and oversight role in shipbuilding through a strengthened and supported Navy ship design office.

Finally, the Navy should hold frank discussions of exactly what requirements it considers essential for future surface combatants. The Navy must learn from the DDG-1000 project and resist the temptation to procure unproven technologies. In times of smaller budgets, only essential requirements can be considered. Self discipline is required.

Littoral Combat Ship (LCS)

Following the terrorist attack on the *USS Cole* in the year 2000 by two terrorists in an explosives-packed rubber dinghy, the Navy—which was already struggling to retain a central role in U.S. military operations following the Cold War—began to worry that asymmetric approaches were endangering their fleet. The terrorist attacks of September 11, 2001, then followed. These attacks provoked a rapid change in Navy thinking. According to Norman Friedman, “the Navy had realized that it would have to be able to deal with more simultaneous contingencies than it had anticipated. This requirement dictated more independent naval strike forces, which in turn translated into a need for more surface combatants.”¹³⁴ This, in conjunction with a shifting attitude about the Navy’s role in coastal waters, led to the development of a high-speed modular ship that would be adept at fighting in shallow water and would excel at mine-clearing, finding and sinking diesel-electric submarines, and fighting off armed speed

boats. This project later became the Littoral Combat Ship (LCS).¹³⁵

The LCS is the U.S. Navy’s premier transformational project. These relatively small, low-cost vessels are designed to maneuver in waters less than 20 feet deep at extremely high speeds (40 to 50 knots). They will employ advanced networking technology that will allow them to share information with other Navy ships, planes, and joint units. They will launch manned and unmanned vehicles to execute missions and will have the ability to deploy Special Forces, all with a crew of around 40 sailors. In addition they will be modular; each ship will share a core seaframe but will be able to house an interchangeable modular “plug-and-fight” mission package that will allow the ship to be configured and reconfigured for antisubmarine warfare (ASW), mine warfare (MIW), or surface warfare (SUW) missions.¹³⁶ Additionally, each module will come with a specialized helicopter and an array of unmanned flying and submersible vehicles.¹³⁷ Perhaps the most ambitious aspect of the ship was its intended price—\$220 million per vessel. Under the current plan, the Navy plans to purchase 55 LCSs, meaning the LCS will constitute one-sixth of the planned 313-ship Navy.

Unfortunately, the LCS program, which was intended to usher in an era of low-cost shipbuilding, has been fraught with problems. The LCS program has encountered cost overruns, long delays, and is based on commercial designs that are untested as combat platforms. The *New York Times* recently published an article about the program with the headline “Lesson on How Not to Build a Navy Ship.”¹³⁸

Trouble with the LCS program began initially with the Navy's decision to use high-speed commercial ferries as the design model for a warship; civilian construction standards were just not rigorous or robust enough for a combat vessel. In an effort to save time, the Navy and shipyards were designing the ships as they were being built. This practice led to multiple redesigns and forced the shipyards to abandon the traditional sequence of events used in shipbuilding, which in turn drove up costs and slowed an already overly ambitious schedule.¹³⁹ Ultimately the LCS program was plagued by:

"[a] dynamic of mutually reinforcing deficiencies: ever-changing Pentagon design requirements; unrealistic cost estimates and production schedules ... and a fondness for commercial technologies that often, as with the ferry concept, prove unsuitable for specialized military projects."¹⁴⁰

Finally, the requirement for such high speed ultimately added a significant premium to the final costs of the ships even though, in the words of naval analyst Norman Friedman, the 40-knot speed requirement may not be so useful in "an era of shipboard helicopters and supersonic anti-ship missiles."¹⁴¹ In the end, the cost of both prototypes has risen to more than double the intended cap of \$220 million, with both versions projected to cost more than \$500 million.¹⁴²

Recommendations: To strengthen the LCS program, the Navy must: eliminate requirements that are not vital for the

ship's success, particularly the 40-plus knot speed; finalize requirements; and negotiate contracts for a reasonable fixed cost. Next, the Navy must engage in an open dialogue about the operational and cultural preparation required to operate Littoral Combat Ships. Finally, the Navy and Marine Corps should report to Congress about the possibility of acting on the suggestion of adding Marine Corps specific mission modules to the LCS to increase its versatility. These could include a surface fire-support module, a special operations module and humanitarian assistance module.¹⁴³

By setting aside the desire to have the latest and greatest technology available, the Navy could strip away unnecessary requirements and allow it to build a ship more cheaply. This would also open the door to a joint procurement effort with the Coast Guard to replace some of the planned Deepwater cutters with a Coast Guard version of the LCS.

