



# Commission on the National Defense Strategy

Congresswoman Jane Harman, *chair*

Ambassador Eric Edelman, *vice chair*

General John M. Keane

Thomas G. Mahnken

Mara Rudman

Mariah Sixkiller

Alissa Starzak

Roger Zakheim

For more information on this publication,  
visit [www.rand.org/nsrd/projects/NDS-commission](http://www.rand.org/nsrd/projects/NDS-commission).

Published July 2024

Cover: Capitol building–Daniel Thornberg/Adobe Stock; globe–graphicINmotion/Adobe Stock;  
background– saicle/Adobe Stock; pentagon–LeandroPP/Getty Images.



# Foreword

---

As the Chair and Vice Chair of the Commission on the National Defense Strategy for the United States, we are pleased to submit the Commission's final report to Congress and the President.

Over the course of our work, the Commission met with the senior civilian and military leaders of the Department of Defense and other departments; congressional leaders from relevant committees; private sector representatives; former government officials; experts in the think tank, academic, and federally funded research and development center communities; and foreign allies. We found near-unanimous recognition of the significant challenges to U.S. national security and broad agreement on the need for substantial and wide-ranging change. Our meetings reinforced that people across and outside government are talented and dedicated to U.S. national security but are impeded by systems that are outdated, bureaucratic, or too political to move with the urgency required. Our recommendations address these systems, not the dedicated individuals within them.

Several of our commissioners served on previous National Defense Strategy Commissions and brought that experience to our work. Other commissioners, who also brought a wealth of national security experience, came to the task with fresh eyes. We all agree that past warnings, however clear, have not succeeded in addressing our security shortfalls. Consequently, while some of our conclusions and recommendations are similar to those of past reports, we have also included recommendations to address the entire U.S. national security establishment.

We also address our report to the American public, who have been inadequately informed by government leaders of the threats to U.S. interests—including to people's everyday lives—and what will be required to restore American global power and leadership. Public support is crucial to every recommendation we make: additional spending necessary for security, increased levels of public and national service, and potentially even wartime mobilization. The public have been galvanized before, but leaders need to make the case on a bipartisan and ongoing basis.

Lastly, we underscore that very little progress will be possible without Congress, where a relatively small number of elected officials have imposed continual political gamesmanship over thoughtful and responsible legislating and oversight. Fights over the debt ceiling, government funding, spending caps, and hot-button social issues weaken our ability to manage strategic competition with our peer adversaries. We would be far stronger if we returned to the maxim that politics ends at the water's edge.

It has been a privilege to work with this group of eight dedicated commissioners. We have collaborated without regard to political party or ideology and found common ground on the threats, challenges, and recommendations. The conclusions and recommendations in this report are unanimous and reflect our bipartisan call for urgent action.

We thank Senate Armed Services Committee and House Armed Services Committee Chairs Jack Reed and Mike Rogers and Ranking Members Roger Wicker and Adam Smith and the bicameral and bipartisan congressional leadership for chartering the Commission and appointing our members. Our work relied on the participation of the Department of Defense and the

generosity of senior leaders with their time. We thank the Office of the Under Secretary of Defense for Policy, especially LTC Aaron Miller, for countless hours facilitating our work.

RAND aided the Commission's work through analytic, administrative, editorial, and publication support. We thank Buzz Phillips, Ashley Rhoades, Beth Seitzinger, John Drennan, Emmett Price, Jeremy Fowler, Amanda Wilson, Brian Dau, Katherine Wu, Jim Mitre, John Hoehn, Colin Levaunt, and Paul Cormarie for their significant contributions.

The United States faces urgent and monumental challenges. Meeting them will require bold leadership, consensus, and the willingness to change course. We hope this report helps provide the direction and momentum for that change.



Jane Harman  
Chair



Eric Edelman  
Vice Chair

# Summary

---

The threats the United States faces are the most serious and most challenging the nation has encountered since 1945 and include the potential for near-term major war. The United States last fought a global conflict during World War II, which ended nearly 80 years ago. The nation was last prepared for such a fight during the Cold War, which ended 35 years ago. It is not prepared today.

China and Russia are major powers that seek to undermine U.S. influence. The 2022 National Defense Strategy (NDS) recognizes these nations as the top threats to the United States and declares China to be the “pacing challenge,” based on the strength of its military and economy and its intent to exert dominance regionally and globally.<sup>1</sup>

The Commission finds that, in many ways, China is *outpacing* the United States and has largely negated the U.S. military advantage in the Western Pacific through two decades of focused military investment. Without significant change by the United States, the balance of power will continue to shift in China’s favor. China’s overall annual spending on defense is estimated at as much as \$711 billion,<sup>2</sup> and the Chinese government in March 2024 announced an increase in annual defense spending of 7.2 percent.<sup>3</sup>

Russia will devote 29 percent of its federal budget this year on national defense as it continues to reconstitute its military and economy after its failed initial invasion of Ukraine in 2022.<sup>4</sup> Russia possesses considerable strategic, space, and cyber capabilities and under Vladimir Putin seeks a return to its global leadership role of the Cold War.<sup>5</sup>

---

<sup>1</sup> U.S. Department of Defense (DoD), *2022 National Defense Strategy of the United States*. The 2022 *National Security Strategy* notes, “The PRC [People’s Republic of China] is the only competitor with both the intent to reshape the international order and, increasingly, the economic, diplomatic, military, and technological power to do it” (White House, *National Security Strategy*, p. 23). The NDS refers to Russia as an “acute” threat. We believe this term inappropriately suggests a limited duration and prefer to label Russia a “chronic threat.”

<sup>2</sup> Eaglen, “America’s Incredible Shrinking Navy.” This estimate was reinforced by Adm. Samuel Paparo, Commander of U.S. Indo-Pacific Command: “According to Paparo, China’s military budget is likely three times what Beijing publicly claims, which would put it at about \$700 billion annually” (Rogin, “The U.S. Military Plans a ‘Hellscape’ to Deter China from Attacking Taiwan”). Other estimates of China’s defense spending are lower; see Fravel, Gilboy, and Heginbotham, “Estimating China’s Defense Spending.”

<sup>3</sup> Wu and Bodeen, “China Raises Defense Budget by 7.2% as It Pushes for Global Heft and Regional Tensions Continue.” The 7.2 percent increase was in relation to China’s official figures for defense spending, not the more accurate “all-in” estimates.

<sup>4</sup> Cooper, “Another Budget for a Country at War,” pp. 8, 19; Dixon, “In Putin’s Wartime Russia, Military Corruption Is Suddenly Taboo.”

<sup>5</sup> Cavoli, “Statement of General Christopher G. Cavoli, United States Army, United States European Command.”

China and Russia’s “no-limits” partnership, formed in February 2022 just days before Russia’s invasion of Ukraine,<sup>6</sup> has only deepened and broadened to include a military and economic partnership with Iran and North Korea, each of which presents its own significant threat to U.S. interests. This new alignment of nations opposed to U.S. interests creates a real risk, if not likelihood, that conflict anywhere could become a multitheater or global war.<sup>7</sup>

China (and, to a lesser extent, Russia) is fusing military, diplomatic, and industrial strength to expand power worldwide and coerce its neighbors. The United States needs a similarly integrated approach to match, deter, and overcome theirs, which we describe as *all elements of national power*. The NDS and the 2022 National Security Strategy promote the concept of “integrated deterrence,” but neither one presents a plan for implementing this approach, and there are few indications that the U.S. government is consistently integrating tools of national security power.

The U.S. military is the largest, but not the only, component of U.S. deterrence and power. An effective approach to an all elements of national power strategy also relies on a coordinated effort to bring together diplomacy, economic investment, cybersecurity, trade, education, industrial capacity, technical innovation, civic engagement, and international cooperation.

Recognizing the indispensable role that allies play in promoting international security, the United States has successfully bolstered bilateral and multilateral alliances in the Pacific, strengthened the North Atlantic Treaty Organization (NATO), and created new arrangements, such as AUKUS. The United States cannot compete with China, Russia, and their partners alone—and certainly cannot win a war that way. Given the growing alignment of authoritarian states, the United States must continue to invest in strengthening its allies and integrating its military (and economic, diplomatic, and industrial) efforts with theirs. Alliances are not a panacea, but the U.S. force structure should account for the forces and commitments from U.S. allies.

The Commission finds that DoD’s business practices, byzantine research and development (R&D) and procurement systems, reliance on decades-old military hardware, and culture of risk avoidance reflect an era of uncontested military dominance.<sup>8</sup> Such methods are not suited to today’s strategic environment. There are recent examples that demonstrate that DoD can move quickly, break with tradition, and engage industry, including the rapid stand-up of the Space Force, the Defense Innovation Unit, the Office of Strategic Capital, and the Replicator Initiative, but these examples remain the exception rather than the rule. The larger elements of DoD

---

<sup>6</sup> Kremlin, “Joint Statement of the Russian Federation and the People’s Republic of China on the International Relations Entering a New Era and the Global Sustainable Development.”

<sup>7</sup> In addition to the military and economic support that Iran, North Korea, and China are providing to Russia’s war in Ukraine, the Director of National Intelligence testified in May 2024 that “we see China and Russia, maybe for the first time, exercising together in relation to Taiwan and recognizing that this is a place where China definitely wants Russia to be working with them, and we see no reason why they would not” (Senate Committee on Armed Services, “Hearing to Receive Testimony on Worldwide Threats,” p. 39). This partnership also complicates economic and financial sanctions and restrictions on proliferating technology to any of the four nations.

<sup>8</sup> See, e.g., Mazarr, *Defending Without Dominance*, p. 37: “The biggest barrier to effectiveness is arguably not defense spending . . . . It is a crushing bureaucratic managerialism that, in so many overlapping ways, drains the lifeblood from U.S. defense endeavors.”

must follow suit. DoD leaders and Congress must replace an ossified, risk-averse organization with one that is able to build and field the force the United States needs.

The Commission finds that the U.S. military lacks both the capabilities and the capacity required to be confident it can deter and prevail in combat. It needs to do a better job of incorporating new technology at scale; field more and higher-capability platforms, software, and munitions; and deploy innovative operational concepts to employ them together better. The war in Ukraine has demonstrated the need to prepare for new forms of conflict and to integrate technology and new capabilities rapidly with older systems. Such technologies include swarms of attritable systems, artificial intelligence-enabled capabilities, hypersonics and electronic warfare, fully integrated cyber and space capabilities, and vigorous competition in the information domain. Programs that are not needed for future combat should be divested to invest in others.

The Commission finds that the U.S. defense industrial base (DIB) is unable to meet the equipment, technology, and munitions needs of the United States and its allies and partners. A protracted conflict, especially in multiple theaters, would require much greater capacity to produce, maintain, and replenish weapons and munitions. Addressing the shortfall will require increased investment, additional manufacturing and development capacity, joint and coproduction with allies, and additional flexibility in acquisition systems. It requires partnership with an industrial base that includes not just large, traditional defense manufacturers but also new entrants and a wide array of companies involved in sub-tier production, cybersecurity, and enabling services. The United States should coordinate and partner with its allies in mutually beneficial ways to increase industrial capacity, especially since the U.S. industrial base is unable to produce everything needed.

The Commission also believes that it is critical to develop innovative joint operational concepts to employ new capabilities and technologies. DoD's Joint Warfighting Concept (JWC), now in its third iteration, was intended to position the Joint Force for modern warfare against peer competitors. The JWC deserves credit for attempting to break down service stovepipes, but more work is needed to develop ways to overcome strategic challenges, impose costs and challenges on U.S. adversaries, and increasingly integrate U.S. allies.

Congress, DoD, and other agencies will need to rewrite laws and regulations to remove unnecessary barriers to adopting innovation, budgeting, and procurement. New authorities may be needed to promote jointness, strengthen the DoD workforce, and supplement the national security authorities of other agencies. Integration with allies requires dismantling barriers to information-sharing, coproduction, and exports.

The consequences of an all-out war with a peer or near peer would be devastating. Such a war would not only yield massive personnel and military costs but would also likely feature cyberattacks on U.S. critical infrastructure and a global economic recession from disruptions to supply chains, manufacturing, and trade.<sup>9</sup> Adversaries could seek to deny the United States access to

---

<sup>9</sup> According to U.S. government agencies, "PRC state-sponsored cyber actors are seeking to pre-position themselves on IT networks for disruptive or destructive cyberattacks against U.S. critical infrastructure in the event of a major crisis or conflict with the United States," and they have "compromised the IT environments of multiple critical infrastructure organizations" (Cybersecurity and Infrastructure Security Agency, "PRC State-Sponsored Actors Compromise and Maintain Persistent Access to U.S. Critical Infrastructure"). See also DoD, "DOD Support to National Security Memorandum 22."

critical minerals and goods needed to run the U.S. economy and build weapon systems. They could also hold at risk U.S. space assets, which underpin much of our daily lives and are essential for military capabilities. Even short of all-out war, the global economic damage from a Chinese blockade of Taiwan has been estimated to cost \$5 trillion, or 5 percent of global gross domestic product (GDP).<sup>10</sup> War with a major power would affect the life of every American in ways we can only begin to imagine. Deterring war by projecting strength and ensuring economic and domestic resilience is far preferable to and less costly than war.

The U.S. public are largely unaware of the dangers the United States faces or the costs (financial and otherwise) required to adequately prepare. They do not appreciate the strength of China and its partnerships or the ramifications to daily life if a conflict were to erupt. They are not anticipating disruptions to their power, water, or access to all the goods on which they rely. They have not internalized the costs of the United States losing its position as a world superpower. A bipartisan “call to arms” is urgently needed so that the United States can make the major changes and significant investments now rather than wait for the next Pearl Harbor or 9/11. The support and resolve of the American public are indispensable.

The 2022 NDS force construct does not sufficiently account for global competition or the very real threat of simultaneous conflict in more than one theater.<sup>11</sup> We propose a *Multiple Theater Force Construct*. This is distinct from the bipolar Cold War construct and the two-war construct designed afterward for separate wars against less capable rogue states—essentially, one in northeast Asia and one in the Middle East. Neither model meets the dimensions of today’s threat or the wide variety of ways in which and places where conflict could erupt, grow, and evolve.

Our proposed force construct is the military backbone of our comprehensive approach. It reflects the likelihood of simultaneous conflicts in multiple theaters because of the partnership of U.S. peer or near-peer adversaries and incorporates the U.S. system of alliances and partnerships.

The United States must engage globally with a presence—military, diplomatic, and economic—to maintain stability and preserve influence worldwide, including across the Global South, where China and Russia are extending their reach.<sup>12</sup>

Specifically, the Commission finds that the Joint Force must leverage technology, expertise, and allies across domains to maintain existing and develop new asymmetric advantages against U.S. adversaries rather than seeking to match them platform-to-platform. We recommend that the Joint Force be sized and structured to simultaneously

1. defend the homeland, maintain strategic deterrence, prevent mass casualty terrorist attacks, maintain global posture, and respond to small-scale, short-duration crises

---

<sup>10</sup> The cost of a Chinese invasion of Taiwan is estimated at \$10 trillion, or 10.2 percent of global GDP (Welch et al., “Xi, Biden and the \$10 Trillion Cost of War over Taiwan”).

<sup>11</sup> The NDS “sizes and shapes the Joint force to simultaneously defend the homeland; maintain strategic deterrence; and deter, and if necessary prevail in conflict” while still “deter[ring] opportunistic aggression elsewhere” (DoD, *2022 National Defense Strategy of the United States*, p. 17).

<sup>12</sup> See, for example, Richardson, “Statement of General Laura J. Richardson, Commander, United States Southern Command”; and Langley, “Statement of General Michael E. Langley, United States Marine Corps, Commander, United States Africa Command.” See also Stavridis, “China and Russia Are Beating the US in Africa.”



2. lead the effort, with meaningful allied contribution, to deter China from territorial aggression in the Western Pacific—and fight and win if needed
3. lead NATO planning and force structure to deter and, if necessary, defeat Russian aggression
4. sustain capabilities, along with U.S. partners in the Middle East, to defend against Iranian malign activities.

This force construct, even with more-capable allies, new operational concepts, and better technology, will require a stronger and integrated innovation ecosystem and DIB, as well as a larger Joint and Total Force. Although the DoD workforce and all-volunteer force provide an unmatched U.S. advantage, today's is the smallest force in generations. It is stressed to maintain readiness today and is not sufficient to meet the needs of strategic global competition and multitheater war.

Recent recruitment shortfalls have decreased the size of the Army, Air Force, and Navy.<sup>13</sup> Redoubled recruiting efforts, new incentives for service, and more flexible personnel systems are needed to offset a lack of propensity for and interest in military service among the eligible population. Military retention remains high, demonstrating that personnel in service largely choose to remain in uniform. The nation must also consider the possibility that future conflict could overwhelm the capacity of the active-duty force and should plan now to better prepare the reserve components and, potentially, a broader mobilization.<sup>14</sup> More broadly, we support calls for increased levels of public and civil service to help provide a renewed sense of engagement and patriotism among the American people.

This proposal for strengthened national power is needed as the United States faces the most challenging and most dangerous international security environment since World War II. It faces peer and near-peer competitors for the first time since the end of the Cold War.

During the Cold War, including the Korean War and Vietnam War, DoD spending ranged from 4.9 percent to 16.9 percent of GDP (Figure S.1). The comparison to that period is apt in terms of the magnitude of the threat, risks of strategic instability and escalation, and need for U.S. global presence. It does not reflect many significant differences between that period and today. Among these are advances in technology that fundamentally change the character of war and the shift from the government to the private sector as drivers of investment, R&D, and procurement and commercial production of hardware and software.<sup>15</sup> When paired with improved operational concepts, these changes in the technological landscape have enormous national secu-

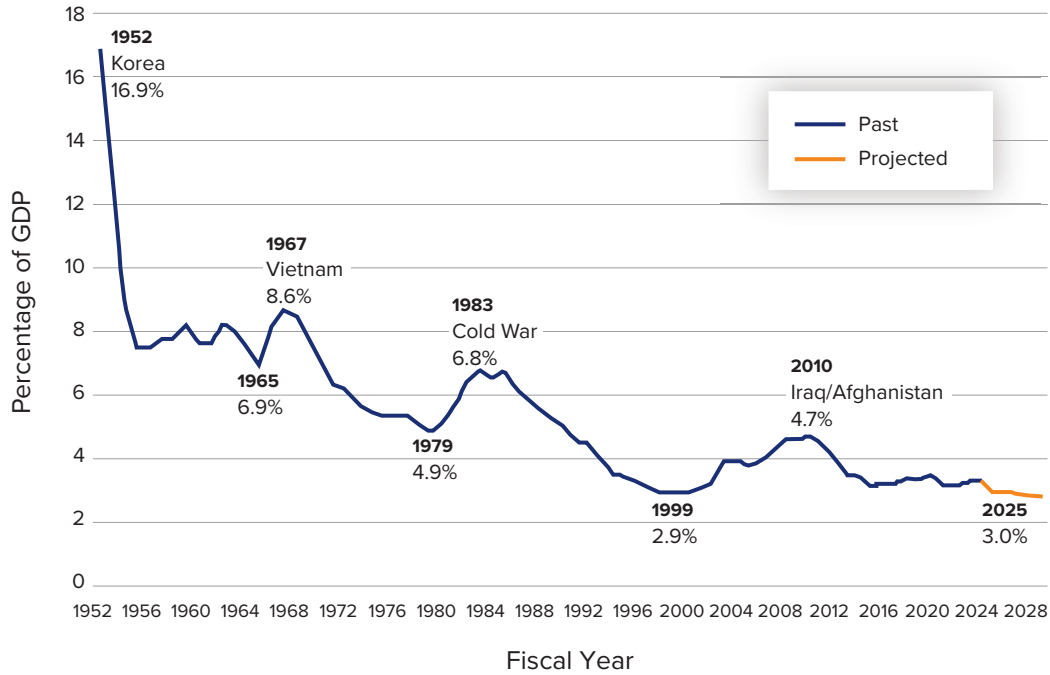
---

<sup>13</sup> Only the Marine Corps and Space Force met their fiscal year (FY) 2023 active duty recruiting goals, and only the Marine Corps met its reserve component goals (DoD, "Department of Defense Announces Recruiting and Retention Numbers for Fiscal Year 2023").

<sup>14</sup> National Commission on Military, National, and Public Service, *Inspired to Serve*, pp. 93–123. See also Kuzminski and Sylvester, *Back to the Drafting Board*.

<sup>15</sup> In 1960, U.S. defense spending accounted for 36 percent of global R&D, but that figure was down to 3.1 percent by 2019 (Fontaine, "Foreword"). Eleven of the 14 critical technologies identified by DoD as "vital to maintaining the United States' national security" are primarily non-defense specific (Office of the Under Secretary of Defense for Research and Engineering, "USD(R&E) Technology Vision for an Era of Competition," p. 3). See also DoD, *National Defense Science and Technology Strategy 2023*.

**Figure S.1**  
**Defense Department Budget Authority as Percentage of Gross Domestic Product,**  
**FY 1952 to FY 2029**



SOURCES: Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2025*, Tables 1-1 and 6-8, pp. 6 and 138–145; U.S. House of Representatives, “Division: Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2024,” pp. 94–98; U.S. House of Representatives, “Division: Department of Defense Appropriations Act, 2024,” pp. 299–313; Keys and Nicastro, “FY2024 National Security Supplemental Funding,” p. 4; Office of Management and Budget, Fiscal Year 2025 Historical Tables, Table 10.1.  
 NOTE: Includes DoD discretionary, mandatory, and supplemental funding.

rity potential that place the United States (and others) on the cusp of a revolution in military affairs. Another difference from the Cold War is how the network of U.S. alliances in NATO and Asia reshapes how the United States prepares for, deters, and wins conflicts.