F/A-22 Raptor

For better or worse the F/A-22 Raptor is the Air Force's premier transformational project and highest aviation priority. This air superiority fighter is designed with a ground attack capability. It utilizes the latest advancements in stealth technology to avoid detection and allow it to enter even the most hostile anti-access environments. It also features thrust-vectoring engines for increased maneuverability and highly advanced avionics to provide instantaneous target data. The first prototype was flown on September 7, 1997.¹⁴⁴

Development of what would become the F/A-22 began in the 1980s in response to the expected developments in Soviet fighter

aircraft. The Air Force, disappointed with the handling and maintenance problems of existing stealth aircraft, decided to invest in a “third generation” stealth aircraft. With the collapse of that threat, the Air Force continued development of the F/A-22, pouring billions of dollars into the program and nearly stopping procurement of F-16s and F-15s. It took until 2003 for fighter procurement to rise to 21 aircraft in 2003. All 21 aircraft purchased that year were F/A-22s. However, the initial goal of 750 aircraft was slashed over the years and the Air Force currently operates 183. The Air Force is unsatisfied with this number and staunchly maintains that they need at least 381 F/A-22s—enough to maintain two full squadrons of 24 F/A-22s ready to deploy, and eight more squadrons that are either recovering from a deployment or preparing to leave (plus trainers and spares).¹⁴⁵ Does the Air Force really need 381 F/A-22s, and is this a wise investment?

The most fundamental question in dealing with the F/A-22 is if the Air Force really needs the planes at all. The Air Force argues that it does. To them the F/A-22 “will be the first stealthy fighter/attack aircraft that combines supersonic speed without resort to afterburners (requiring additional fuel), maneuverability via thrust-vectoring engines, and fusion of multi-sensor avionics data via computers [...]”¹⁴⁶ All these features, they argue, will allow the F/A-22 to enter the most dangerous anti-access environments and destroy their targets at greater standoff ranges. The F/A-22 will also keep the United States technologically ahead of all potential competitors, and will be able to soundly defeat the latest and greatest Russian designs like the MiG-29 and Su-27,¹⁴⁷ as well as enter hostile battle spaces protected by advanced radars and

surface-to-air missiles (SAMs). These aircraft will provide a credible hedge against a rising China or a resurgent Russia and would preserve the capability of the United States to manufacture an advanced fighter.¹⁴⁸

The arguments most cited by critics of the program concern the F/A-22s cost and its utility in future conflict scenarios. In particular, critics do not see spending \$122 million to \$180 million on an F/A-22 as a wise use of scarce procurement dollars. Instead, they would prefer to see the money spent on modernizing existing aircraft that have dominated the battle space in Iraq and Afghanistan, or expanding development and production of unmanned combat aerial vehicles (UCAVs).¹⁴⁹

Because the F/A-22 was designed to counter a threat that never seriously materialized, these next generation fighters cannot be justified in the eyes of critics. To them, the threat of MiG-29s, Su-27s, and advanced SAMs is overblown. With a realistic threat analysis, the F/A-22 and the assumptions that underpin it are too uncertain to warrant such a heavy funding commitment. Critics are quick to point out that the “U.S. Navy and Marine Corps will also have to operate in the same future threat environment as the Air Force. Yet, unlike the Air Force, these Services believe that the much more modestly priced Joint Strike Fighter, along with robust electronic warfare assets, will be adequate to defeat double digit SAMs.”¹⁵⁰ Finally, there is a worry that the Air Force’s singular focus on the F/A-22 has locked it into traditional ways of thinking. Thus the F/A-22, rather than being the source of transformation, is actually an impediment to it.¹⁵¹