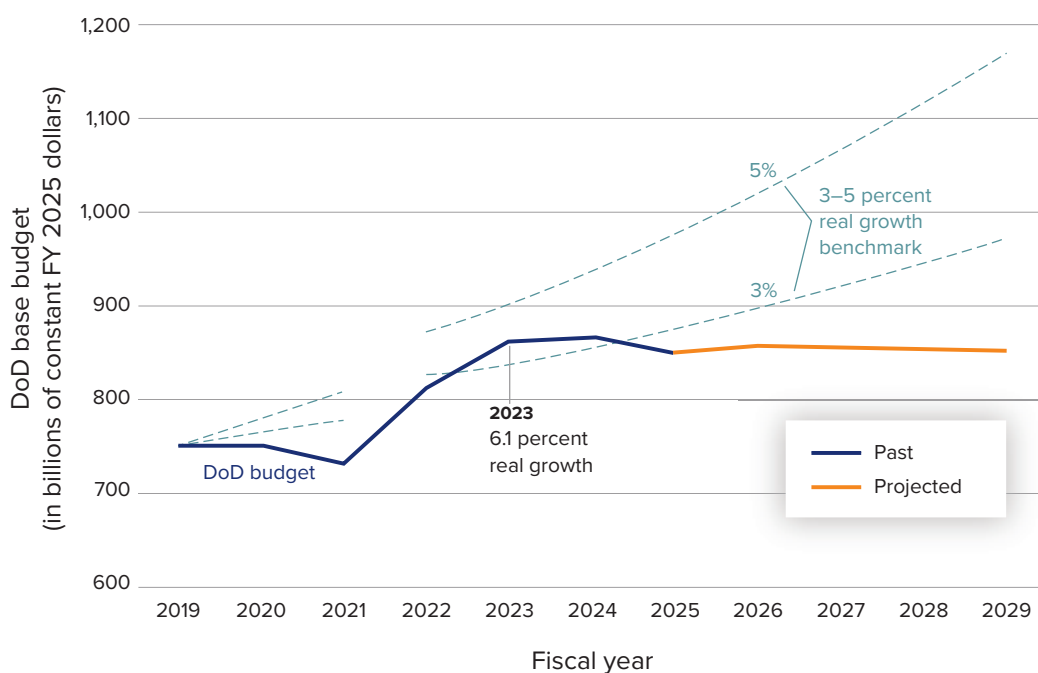
The biggest difference between today and the Cold War is in the homeland. The Cold War demanded a national mobilization for military service, an economy geared more toward production for national security, and a unity of effort across government (including Congress) behind shared security missions that are missing today. Defense spending in the Cold War relied on top marginal income tax rates above 70 percent and corporate tax rates averaging 50 percent.<sup>16</sup> Using the Cold War as a benchmark for spending should be accompanied by acknowledging the other fundamental changes that could supplement America’s efforts to deter threats and prepare for the future.

<sup>16</sup> Ingraham, “The Tax Code Treats All 1 Percenters the Same. It Wasn’t Always This Way”; Peter G. Peterson Foundation, “Six Charts That Show How Low Corporate Tax Revenues Are in the United States Right Now.”

U.S. spending on defense far outweighs other elements of national power and will continue to do so. However, all these accounts (i.e., national security missions at the departments of State, Treasury, Homeland Security, Commerce, Education, and others) must be considered as part of a notional, overall national security budget.

The 2018 NDS Commission recommended increasing the base defense budget at an average rate of 3–5 percent annually above inflation. That has not been consistently achieved, and the world has grown more dangerous since that recommendation was made (Figure S.2).<sup>17</sup>

**Figure S.2**  
**Defense Department Base Budget Has Not Kept Pace with the Recommendations of the 2018 NDS Commission**



SOURCES: Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2025*, Tables 1-1 and 5-6, pp. 6 and 63; Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2025 Budget Request: Defense Budget Overview,” p. 24; Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2022 Budget Request: Defense Budget Overview,” p. 7-1; U.S. House of Representatives, “Division: Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2024,” pp. 94–98; U.S. House of Representatives, “Division: Department of Defense Appropriations Act, 2024,” pp. 299–313. NOTE: Discretionary base budget authority in constant FY 2025 dollars. FY 2022 benchmark values adjusted upward by \$42.1 billion to reflect merging \$14.3 billion for direct war requirements and \$27.8 billion for enduring requirements into the FY 2022 base budget.

<sup>17</sup> The combination of merging Overseas Contingency Operations funds into the base budget and Congress increasing the FY 2022 and FY 2023 base budgets brought spending above the 3 percent benchmark in total, but budget projections are flat. Funding for allies, munitions, and submarines in the April 2024 supplemental appropriations law is also significant.

The Commission makes the following resource recommendations for DoD and Congress:

- DoD should immediately review all major systems against likely future needs, emphasizing battlefield utility and prioritizing agility, interoperability, and survivability. The Office of the Secretary of Defense and the Joint Staff should be more empowered to cancel programs, determine needs for the future, and invest accordingly. DoD should invest more in cyber, space, and software, which have enabled warfighting for decades but are now central to conflict and have global reach.
- Congress should pass a supplemental appropriation immediately to begin a multiyear investment in the national security innovation and industrial base. Funding should support U.S. allies at war; expand industrial capacity, including infrastructure for shipbuilding and the ability to surge munitions production; increase and accelerate military construction to expand and harden facilities in Asia; secure access to critical minerals; and invest in a digital and industrial workforce.
- DoD should immediately begin making structural changes and prioritization adjustments to spend national security funds more effectively and more efficiently. DoD should address its recruitment challenges, rewrite regulations to speed defense procurement (and address cultural impediments and risk aversion), and shift the R&D paradigm to adopt technological innovation from outside the department for warfighting purposes. The U.S. government should review national security authorities for agencies other than DoD and look for ways to enable and facilitate information-sharing, coproduction, and export controls to better work with allies.
- Congress should revoke or override the caps in the 2023 Fiscal Responsibility Act that serve as the basis for the FY 2025 budget request.
  - For FY 2025, real growth in defense and nondefense national security spending is needed and, at a bare minimum, should fall within the range recommended by the 2018 NDS Commission. While the reforms recommended above are being made and investments in capacity from the supplemental appropriation are underway, increased spending should be allocated to emphasize near-term readiness demands to restore and reinforce deterrence.
  - Given the severity of the threats, the FY 2027 and later budgets for all elements of national power will require spending that puts defense and other components of national security on a glide path to support efforts commensurate with the U.S. national effort seen during the Cold War.
  - Larger amounts of defense spending should be accompanied by sufficient resources to build capacity at the departments of State, Commerce, and Treasury; intelligence, trade, and investment agencies; the U.S. Agency for International Development; and the Department of Homeland Security and focus these organizations on national security missions. The United States should continue to provide support to its allies, which it relies on to fight with (or for) it.
  - The ballooning U.S. deficit also poses national security risks. Therefore, increased security spending should be accompanied by additional taxes and reforms to entitlement spending.



The lack of preparedness to meet the challenges to U.S. national security is the result of many years of failure to recognize the changing threats and to transform the U.S. national security structure and has been exacerbated by the 2011 Budget Control Act, repeated continuing resolutions, and inflexible government systems. The United States is still failing to act with the urgency required, across administrations and without regard to governing party.

This report proposes a new approach to spur the speed and scale of change. Implementing these recommendations to boost all elements of national power will require sustained presidential leadership and a fundamental change in mindset at the Pentagon, at the National Security Council and across executive branch departments and agencies, in Congress, and among the American public writ large.



# Contents

---

Foreword .....	iii
Summary .....	v
Figures and Tables .....	xvii
<b>CHAPTER 1</b>	
<b>Introduction .....</b>	<b>1</b>
<b>CHAPTER 2</b>	
<b>Strategic Environment .....</b>	<b>5</b>
China: The Pacing and Global Threat .....	5
Russia: A Chronic and Reconstituting Threat .....	7
Other Threat Actors: Iran, North Korea, Terrorism .....	8
An Axis of Growing Malign Partnerships .....	10
Threats to the Homeland, Cyberspace, and Space .....	11
Other Threats .....	12
U.S. Alliances and Partnerships .....	13
Technology .....	14
<b>CHAPTER 3</b>	
<b>Domestic Constraints and Visions of Success .....</b>	<b>15</b>
Department of Defense .....	15
Integration with the Rest of the U.S. Government .....	16
Defense Industrial Base and Technological Innovation .....	17
Congress .....	18
Resources .....	19
Domestic Disengagement, Need for Public Engagement .....	20
<b>CHAPTER 4</b>	
<b>Creating an All Elements of National Power Approach to Defense .....</b>	<b>21</b>
All of Government .....	22
Adding the Private Sector .....	25
All of Nation .....	26
Allies and Partners .....	27
<b>CHAPTER 5</b>	
<b>Innovation at DoD in Technology, Concepts, and Approaches .....</b>	<b>29</b>
Technology and Technology Adoption .....	29

Innovation in DoD Structure and Function.....	32
Warfighting Operational Concepts.....	33
Closing the Operational-Industrial Planning Gap .....	35
<b>CHAPTER 6</b>	
<b>Force Sizing, Capabilities, and Posture.....</b>	<b>37</b>
An Out-of-Date Force-Sizing Construct.....	37
Force Sizing and Capabilities.....	39
Posture.....	44
<b>CHAPTER 7</b>	
<b>The Defense Industrial Base and Defense Production.....</b>	<b>51</b>
The Defense Industrial Base and NDS Implementation.....	53
Roles of Allies and Partners .....	54
Recommendations .....	56
<b>CHAPTER 8</b>	
<b>Personnel and Readiness .....</b>	<b>59</b>
Military Recruitment and Retention.....	59
Civilian Hiring and Retention .....	62
Service and Mobilization .....	63
Readiness Challenges.....	64
Readiness Reform .....	66
<b>CHAPTER 9</b>	
<b>Resources.....</b>	<b>69</b>
Recommendations to Spend More Effectively .....	72
Recommendations for Additional Resources .....	74
<b>APPENDIXES</b>	
<b>A. Commissioner Biographies.....</b>	<b>77</b>
<b>B. Commission Staff .....</b>	<b>83</b>
<b>C. Commission Charter—Statutory Language.....</b>	<b>85</b>
<b>D. Individuals Appearing Before the Commission.....</b>	<b>91</b>
<b>Abbreviations.....</b>	<b>97</b>
<b>References .....</b>	<b>99</b>



# Figures and Tables

---

## Figures

S.1.	Defense Department Budget Authority as Percentage of Gross Domestic Product, FY 1952 to FY 2029.....	x
S.2.	Defense Department Base Budget Has Not Kept Pace with the Recommendations of the 2018 NDS Commission .....	xi
9.1.	Defense Department Budget Authority as Percentage of Gross Domestic Product, FY 1952 to FY 2029.....	70
9.2.	Defense Department Base Budget Has Not Kept Pace with 3–5 Percent Annual Real Growth Benchmark Recommended by 2018 NDS Commission .....	71
9.3.	Days Spent Under Continuing Resolutions at Defense Department, FY 2010 to FY 2024 .....	72

## Tables

D.1.	NDS Commission Meetings.....	92
D.2.	Meetings with Members of Congress and Congressional Staff .....	96



## CHAPTER 1

# Introduction

---

The U.S. Department of Defense (DoD) released the 2022 National Defense Strategy (NDS) in October 2022 after completing a classified version in March 2022.<sup>1</sup>

The 2022 NDS, intended to guide DoD through what it and the 2022 National Security Strategy (NSS) call the “decisive decade,”<sup>2</sup> is largely a continuation of the priorities, approach, and force structure described by the 2018 NDS. Both strategies emphasize planning and resources for great power competition, specifically naming China and then Russia as the lead competitors.<sup>3</sup> They both call for a force-sizing construct of essentially waging one major theater war while deterring opportunistic aggression elsewhere. Both cite growing threats to U.S. interests and observe that the U.S. military no longer enjoys dominant superiority over potential adversaries.

The NDS promotes the concept of “integrated deterrence,” which is also presented in a page-long text box in the 2022 NSS. The NSS describes how integration should be pursued throughout the U.S. government, with allies and partners, and within DoD and the Joint Force.<sup>4</sup> The NDS argues that such a comprehensive effort is needed to counter the “holistic strategies” that China and others employ to achieve their objectives. Both the NDS and the 2022 NSS lack a plan for implementing this integration, and there are few indications that it is being consistently pursued. The Commission believes an integrated, coordinated strategy is necessary and offers concrete recommendations to improve the approach.

Congress created a new Commission for the 2022 NDS to “examine and make recommendations with respect to the [2022] national defense strategy for the United States.”<sup>5</sup> The Commission began operations in April 2023 and met with current and former senior civilian and

---

<sup>1</sup> Lopez, “DOD Releases National Defense Strategy, Missile Defense, Nuclear Posture Reviews.” For the first time, DoD drafted and released the NDS, the Nuclear Posture Review, and the Missile Defense Review at the same time, which we find to be helpful to coordinate planning. We note, however, that the unclassified version of the NDS was released in late October 2022, nearly halfway through the administration’s term. While the delay was largely outside DoD’s control, we urge DoD and future administrations to release the unclassified NDS in a more timely fashion in the future to enhance implementation.

<sup>2</sup> DoD, *2022 National Defense Strategy of the United States*; White House, *National Security Strategy*.

<sup>3</sup> The NDS refers to China as a *strategic competitor* and Russia as a *threat*. The Commission throughout this report uses these terms and *adversary* interchangeably but does not mean to imply that the United States seeks an adversarial relationship or to engage in military conflict with any other nation.

<sup>4</sup> White House, *National Security Strategy*, p. 22.

<sup>5</sup> Public Law 117-81, National Defense Authorization Act for Fiscal Year 2022, Sec. 1095. Full statutory text is provided in Appendix C.

military leaders at DoD and other departments and agencies, members of Congress, industry executives, experts from the think tank and federally funded research and development center community, and representatives of foreign governments.<sup>6</sup> The Commission met with members of other congressional commissions reviewing DoD’s planning, programming, budgeting, and execution (PPBE) system and the U.S. Strategic Posture.<sup>7</sup> We agree in general with their findings and recommendations and have sought to avoid duplicating their efforts.<sup>8</sup>

In its final report, the 2018 NDS Commission noted that “the security and wellbeing of the United States are at greater risk than at any time in decades. America’s military superiority—the hard-power backbone of its global influence and national security—has eroded to a dangerous degree.”<sup>9</sup> In our review, we find that the situation has deteriorated since the 2018 Commission’s report and that many of the previous recommendations were not adopted. The strategic environment has grown substantially more challenging—including since the 2022 NDS was written—and the United States has not kept pace with a worsening situation. We recommend measures to close the gap while recognizing that the world has changed dramatically in recent years and that new approaches are needed to more effectively safeguard America’s interests.

The Commission overwhelmingly found that civilian and military leaders across DoD, throughout the executive branch, and in the nonprofit and private sectors are skilled, hardworking, and dedicated to the defense of the United States. We found near-unanimous appreciation of the severity of the challenges our nation faces and the need for new approaches and additional resources. Where organizations have the leadership and operational environment to innovate, they are doing incredible work. In Ukraine, where the threat is existential, we see innovation in practices, technology, and concepts at a speed largely foreign to the U.S. government. Government culture, structures, and regulations generally were created during peacetime with no major threat to U.S. security or way of life. That world is gone, but the system remains too ossified and slow to adapt and execute the systemic change that is needed.

---

<sup>6</sup> A list of individuals appearing before the Commission is included in Appendix D.

<sup>7</sup> Commission on Planning, Programming, Budgeting, and Execution Reform, *Defense Resourcing for the Future*; Creedon et al., *America’s Strategic Posture*.

<sup>8</sup> The Commission’s work was supplemented by staff meetings and requests for information, document review, and analytic support from RAND. The Commission traveled domestically and internationally for fact-finding, for meetings with senior U.S. and foreign government leaders, and to conduct listening sessions.

<sup>9</sup> Edelman et al., *Providing for the Common Defense*, p. v. Half the 2022 NDS Commissioners also served on the 2018 Commission.



## Key Warnings from the Past Three National Defense Strategy Commissions

### 2018: National Defense Strategy Commission

“The security and wellbeing of the United States are at greater risk than at any time in decades. America’s military superiority—the hard-power backbone of its global influence and national security—has eroded to a dangerous degree. Rivals and adversaries are challenging the United States on many fronts and in many domains. America’s ability to defend its allies, its partners, and its own vital interests is increasingly in doubt. If the nation does not act promptly to remedy these circumstances, the consequences will be grave and lasting.”<sup>a</sup>

### 2014: National Defense Panel Review of the 2014 Quadrennial Defense Review

“Unless reversed, these shortfalls [referring to ‘defense budget cuts mandated by the Budget Control Act (BCA) of 2011, coupled with the additional cuts and constraints on defense management under the law’s sequestration provision’] will lead to a high risk force in the near future. That in turn will lead to an America that is not only less secure but also far less prosperous. In this sense, these cuts are ultimately self-defeating.”<sup>b</sup>

### 2010: Quadrennial Defense Review Independent Panel

“The aging of the inventories and equipment used by the services, the decline in the size of the Navy, escalating personnel entitlements, overhead and procurement costs, and the growing stress on the force means that a train wreck is coming in the areas of personnel, acquisition, and force structure. In addition, our nation needs to build greater civil operational capacity to deploy civilians alongside our military and to partner with international bodies, the private sector, and non-governmental organizations in dealing with failed and failing states. The potential consequences for the United States of a ‘business as usual’ attitude toward the concerns in this Report are not acceptable. We are confident that the trendlines can be reversed, but it will require an ongoing, bipartisan concentration of political will in support of decisive action.”<sup>c</sup>

---

<sup>a</sup> Edelman et al., *Providing for the Common Defense*, p. v.

<sup>b</sup> Perry et al., *Ensuring a Strong U.S. Defense for the Future*, p. 1.

<sup>c</sup> Hadley et al., *The QDR in Perspective*, p. v.



## CHAPTER 2

# Strategic Environment

---

**The United States faces the most challenging global environment with the most severe ramifications since the end of the Cold War. The trends are getting worse, not better.**

The strategic environment in summer 2024 presents more, and vastly more serious, challenges to U.S. security interests than since the end of the Cold War, if not the height of World War II. Many of the threats are intertwined and compounding, making them more difficult to overcome. The NDS prioritizes challenges and threats posed by China, then Russia, and then from North Korea, Iran, and violent extremist organizations. It also highlights the threat to the U.S. homeland and lists transboundary challenges.

The Commission agrees with the prioritization of the threats in the NDS, but we believe that the magnitude of the threats the United States faces is understated and significantly worse than when the NDS was issued, especially when viewed globally and as compounding. Since the release of the NDS, we have witnessed but not fully accounted for the strategic impact of the “no-limits” partnership between Russia and China and their partnership with Iran and North Korea, the outbreak of war in the Middle East, and the scope and duration of the war in Europe.

## China: The Pacing and Global Threat

The NDS names China as the “pacing challenge” and invokes the National Security Strategy finding that China is “the only competitor with both the intent to reshape the international order, and, increasingly, the economic, diplomatic, military, and technological power to advance that objective.”<sup>1</sup> China has strategically and systematically used the coordinated elements of national power to build an economic, diplomatic, industrial, and military strength to assert dominance in East Asia and project influence globally.

We agree that China poses the preeminent challenge to U.S. interests and the most formidable military threat. We agree with the 2022 NDS in making China the top priority for U.S. planning and investment. China is in fact *outpacing* U.S. defense production and growth in force size and, increasingly, in force capability and is almost certain to continue to do so. China

---

<sup>1</sup> White House, *National Security Strategy*, p. 8.

announced in March 2024, for example, that its defense budget would increase by 7.2 percent for the coming year.<sup>2</sup>

Even as its military grows stronger, China is not biding its time; it has taken the initiative in operations with a marked increase in hostile and harassing behavior, routinely pushing the boundaries with incursions into Taiwan’s airspace and territorial waters, violating international law in the South China Sea, and seeking to normalize unlawful behavior and establishing advantageous conditions for future coercion or conflict.<sup>3</sup>

China’s military modernization and growth cannot be fully described in unclassified terms, but we agree with former U.S. Indo-Pacific Command (INDOPACOM) Commander Adm. John Aquilino, who testified in March 2024 that “[o]n a scale not seen since WWII [World War II], the PLA’s [People’s Liberation Army’s] buildup is occurring across land, sea, air, space, cyber, and information domains” and that “[a]ll indications point to the PLA meeting President Xi Jinping’s directive to be ready to invade Taiwan by 2027.”<sup>4</sup>

China boasts the largest navy in the world (with over 370 ships and submarines), the largest aviation force in its region (which is “rapidly catching up to Western air forces”), and the largest Army in the world, even after it was reduced to improve professionalization and mobility.<sup>5</sup> Equally important to its size advantages, China’s military has modernized across the board, especially in areas that are critical to a conflict in the Western Pacific. It has built peer- or near-peer-level capabilities in space and cyberspace, which it would likely use to try to deter and prevent the United States from engaging in a conflict by disrupting U.S. critical infrastructure, including computer networks, satellites, and other enabling functions.<sup>6</sup> China is seeking to remove what remaining advantages the United States has, including undersea capability and information dominance and by significantly increasing the size of its strategic forces.

If these trends continue, the PLA will be a peer, if not superior, military competitor of the United States across domains, a situation the United States has not faced since the height of the Cold War. As a result, we are not confident that the U.S. military would succeed in a regional

---

<sup>2</sup> Wu and Bodeen, “China Raises Defense Budget by 7.2% as It Pushes for Global Heft and Regional Tensions Continue.” Although the actual amount of Chinese defense spending is unknown, a January 2024 assessment estimates that the comparative buying power of China’s total defense budget in 2022 was \$711 billion (Eaglen, “America’s Incredible Shrinking Navy”). This estimate was reinforced by Adm. Samuel Paparo, Commander of INDOPACOM: “According to Paparo, China’s military budget is likely three times what Beijing publicly claims, which would put it at about \$700 billion annually” (Rogin, “The U.S. Military Plans a ‘Hellscape’ to Deter China from Attacking Taiwan”). Other estimates of China’s defense spending are lower; see Fravel, Gilboy, and Heginbotham, “Estimating China’s Defense Spending.”