An additional argument deals with the utility of stealth. The stealthy nature of the F/A-22 is one of the leading reasons for its high cost. However, many—including the Navy and Marine Corps—worry that stealth has a fundamental flaw, Moore’s Law. Moore’s Law refers to the rapid improvement of computer processor power. Computer processing power, able to distinguish faint signals from background noise, doubles every 18 months while the stealthy features of the F/A-22 are built into the design and will not change significantly throughout its service life.¹⁵² Thus, the Air Force’s faith in stealth may be misplaced.

Recommendations: The Air Force cannot afford all the F/A-22s it is asking for. It should make due with 203 (the number it has and is authorized to build) and shift focus to funding the F-35.

There is a need for the F/A-22. It will serve as a hedge against a resurgent Russia and a rising China. However, the Air Force needs to recognize that in the near term, these are unlikely to be sources of conflict. Instead the Air Force should do more to focus on near-term threats and conflicts. In particular they should focus and invest heavily in advanced UCAVs.

F-35 Joint Strike Fighter (JSF)

The Joint Strike Fighter (JSF) program is a set of three aircraft designed for the Air Force, Navy, and Marine Corps, as well as for export to allied nations. In its current form the JSF program is the Department of Defense’s largest acquisitions program in terms of cost, numbers, and duration. If the JSF program proceeds according to plan, it will be the most costly single aircraft program in Department of Defense history.¹⁵³ Current plans call for the

“production of 2,458 aircraft in three versions over 28 years.” An additional 738 aircraft will be purchased by partner nations.¹⁵⁴

The JSF program emerged in 1995 and throughout its development has remained a truly joint program. There are three planned variants: conventional takeoff and landing (CTOL) for the Air Force; carrier takeoff and landing (CV) for the Navy; and short-field takeoff/vertical landing (STOVL) for the Marine Corps. Each will share a common airframe, engine, and avionic suite to reduce costs. The JSF will be a “fifth-generation, single-seat aircraft with supersonic dash capabilities and some degree of stealth.”¹⁵⁵

The JSF program is unique for contemporary weapons system development in that performance features—including radar signature, speed, range, and payload—were determined “on the basis of trade-offs between performance and cost, with the latter being a critical factor.”¹⁵⁶ The production costs of these aircraft have to remain low so sufficient numbers can be procured. The JSF program has sacrificed some of the high-performance features of the F/A-22, like supersonic dog-fighting capabilities, to keep costs down.¹⁵⁷ Despite this, program costs have risen by over \$100 billion over the lifetime of the program and are currently 38 percent above what was projected.¹⁵⁸ The Air Force plans to purchase 1,763 CTOL versions of the JSF to replace its current fleet of F-16s and A-10s on a roughly one-to-one basis.¹⁵⁹

Despite the effort placed on balancing requirements with cost, there are still significant criticisms of the JSF program,

including the need for fifth-generation fighters. This argument, which is also part of the criticism of the F/A-22 program, argues that future threat scenarios do not require a new, expensive aircraft. Instead, aircraft currently in production could be upgraded and modified to continue service in the near term. This view has been strengthened by continued air dominance in Iraq, Bosnia, Kosovo, Afghanistan.¹⁶⁰

A second argument deals with the numbers of JSFs required. In terms of capabilities, the JSF is significantly more capable than current aircraft. As mentioned above, the Air Force is planning to replace its aging fleet of F-16s and A-10s on a one-to-one basis. According to a study conducted by the Center for Strategic and Budgetary Assessments (CSBA), however, a replacement ratio of 3:2 or 2:1 should be considered reasonable.¹⁶¹

The final argument deals with the very nature of a "joint" aircraft. Critics of this approach argue that in an attempt to achieve commonality, the service with the most limited requirements (the Air Force) would have to accept a more capable (and expensive) aircraft than they really need. In other words joint aircraft "are apt to be more costly than Air Force requirements might dictate, but provide less capability than the Navy might desire."¹⁶²