<sup>3</sup> Haenle and Sher, “How Pelosi’s Taiwan Visit Has Set a New Status Quo for U.S.-China Tensions.” See also DoD, *Military and Security Developments Involving the People’s Republic of China*, pp. 136–137.

<sup>4</sup> Aquilino, “U.S. Indo-Pacific Command Posture.”

<sup>5</sup> DoD, *Military and Security Developments Involving the People’s Republic of China*, p. 62.

<sup>6</sup> For Chinese cyber intrusions and China’s ability to disrupt critical infrastructure to affect U.S. decision-making and ability to deploy forces, see the Cybersecurity and Infrastructure Security Agency’s Cybersecurity Advisory for Volt Typhoon (Cybersecurity and Infrastructure Security Agency, “PRC State-Sponsored Actors Compromise and Maintain Persistent Access to U.S. Critical Infrastructure”). See also DoD, “DOD Support to National Security Memorandum 22.”



conflict against China. Although war against China, over Taiwan or otherwise, is not inevitable, the United States should take seriously Xi Jinping’s call for the PLA to be prepared to invade Taiwan by 2027 by being prepared to deter Chinese aggression. Deterring Chinese aggression against Taiwan is critical for U.S. national security interests. Beyond the military and diplomatic implications, an invasion would have massive economic consequences for the U.S. and global economies because of the contraction in trade and the impact on supply chains. The timing means that the United States must be ready to fight largely with the forces it has now or that can be brought to bear quickly, recognizing that such deployments would likely be undertaken when China was contesting U.S. logistics. DoD must continue to position forces, smartly build combat credibility, and collaborate closely with allies immediately to deter China from taking such coercive actions at the same time that the United States develops the capability and forces to maintain that deterrence in the longer term.

The challenges posed by China’s military in the Western Pacific distract attention from its integrated global initiatives to increase influence, economic and military ties, and the ability to project force. In so doing, China blurs the distinctions between kinetic and non-kinetic conflict and excels in using economic policy for national security ends. This effort includes the Belt and Road Initiative, investment and ownership of seaports,<sup>7</sup> an overseas military base in Djibouti and efforts to expand elsewhere, and significant control over much of the world’s existing supply of critical minerals.<sup>8</sup> China frequently provides aid and investment (often with crippling financing) to strategically located countries much faster and with less rigorous review than comparable U.S. aid programs. These blended economic and military efforts will make it more difficult for the United States to fight and win a conflict because of their impact on potential allies and partners. The U.S. military retains a significant advantage over the PLA around the world, but U.S. integrated diplomatic and economic efforts have not been harnessed to compete globally with China, which must not be treated as solely an Indo-Pacific threat.

It is unclear whether China’s structural challenges, both economic and demographic, make it more or less likely that President Xi would seek to launch a war, blockade, or other coercive act this decade. The United States must take immediate steps across economic, diplomatic, and military fronts to make clear the U.S. will and capability to impose overwhelming consequences in response to Chinese aggression.

## **Russia: A Chronic and Reconstituting Threat**

The NDS describes Russia as the “acute threat,” in reference to Russia’s February 2022 invasion of Ukraine. This term understates the threat from Russia by implying it is intense but limited in duration. The threat Russia poses is *chronic*—ongoing and persistent. After the initial failure of its incursion and subsequent reversal of territory it had occupied in Ukraine, Russia dug in

<sup>7</sup> Sly and Ledur, “China Has Acquired a Global Network of Strategically Vital Ports.”

<sup>8</sup> Castillo and Purdy, *China’s Role in Supplying Critical Minerals for the Global Energy Transition*.

its lines of defense, greatly expanded its defense spending,<sup>9</sup> ramped up defense production, and plans to “massively expand its ground forces.”<sup>10</sup> Indeed, it has already fielded a 15-percent larger army than it had at the start of the war.<sup>11</sup> It has brokered agreements for missiles and drones from North Korea and Iran and is receiving massive economic and dual-use support from China. Although Russia suffered an estimated 450,000 to 500,000 casualties and lost thousands of tanks and armored vehicles by April 2024,<sup>12</sup> it maintains and has shown the ability to regenerate substantial conventional power, and it maintains the largest nuclear arsenal in the world, additional strategic assets, and world-class space and cyber capabilities. Russia has integrated cyber and space operations into its military operations in Ukraine and has been willing to threaten the use of nuclear capabilities to constrain U.S. actions and behavior, as its nuclear saber-rattling has shaped U.S. and European support to Ukraine.

Russia intends to outlast the West’s willingness to support Ukraine and then seek what it would find to be a favorable outcome to the war. If Russia gains control over Ukraine, its border (including Belarus) with North Atlantic Treaty Organization (NATO) member states would stretch from the Arctic to the Black Sea, presenting significantly more demands for deployed NATO forces. Russia would be an emboldened and likely stronger power, requiring NATO to build and deploy additional forces, potentially at the expense of other locations where those resources could be applied. The only viable course of action is to increase the scale, capability, and freedom to use the materiel provided to Ukraine so that it can push Russia back. The White House is right to make clear that any Russian use of nuclear weapons or other weapons of mass destruction if Russia is losing conventionally would be met with “catastrophic consequences.”<sup>13</sup>

Like China, Russia remains involved outside its immediate theater. It is, directly and through affiliates such as the Wagner Group, engaged diplomatically and through defense support in Africa, Latin America, and elsewhere.

## **Other Threat Actors: Iran, North Korea, Terrorism**

Beyond China and Russia, the NDS lists other regional powers and terrorist groups that will continue to present risk to the United States and its allies and states that, “[i]n service of our strategic priorities, we will accept measured risk but remain vigilant in the face of other persis-

---

<sup>9</sup> Russia is spending an estimated 29 percent of its federal budget in 2024 on military and security spending (Cooper, “Another Budget for a Country at War,” p. 8). “The Russians are going to . . . three shifts a day 24/7’ in their defense industry, the Pentagon’s acquisition chief, William LaPlante, said on Wednesday. ‘Depending on who you believe, they’re at 6 to 7 percent of their GDP [gross domestic product] is spent on their military, we’re at about 3.2 percent’” (McLeary and Seligman, “US Preparing to Announce \$6B in Weapons Contracts for Ukraine”).

<sup>10</sup> Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, p. 15.

<sup>11</sup> Cavoli, “Statement of General Christopher G. Cavoli, United States Army, United States European Command.”

<sup>12</sup> “France Estimates 150,000 Russian Soldiers Killed in Ukraine War.”

<sup>13</sup> Sanger and Tankersley, “U.S. Warns Russia of ‘Catastrophic Consequences’ If It Uses Nuclear Weapons.”

tent threats, including those posed by North Korea, Iran, and violent extremist organizations (VEOs).<sup>14</sup> We agree with their inclusion but believe the risk requires appropriately resourced and coordinated U.S. efforts, particularly given that Tehran and Pyongyang are increasingly partnering with Beijing and Moscow.

According to the 2022 State Department Country Report on Terrorism, “Iran continued to be the leading state sponsor of terrorism, facilitating a wide range of terrorist and other illicit activities around the world,” and that report predates Iran’s direct and proxy efforts since Hamas’s October 7, 2023, attack.<sup>15</sup> Iran may not have orchestrated Hamas’s attacks on Israel on October 7, but it did orchestrate anti-Israel and anti-U.S. violence and instability across the Middle East in the attacks’ aftermath, including an unprecedented direct attack on Israel that simultaneously employed hundreds of unmanned aerial vehicles and cruise and ballistic missiles.<sup>16</sup> Iran is also the main backer of Houthi attacks against freedom of navigation in the Red Sea that have disrupted global shipping and required U.S. intervention.<sup>17</sup> Iran’s military is modernizing, with access to advanced aircraft and the largest inventory of ballistic missiles in the Middle East, with improved accuracy, range, and lethality.<sup>18</sup> It has also advanced its nuclear program since the U.S. withdrawal from the Joint Comprehensive Plan of Action, without concern for United Nations Security Council action because of Iran’s relationship with Russia and China.<sup>19</sup>

In North Korea, Kim Jong Un remains committed to expanding the country’s nuclear weapon arsenal,<sup>20</sup> estimated to consist of 30 or more nuclear warheads.<sup>21</sup> North Korea remains aggressive in conducting missile launches and military demonstrations, including a successful space launch vehicle in 2023. The country has “raised military tensions with South Korea to an unprecedentedly high level”<sup>22</sup> and, in at least some analysts’ view, has made a strategic decision to go to war.<sup>23</sup>

The threat from large-scale terrorist attacks to the homeland and U.S. interests abroad appears to be reduced due to successful U.S.-led campaigns against al-Qaeda and the Islamic State in Iraq and Syria (ISIS) and a system of homeland security built over the past 20 years. However, regional terrorist groups and franchise organizations from al-Qaeda and ISIS remain and threaten the stability of key regions. According to the intelligence community, Israel’s mili-

<sup>14</sup> DoD, *2022 National Defense Strategy of the United States*, p. 2.

<sup>15</sup> U.S. Department of State, *Country Reports on Terrorism 2022*.

<sup>16</sup> Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*.

<sup>17</sup> See, for example, Defense Intelligence Agency, *Iran: Enabling Houthi Attacks Across the Middle East*.

<sup>18</sup> Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, p. 19.

<sup>19</sup> Institute for Science and International Security, “The Iran Threat Geiger Counter.”

<sup>20</sup> Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, p. 21.

<sup>21</sup> This estimate was for January 2023. See, e.g., Stockholm International Peace Research Institute, *SIPRI Yearbook 2023*, p. 248.

<sup>22</sup> Jun, “North Korea Has Lost the ‘Unification Competition.’”

<sup>23</sup> Carlin and Hecker, “Is Kim Jong Un Preparing for War?”

tary operation in Gaza will likely “have a generational impact on terrorism.”<sup>24</sup> Already, armed groups such as the Houthis have engaged in violence and aggressive actions against U.S. military and commercial assets in the wake of Israel’s invasion of Gaza. The United States needs to preserve intelligence resources and regional partnerships where terrorist groups operate, particularly in the Middle East and Africa. The Commission notes that the U.S. withdrawal from Afghanistan poses the risk of a reconstituted terrorist threat, made difficult to manage by the lack of U.S. or allied personnel.<sup>25</sup>

## **An Axis of Growing Malign Partnerships**

Perhaps the most significant strategic development in recent years was the announcement by Vladimir Putin and Xi Jinping of a “no-limits” partnership in February 2022, on the threshold of Russia’s invasion of Ukraine.<sup>26</sup> That partnership has grown in the past two years to include substantial Chinese underwriting of Russia’s war, including provision of machine tools and microelectronics that are critical to Russian defense manufacturing while Russia evades sanctions with energy sales to China. Beyond this partnership between the top two threats to the United States, Iran and North Korea have cemented ties with Russia (and China), providing missiles, drones, and other weapons to fuel Russian attacks on Ukraine. It is unclear what Russia has given in return, but both Iran and North Korea stand to gain greatly from Russian military technology and expertise.<sup>27</sup>

Although neither as strong nor as broad as America’s alliances, this partnership is aimed at challenging U.S. leadership internationally. At minimum, the United States should assume that if it enters a direct conflict involving Russia, China, Iran, or North Korea, that country will benefit from economic and military aid from the others. We also believe that this partnership increases the likelihood that a conflict with one would expand to multiple fronts, causing simultaneous demands on U.S. and allied resources. Efforts to isolate and coerce these states through international means—such as sanctions, embargoes, and censure—will be far more difficult with Russia and China’s alignment, whether at the United Nations or otherwise. Iran and North Korea have already grown bolder in their threats and aggression due to their powerful supporters.

This partnership also undercuts the force planning and force structure in the NDS designed to deter aggression by others when the United States is involved in conflict elsewhere.

---

<sup>24</sup> Harris, Hauslohner, and Nakashima, “Gaza War May Stoke ‘Generational’ Terrorism Threat, Top Intel Official Says.”

<sup>25</sup> The Commission has not examined the strategic implications of the U.S. withdrawal from Afghanistan but notes the creation of a separate Afghanistan War Commission. See also U.S. Institute of Peace, *Senior Study Group on Counterterrorism in Afghanistan and Pakistan*.

<sup>26</sup> Kremlin, “Joint Statement of the Russian Federation and the People’s Republic of China on the International Relations Entering a New Era and the Global Sustainable Development.”

<sup>27</sup> For further discussion, see, e.g., Kendall-Taylor and Fontaine, “The Axis of Upheaval.”

## Threats to the Homeland, Cyberspace, and Space

Among the largest shifts in the threats to the United States is the risk of attack against the U.S. homeland. The NDS rightfully lists defending the U.S. homeland as its top defense priority and notes that U.S. competitors include threatening the U.S. homeland in their doctrine.<sup>28</sup> In the same way that the threat of terrorism was not widely understood or appreciated before 9/11, we believe that this new threat to the homeland and its implications are not well understood by the American public, integrated into planning, or resourced adequately.

The U.S. homeland is under attack from foreign cyber actors and disinformation on a daily basis. To date, China and Russia—the most capable foreign cyber actors—have chosen to limit the damage to U.S. networks and operation of critical infrastructure, but they have both sought to have such a capability in place.<sup>29</sup> War with a peer or near-peer would be devastating. The homeland dimension would likely include cyberattacks on U.S. critical infrastructure, potentially affecting the availability of power, water, wastewater, and the systems that underpin U.S. economic, transportation, and financial systems. Access to critical minerals and goods needed to run the U.S. economy and build weapon systems would be completely cut off. Major war would affect the life of every American in ways we can only begin to imagine.

The homeland threat continues to include that of terrorism—external, inspired, and domestic—as well as Russia, China, and North Korea’s expanding ability to deliver nuclear weapons against the United States and its territories. Both China and Russia also have the capability to deploy air and maritime assets close to U.S. borders. DoD military planners and U.S. Northern Command need to prepare for a worst-case scenario in which nuclear and other strikes are launched against the United States, which could be done in large numbers and with specialized delivery systems. This topic has been covered extensively and expertly by the Congressional Commission on the Strategic Posture of the United States, and we very much share that commission’s view of the threat and its recommendations, including on the need to enhance missile defense for the homeland and modernize all three legs of the U.S. nuclear triad.<sup>30</sup>

Finally, space is no longer a peaceful domain that only supports terrestrial military operations. China and Russia are aware that the effectiveness of U.S. military operations relies heavily on space capabilities and have developed capabilities to hold at risk, disable, and destroy U.S. space assets.<sup>31</sup> It is imperative to ensure the resilience of space capabilities in the government and the commercial sector. Fortunately, the United States possesses the most robust and dynamic civil space industry in the world. The U.S. government should expand investment to diversify and proliferate satellite constellations, develop redundant communication pathways, enhance

<sup>28</sup> DoD, *2022 National Defense Strategy of the United States*, p. 4.

<sup>29</sup> “In the event of crisis or conflict, the Nation’s adversaries will also likely increase their efforts to compromise critical infrastructure to undermine the will of the American public and jeopardize the projection of United States military power” (White House, “National Security Memorandum on Critical Infrastructure Security and Resilience”).

<sup>30</sup> Creedon et al., *America’s Strategic Posture*.

<sup>31</sup> See, for example, Plumb, “Statement of Dr. John F. Plumb, Assistant Secretary of Defense for Space Policy, on Fiscal Year 2025 National Security Space Programs.”

cybersecurity measures for space systems, and provide on-orbit defensive and offensive capabilities.<sup>32</sup> Additionally, the United States should foster international cooperation to enhance the resiliency and interoperability of U.S. and other nations' space capabilities.

Addressing threats to the homeland, cyber systems, and space depends on U.S. agencies outside DoD, as well as commercial providers and citizen engagement. The United States cannot win in conflict against a peer adversary with DoD military strength alone and must integrate planning across its defense and nondefense government agencies. The military's dependence on privately owned and operated critical infrastructure needs further exploration and planning. Legislation, regulation, and policy remain insufficient for the complex interagency and public-private authorities and responsibilities for infrastructure protection, space, and territorial defense.

## Other Threats

The NDS lists other transborder threats, including climate change, pandemics, and instability caused by technological advance. These threats also affect the ability, readiness, and resilience of the U.S. military to fight when needed. The coronavirus disease 2019 (COVID-19) pandemic demonstrated that, in a national emergency, DoD will likely be called on for domestic missions, which could negatively affect readiness for warfighting missions. Similarly, the National Guard has increasingly been used to fight natural disasters, especially wildfire in the Western United States.<sup>33</sup> DoD estimates that roughly 1,700 of its 5,000 military installations worldwide are, or may be, at risk of sea-level rise and extreme weather events.<sup>34</sup> The Commission believes that DoD is taking seriously the implications of climate change for its missions, including focused attention on the opening of the Arctic, although this work will necessarily increase as the effects of climate change accelerate.<sup>35</sup>

The Commission recognizes that DoD has a responsibility and an important role to play to mitigate and respond to these threats and commends the department for its efforts to supplement civil authorities. These requirements must be factored into resource decisions and accounted for in readiness measures.

---

<sup>32</sup> For a good discussion of the threat to space and current environment, see Whiting, "Fiscal Year 2025 Priorities and Posture of the United States Space Command."

<sup>33</sup> In 2021, the National Guard spent 172,000 personnel days fighting fires, compared with about 18,000 personnel days in 2019 (Lawrence, "The National Guard Turns to Firefighting Amid Worsening Climate Change").

<sup>34</sup> Saylor, "Climate Change and Adaptation," citing DoD, Office of the Under Secretary for Policy (Strategy, Plans, and Capabilities), *Department of Defense Climate Risk Analysis*.

<sup>35</sup> See, for example, DoD, "Tackling the Climate Crisis."

## U.S. Alliances and Partnerships

The unmatched U.S. network of allies and partners brightens the strategic environment considerably.<sup>36</sup>

NATO is indispensable to the U.S. plans to deter and, if needed, prevent further Russian expansion, and the United States is indispensable to NATO's capability. NATO's deterrence of Russia, in turn, is vital to the ability of the United States and its allies collectively to counter threats in other theaters. In addition to the U.S. nuclear force underpinning NATO's deterrent, the United States continues to provide high-end conventional capability, intelligence, logistics, and leadership, as well as U.S. forces stationed throughout the region.

According to NATO, 23 allies are expected to meet the goal of spending at least 2 percent of their GDP in 2024, up from only three in 2014.<sup>37</sup> After Russia's invasion of Ukraine, NATO increased its force structure, predominantly in Eastern Europe, to eight standing battlegroups, along with the ability to surge.<sup>38</sup> NATO allies must continue this trend and ensure that defense spending translates operationally to a significantly larger pool of ready forces and force posture in Eastern Europe, as well as decreased reliance on the United States for military operations in conflict, all in alignment with NATO's new force plans. Beyond spending, the Commission applauds DoD's role in forming and hosting two multilateral efforts to organize and coordinate military training, intelligence-sharing, and provision of weapons and equipment to Ukraine: the Security Assistance Group-Ukraine and the Ukraine Defense Contact Group (Ramstein Forum). These efforts demonstrate unique U.S. leadership capabilities and the power of operationalizing alliances. The United States must retain its leadership role in the alliance, providing forces and the enabling capabilities needed and maintaining the alliance's nuclear deterrence, while allowing other NATO countries to assume increased warfighting responsibilities as the United States devotes forces to INDOPACOM.<sup>39</sup>

The Commission strongly praises U.S. diplomatic and defense efforts to strengthen partnerships in Asia, driven in response to Chinese provocations. Efforts such as AUKUS; the Quad; strengthening trilaterally ties among Japan, South Korea, and the United States; and expanding the Enhanced Defense Cooperation Agreement with the Philippines are critical for deterrence and, in many cases, provide significant operational benefits. Several nations in the Indo-Pacific, notably Japan and Australia, are substantially increasing defense posture and investments. Importantly, Congress extended the Compacts of Free Association with the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. Additional efforts are needed, including enabling Taiwan to strengthen its self-defenses, preparing and hardening military facilities on allied territory, sharing military technology where feasible, and upgrading U.S. Forces Japan to a four-star operational command.

---

<sup>36</sup> Allies and partners will play a critical role in helping DoD continue to implement its vision for integrated deterrence. See Pettyjohn and Wasser, *No I in Team*.

<sup>37</sup> NATO, "Defence Expenditure of NATO Countries (2014–2024)."

<sup>38</sup> NATO, "NATO's Military Presence in the East of the Alliance."

<sup>39</sup> Weaver and Kendall-Taylor, "What NATO Allies Must Do to Prepare for Russian Aggression."



Regional partnerships in the Middle East remain nascent and under strain, but efforts to cement diplomatic breakthroughs between Israel and Arab states and to develop security architectures should be nurtured. The impressive success by U.S. Central Command (CENTCOM) at coordinating integrated air defense for Israel in the face of large-scale Iranian attack is an important example of a military partnership in the region.

## **Technology**

Finally, the Commission reiterates the refrain that the pace of technological change is greater than at any other time in U.S. history, presenting both opportunities for major advances for the world's benefit and threats to national security. We discuss the implications of this technological transformation in Chapter 5, especially in terms of the dire need for DoD to maintain a tech-savvy workforce and become more agile in identifying, promoting, and adopting new technologies, at scale, that are predominantly being developed outside government control. The Commission believes DoD's successful adoption of new technology is critical to strengthen deterrence and the ability to prevail, if needed, in conflict.

## CHAPTER 3

# Domestic Constraints and Visions of Success

---

Although the NDS was written to address the international strategic environment, it is also shaped by domestic constraints on what the U.S. government and DoD can and should do. In some cases, the NDS is explicit about these constraints: It calls the defense acquisition system “too slow and too focused on acquiring systems not designed to address the most critical challenges we face” and says that, to “recruit and retain the most talented Americans, we must change our institutional culture and reform how we do business.”<sup>1</sup>

More often, the domestic constraints are not specified, but their impact is clear: The defense budget imposes limits on force size and structure; the weakness of the defense industrial base (DIB) constrains rapid growth of platforms, munitions, and other needed equipment; and the domestic political climate complicates recruitment and distracts from crucial security issues. As an independent body, the Commission has the flexibility and the responsibility to be more explicit in discussing these limitations and laying out aspirational visions of success.