Proponents of the JSF retort that the capabilities of potential adversaries continue to rise with the proliferation of Russian SAMs and advanced 4th generation fighters. In particular:

"Proponents also state that aircraft 'parity' with our next adversary will present an

unacceptable risk to the air dominance that the U.S. military normally takes for granted. Recent training opportunities such as Cope India 2004, in which U.S. F-15s flew simulated dogfights against Indian Su-30s, Mirage 2000s, and MiG-21s, highlights this fact. Various news accounts note that U.S. F-15s were defeated during many of the engagements against their Indian counterparts during this exercise."¹⁶³

The JSF will incorporate many new features that potential alternatives would not provide. Perhaps the most significant of these is an "open" avionics architecture that will allow ground crews to affordably update the plane's computational capacity on a regular basis to take advantage of advancements in computer technology.¹⁶⁴

In addition, JSF program managers argue that having a joint aircraft, with many common parts, saves money at all phases of the program's life, from development, to production, to operation and support costs.¹⁶⁵

Cutting the program would reduce deterrent effects and be a long-term strategic mistake. It would also call into question our commitment to international joint projects. However, scaling back the program to a more affordable level than the current plan of replacing 1,300 F-16s with 1,763 more capable JSFs is in order. Increased capabilities of the JSF, in conjunction with advances in guided

munitions, make a smaller Air Force buy of JSFs a reasonable proposition.¹⁶⁶

Recommendations: The JSF program has done a good job of balancing capabilities with cost. Because fighter modernization is necessary (and considering sunk costs and the impact canceling the project would have on the other Services,) the JSF program should be continued. However, the Air Force should revise the number it plans to buy downward now, as any change in buys will have an effect on the other Services involved.

Presidential Commission on Defense Spending Reform

After the attacks of September 11th, the rate of defense spending understandably

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increased at a very high rate. The double-digit annual growth rate of defense spending cannot long be sustained in an era of financial crisis and towering trade and

budget deficits. Economic strength is the foundation of America's force projection capability and should be considered central to our national security policy. To build an Armed Forces capable of ensuring America's national security for the next generation, we must reject the temptation to continue business as usual and instead plan for a force that is economically sustainable and capable of ensuring America's national security for the next generation.

Recommendation: Congress and the next administration should create a Presidential Commission on Defense Spending Reform that would review operations and maintenance budgets and practices, as well as procurement policies and personnel support costs. Actions should be proposed for implementation no later than December 2010.

CONCLUSION

At this moment in history, we are a nation at war, facing an increasingly hostile threat environment that requires more investment in security at a time of fiscal crisis and economic stagnation. We must stand strong in the face of these challenges—but we also cannot stand still. Simply recognizing the need for change, but not making the requisite adjustments, will not be sufficient; this would only lead to extended conflicts, an empty Treasury and a military stretched to the breaking point. It will be the responsibility of the new administration and the United States Congress to chart a new way forward in defense policy. We recommend taking all necessary actions to win today's wars while strengthening our all-volunteer force. We suggest building capacity to prevent future conflicts, thus changing the global threat environment in our favor by adding allies and reducing the need for combat deployments. We propose

a “strategic pause” of two years during which the administration, Congress and our national security professionals can develop a sustainable plan for a future force that can meet today's needs, deter and defeat tomorrow's foes, and be affordable in a time of economic crisis.

A “strategic pause” helps ensure America's long term national security by encouraging in-depth study by academics, oversight by Congress and debate within the administration and national security community as to what kind of future force is necessary to protect the next generation of Americans.

We hope this report will serve as a contribution to this effort and we look forward to working together with all those interested in strengthening the national security position of our nation.

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The second study, published by the Center for Strategic and Budgetary Assessments (CSBA) was a compromise between the OFT report and conventional Navy thinking. It suggested a larger fleet and an interesting use of existing technology such as redesignating the LHA-6 *America*-class as a medium sized aircraft carrier, converting the *USS Enterprise* into an afloat forward staging base to be crewed by both military and civilian personnel, and developing a new low-cost submarine.

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