## Department of Defense

The Commission agrees strongly with the admonition from Secretary Austin in his introduction to the NDS that “business as usual at the Department is not acceptable,”<sup>2</sup> but we see continuing evidence that the “barnacles of bureaucracy” are slowing change and innovation.<sup>3</sup> In one estimation, the largest challenge to achieving the goals laid out in the NDS is the business practices of DoD itself.<sup>4</sup> The Commission saw several examples of DoD implementing new concepts and experimenting with different ways to do business, but these tend to be at the margins, as end-

---

<sup>1</sup> DoD, *2022 National Defense Strategy of the United States*, p. 20.

<sup>2</sup> DoD, *2022 National Defense Strategy of the United States*, p. iii.

<sup>3</sup> Greenwalt, “Scraping Off the Barnacles of the Defense Acquisition System.”

<sup>4</sup> According to Mazarr, *Defending Without Dominance*, p. 2,

The country is investing very significant resources in enhancing U.S. warfighting capacity. Yet, on its current path, U.S. defense institutions are likely to fall short of needed change because of bureaucratic rigidity, the constraining effects of institutional traditions, and path dependence. Pouring more resources into the U.S. defense program today is like tuning the engine on an exquisite car without replacing its two flat tires: It can continue to grind forward out of pure muscle, but the real barrier to its performance is not being solved.

runs around the typical processes, and at small scale rather than overhauling central personnel, research and development (R&D), and procurement mechanisms or acting at the scale required. As expected, smaller units can change faster than large ones: U.S. Special Operations Command's (SOCOM's) acquisition model outpaces that of the services; the Space Force has a more agile personnel system than the Air Force; and the Marine Corps has shifted its entire vision faster than the Navy. Too often at DoD, significant change only takes place with the sustained, direct involvement of the Secretary or Deputy Secretary.<sup>5</sup> Such leadership is vital to the effectiveness of the department, but personalized efforts cannot possibly scale to all the change needed.

### **Vision of Success**

There are examples in U.S. defense history marked by the kind of urgent action needed, such as the naval expansion that began in the late 1930s and continued through World War II; the massive expansion of U.S. aircraft, tank, and munitions production during World War II; the Manhattan Project, which yielded the atomic bomb; Project Atlas, which produced the first intercontinental ballistic missile; the rapid fielding of the U-2 and SR-71 reconnaissance aircraft; and the development of concepts and capabilities in the 1980s that helped bring about the end of the Cold War. The common element among these moments was an appreciation of the threat and a need for urgent action, willingness to take risk, and streamlined requirements focused on achieving essential capability. Equally important was the willingness of senior leaders to drive change through the bureaucracy with the backing of Congress. We believe that the threat today matches those earlier periods and requires the same level of action but that this action will only come from concerted leadership. It also requires the systematic change of incentives: for example, for the acquisition workforce to feel more pressure to bring new technology and equipment online faster instead of pressure to prevent cost overruns regardless of schedule or capability.

### **Integration with the Rest of the U.S. Government**

The NDS rests on the concept of *integrated deterrence*, which presumes integration throughout the executive branch and beyond. The concept is also highlighted in the National Security Strategy.<sup>6</sup> Integrated deterrence requires that other departments and agencies have the same priorities and the organizational culture and capacity to be full partners—and that DoD is effective in pursuing integration with those organizations. More progress is needed in this regard.

---

<sup>5</sup> Recent examples include the Mine Resistant Ambush Protected (MRAP) vehicle program under Secretary Robert Gates and Secretary Ash Carter, the “Night Court” program under Secretary Mark Esper, and the Defense Contact Group and Replicator Initiative under Secretary Lloyd Austin and Deputy Secretary Kathleen Hicks, respectively. Of the MRAP, Gates writes,

Multiple explanations have been put forward for the delay in getting MRAPs to Iraq. The most significant is that no one at a senior level wanted to spend the money to buy them. The services did not want to spend procurement dollars on a vehicle that was not the long-term Army and Marine Corps replacement for the Humvee—the joint light tactical vehicle. (Gates, *Duty: Memoirs of a Secretary at War*, p. 121)

<sup>6</sup> White House, *National Security Strategy*, p. 22.

Although DoD integration with the intelligence community works well, the U.S. government lacks a similar level of planning, joint operations, and shared undertaking for national security in other parts, including the Department of State and the U.S. Agency for International Development (USAID), the economic departments (including Treasury, Commerce, and the Small Business Administration), and those supporting the development of a strong U.S. workforce, such as Labor and Education. Just as was the case in the Cold War, these departments and agencies must have the strategic focus on competition, now on China in particular.

The Commission notes that China and Russia are combining mutually supportive diplomatic, economic, military, and information efforts to further their national security interests. Certainly, the U.S. democratic and capitalist system demands some checks on direction to that extent, but we believe that recent administrations of both political parties have not pursued a comprehensive approach to national security. The National Security Council should play a stronger integration role. This includes an interagency planning process that complements military operation plans with diplomatic, economic, and communications tools in conjunction with allies and partners.

### **Vision of Success**

The National Security Council should spearhead an interagency planning process, provide clear guidance, and coordinate actions across departments at the highest levels to employ diplomatic, economic, and military resources. Departments such as Labor and Education should feel a responsibility to provide a workforce suited to public and private sector work in support of national security objectives. Departments that were critical to winning the Cold War—State, USAID, the U.S. Information Agency, and others—should be refocused on the security challenges described above and, where needed, resourced to fully engage in this mission.

## **Defense Industrial Base and Technological Innovation**

The DIB is currently unable to produce the weapons, munitions, and other equipment and software needed to prepare for and engage in great power conflict. Consolidation and underinvestment have led to too few companies, gaps in the workforce, insufficient production infrastructure, and fragile supply chains.

Furthermore, DoD remains organized around an outdated model of technological innovation that relies on large “programs of record” that lack flexibility and restrict development and updates to limited industrial partners. Numerous reports have observed DoD’s innovation adoption problems, all of which note that most technological advances, including in the majority of the fields DoD calls fundamental to its success, are occurring in the private sector due to the shift from government to private R&D funding.<sup>7</sup> DoD has responded with several initiatives,

---

<sup>7</sup> See, for example, DoD, *National Defense Science and Technology Strategy 2023*, p. 1 (“The DoD must be more proactive with its engagements with the private sector to make the right investments to capitalize on emerging technologies, as well as to preempt adversary attempts to do the same”); DoD, *National Defense Industrial Strategy*; McNamara et al., *Commission on Defense Innovation Adoption*, p. 1 (“Unfortunately, the United

notably including the Defense Innovation Unit (DIU) and multiple service-level innovation and rapid acquisition offices, but these receive far less funding and exist outside DoD's budgeting and execution processes. The Office of Strategic Capital (OSC), created to add loans and loan guarantees as methods for funding private sector production, is an innovative approach with the potential to leverage capital with relatively small government outlays.

## Vision of Success

Defense funding should be robust and stable in order to build and maintain additional production capacity, including surge capacity in time of wartime mobilization. DoD should spend the majority of its R&D and procurement funds on modern technology that can be updated and modernized easily and at low cost. DoD should recognize the value of software and better organize its business practices accordingly. Companies should see an incentive and patriotic duty to work with DoD, be freed from excessive regulation, and be allowed to innovate to solve problems rather than meet overly engineered requirements. DoD and the DIB should work productively with counterparts in other nations, increasing coproduction and removing restrictions that prevent DoD from buying products from other nations in cases where domestic capacity is insufficient.

## Congress

Congress, as it has come to function in recent years, has become a major impediment to national security. It routinely fails in its basic job of funding the government on time, instead relying on continuing resolutions that waste billions of taxpayer dollars and, perhaps worse, time.<sup>8</sup> Government shutdowns and automatic sequesters deprive agencies of necessary funding and inject chaos into planning and operations. The extended delay through 2023 and early 2024 in providing needed assistance to Ukraine, Israel, Taiwan, and the DIB, despite such assistance eventually passing overwhelmingly in both chambers, demonstrated a lack of political resolve, willingness to jumpstart U.S. industry, and support for critical U.S. allies and partners.

The Senate process for confirming nominees for civilian and military leaders is slow and a disincentive to public service under the best of times. The one-man Senate chokehold on defense nominees in 2023 was a self-inflicted wound that damaged readiness, morale, and the general functioning of DoD and the Joint Force. Although that blockage on military confirmations has

---

States' defense acquisition process is plagued with lengthy timelines and inefficiencies, underscoring the urgent need for a fundamental shift in how the Department of Defense [DoD] approaches the adoption and integration of new technology"); and Thornberry et al., "An Innovation Strategy for the Decisive Decade."

<sup>8</sup> From FY 2011 to FY 2023, DoD operated under a continuing resolution for an average of 117 days per year. It had a full-year appropriation only one year, FY 2019. DoD reported the financial impacts of these continuing resolutions in FYs 2011, 2013, 2017, and 2018, reporting that the amount of funding "locked up" by these continuing resolutions accounted for \$37.8 billion in continuing funding for programs that was no longer requested or preventing new programs from starting (source: analysis of Congressional Research Service Appropriations Status Tables from FY 2011 to FY 2023).

been alleviated, many civilian defense nominees and positions in other departments (such as ambassadors) remain in limbo.

Finally, the current strategic environment demands that Congress push DoD and other agencies to move faster, take risks, and achieve results in short time frames. Positive examples of congressional action include creating the Pacific Deterrence Initiative and demanding attention on shortfalls in U.S. shipbuilding capacity. We urge Congress to maintain this mindset rather than protecting legacy programs and focusing oversight on failures instead of how to succeed.

## Vision of Success

We recommend measures introduced in Congress and suggested by other commissions to reduce the harm done by restrictions imposed by continuing resolutions, including the ability to start new initiatives and shift funding below agreed-upon thresholds, and to prevent government shutdowns.<sup>9</sup> We recommend that Congress remove, as it does periodically, some civilian positions from the requirement of Senate confirmation and recommend that Congress review whether military promotions and rotations below the three-star level can be processed more routinely and quickly, as with confirmation of lower-level officers.<sup>10</sup> Civilian DoD nominees, ambassadors, and other positions outside the military that are necessary for national security should also be expedited for confirmation in the Senate.

## Resources

The NDS is, on its face, independent of budget considerations (often called “budget-informed” but not “budget-driven”) but is inherently constrained by past, present, and future levels of investment. Over time, budget limitations have restricted procurement to rates lower than needed, robbed spending on munitions, reduced readiness, and forced prioritizations over the locations and amounts of U.S. presence (military, intelligence, and diplomatic) around the world, among other things. The current defense budget of \$850 billion is undeniably a large amount and can be spent more effectively and efficiently, as detailed later in this report. Finding savings, making reinvestments, and reforming processes to become more efficient and get more capability per dollar are all necessary. However, these improvements would not obviate the need to spend not

---

<sup>9</sup> See, for example, recommendation 9 (“Mitigate Problems Caused by Continuing Resolutions”) in Commission on Planning, Programming, Budgeting, and Execution Reform, *Defense Resourcing for the Future*, pp. 81–82. We also applaud Congress for passing Section 229 of the FY 2024 National Defense Authorization Act, allowing for new research, development, test, and evaluation (RDT&E) and procurement programs in certain circumstances, and we encourage the services to make regular use of this authority. For one example of legislation to prevent government shutdowns, see Office of Senator James Lankford, “Lankford, Hassan, Colleagues Want to Stop Government Shutdowns, Force Congress to Do Its Job.”

<sup>10</sup> The Commission does not seek to impugn the work of the Senate Armed Services Committee, which conducts its review of military nominations in a relatively timely and bipartisan manner. Rather, our recommendation seeks to reduce the impact on Senate-wide delays, often driven by the need for unanimous consent, especially for personnel and positions at levels lower than those requiring Senate confirmation in other departments.

just better but more, given the low level of defense spending compared with times in the past century of similar risk.

### **Vision of Success**

Congress should revoke or override the caps in the 2023 Fiscal Responsibility Act. For FY 2025, real growth in defense and nondefense national security spending is needed and, at a bare minimum, should fall within the range recommended by the 2018 NDS Commission. While other reforms described elsewhere in this report are being made, increased spending should be allocated to prioritize near-term readiness demands to restore and reinforce deterrence. Supplemental funds should begin a multiyear capital investment in additional capacity, including growing the capacity of the industrial base. Future defense budgets should put defense and other components of national security on a glide path to support efforts commensurate with the U.S. national effort seen during the Cold War. Larger amounts of defense spending should be accompanied by sufficient resources to build capacity at other departments and agencies that contribute elements to national power.

## **Domestic Disengagement, Need for Public Engagement**

The Commission heard in numerous meetings with current and former officials that the polarization of U.S. domestic politics is harming the U.S. military and U.S. national security. We are concerned that the traditional post–World War II bipartisan support for a strong military, preservation of alliances, and engagement in international affairs is waning, as was on display in the monthslong delay before Congress ultimately approved a supplemental appropriations request for Ukraine, Israel, and other purposes.

After the relative peace following the Cold War and two decades of the Global War on Terrorism, the American public see current national security challenges as remote. There is a dire need to better educate the American public to the nature of the threats (including to the homeland), the importance of U.S. global engagement, and what it will take in terms of personnel, funding, and (potentially) diversion from normal civic and economic life if deterrence fails.

### **Vision of Success**

U.S. leaders must make the case publicly why these challenges matter and why the United States remains the indispensable nation to maintain peace, stability, and a flourishing economy. This begins with the President, the Congress, and the cabinet but extends to civic and economic leaders, the media, and others who influence the public. Success in this regard looks like increased civic and public service, informed debate about foreign affairs and national security, and an understanding of how American life depends on, and is increasingly part of, U.S. national security. The “all elements” effort requires the support of the public for mobilization of the economy; broader volunteering in military, public, and civic service; and the willingness to sacrifice through taxation and possible changes to entitlement benefits so the nation can afford the cost of global leadership.



## Creating an All Elements of National Power Approach to Defense

---

**DoD cannot, and should not, provide for the national defense by itself. The NDS calls for an “integrated deterrence” that is not reflected in practice today. A truly “all elements” approach is required to coordinate and leverage resources across DoD, the rest of the executive branch, the private sector, civil society, and U.S. allies and partners.**

The NDS calls for integration, noting, “Integrated deterrence means using every tool at the Department’s disposal, in close collaboration with our counterparts across the U.S. government and with Allies and partners, to ensure that potential foes understand the folly of aggression.”<sup>1</sup> The NDS, like the NSS, recognizes that DoD cannot achieve U.S. national defense goals alone and acknowledges that some activities are better undertaken by other U.S. departments and agencies or can be done more effectively or efficiently by allies or with the private sector.

The Commission agrees that such integration is necessary but not sufficient. We recommend going beyond a “whole-of-government” plan and building a coordinated and resourced *all elements of national power* approach to national security that goes beyond DoD and the rest of the federal government and that includes industry, the American public, the U.S. educational system, nonprofit and civic organizations, and U.S. allies and partners.<sup>2</sup>

Only a small fraction of U.S. society was affected directly by the wars in Iraq and Afghanistan. Fighting an actual conflict with a peer competitor, such as China or Russia, would be fundamentally different and would affect the life of every American in ways we can only begin to imagine. The U.S. homeland would be a target—at minimum, through disruptions to critical infrastructure supporting the war effort, but likely with significant public impact. A conflict with a global power would result in economic impacts from disruptions to supply chains and global trade that would be felt by nearly every American. War would also require increased manpower, including substantial use of the Reserve Component and National Guard, at a time when the viability of the all-volunteer force is facing serious questions.<sup>3</sup> It would require substantially more defense production, likely including invoking the Defense

---

<sup>1</sup> DoD, *2022 National Defense Strategy of the United States*, p. iv.

<sup>2</sup> For a discussion of the need for a similar approach to counterterrorism, see Rasmussen, “Adopting a Whole-of-Society Approach to Terrorism and Counterterrorism.”

<sup>3</sup> See, for example, Dempsey and Barndollar, “The All-Volunteer Force Is in Crisis.”

Production Act to shift commercial production to the military effort, resulting in reduced availability of domestic goods and services.

Deterring such conflict demands that the United States demonstrates the ability and will to do all these things—and within the next two or three years. This, in turn, demands an all elements of national power approach and public support.

Such an approach has not been deployed since the threat of nuclear war and spreading communism at the height of the Cold War, when there was unity of action across the government; common purpose across the aisle in Congress; a focus in the U.S. educational, labor, and business sectors; and a public who supported public service and an internationalist U.S. strategy. We believe the threat today matches that of the Cold War, and it is time to return to such an approach to prepare.

## All of Government

The first step in building a comprehensive approach to national defense is better coordinating and integrating the efforts within the executive branch.<sup>4</sup>

Through numerous discussions with current and former senior national security officials, the Commission concludes that strategic coordination across departments and agencies is lacking. There are silos of effort—diplomatic, foreign aid, military, and other—that are episodically brought together for joint effect. The U.S. government needs to harness all elements of national power—and, in some cases, develop them for the purpose—just as China and Russia are focused on achieving their strategic objectives. This function rests most logically at the National Security Council and its Strategic Planning Directorate, the focus of which should be enhanced and tightened to track more closely with Pentagon strategic planning operations.

There is a clear alignment between the stated goals and priorities in the NDS and similar documents and statements from the intelligence community.<sup>5</sup> We do not see the same level of alignment or coordination across the Departments of Defense, State, Treasury, and Commerce.<sup>6</sup> Meanwhile, the Commission has heard examples of the Pentagon not coordinating and integrating its operations effectively with the State Department and others, as its own NDS would prescribe.

Although senior leaders at the State Department are directly focused on all major threats to the United States, the State Department overall lacks culture and the resources to lead sustained

---

<sup>4</sup> See, e.g., Atlantic Council Combatant Command Task Force, *All Elements of National Power*; and Gates, “The Overmilitarization of American Foreign Policy.”

<sup>5</sup> See, for example, the parallel structure in the intelligence community’s most recent annual threat assessment, as well as the relative alignment between the NDS and the National Intelligence Strategy for 2023 (Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*; Office of the Director of National Intelligence, *National Intelligence Strategy*).

<sup>6</sup> For example, the most recent State Department strategy lists 19 objectives for the State Department and USAID. Only one objective is focused on the diplomatic requirements of great power competition (Objective 1.4): “Lead allies and partners to address shared challenges and competitors; prevent, deter, and resolve conflicts; and promote international security” (U.S. Department of State and U.S. Agency for International Development, *Joint Strategic Plan FY 2022–2026*, p. 2).

U.S. diplomatic engagement worldwide. From its discussions, the Commission does not believe the State Department has the same focus on China and Russia as the top threats to U.S. security that DoD has, nor does the State Department have a holistic diplomatic approach to compete with those countries globally. Embassies have a narrow view based on one country and may not be focused on the advances of China or Russia, for example, in that country. We recommend that Congress provide adequate funding for the State Department, requiring it to develop and implement a national security–focused diplomatic strategy that incorporates USAID’s foreign assistance tools.<sup>7</sup> Congress should also return to the practice that was common before the Obama administration of quickly confirming ambassadorial nominees.<sup>8</sup>

The Commission also recommends that the Department of State, USAID, and DoD review their differing ways of dividing the world into regions and commands and align their respective areas of responsibility to improve coordination across the departments and make it easier for other nations to engage the United States.

Implementing the NDS requires a skilled, global, rapid communication and messaging ability to compete with the mis- and disinformation machines supported by Russia, China, and others—including even the Houthis, who have managed to turn attacks on trade and free navigation into a Middle East cause célèbre.<sup>9</sup> Both State, primarily through the Global Engagement Center, and DoD need to rebuild the kind of ability provided by the U.S. Information Agency and the Active Measures Working Group during the Cold War to communicate and counter U.S. adversaries’ pervasive messaging and propaganda. This requires the ability and authority to provide and respond to content at the speed of the news and social media cycle.

The Commission finds that the U.S. government’s approach to economic investment, including international humanitarian and development assistance and economic support funds of USAID; investment and trade capacities of the U.S. International Development Finance Corporation; the Export-Import Bank; the Office of the U.S. Trade Representative; and the departments of Treasury, Commerce, and Energy, must be better coordinated and better focused toward implementation of the national security and national defense strategies. These organizations, in combination, should be playing a critical role in developing relationships and providing countries with an alternative to the Chinese Belt and Road Initiative and similar programs.

There is currently no coordinated U.S. economic agenda for the Indo-Pacific to accompany the military strategy, even though the integration of global supply chains and economic and military interests in the Indo-Pacific are fully intertwined.<sup>10</sup> Indeed, China has consistently used economic tools and coercion to achieve its aims, a practice that the United States has strug-

---

<sup>7</sup> This recommendation stands in contrast to the intent of the House Appropriations Committee to reduce FY 2025 funding for the House Subcommittee on State-Foreign Operations by 11 percent from the request (House Appropriations Committee, “Committee Approves FY25 Subcommittee Allocations, Prioritizing Defense, Homeland Security, and Veterans Affairs”).

<sup>8</sup> See “Where Are All the U.S. Ambassadors?”; and Piper, “The Broken Senate Confirmation Process Is Eating Up Precious Floor Time.”

<sup>9</sup> See Walker, “The Global Information Wars”; and Nereim, “Honed at Home in Yemen, Houthi Propaganda Is Going Global.”

<sup>10</sup> Sevastopulo and Rogers, “Joe Biden Halts Plan for Indo-Pacific Trade Deal After Opposition from Democrats.”

gled to counter. The departments of Treasury and Commerce have levied sanctions, closed off financial and trade options for nations that violate international law, and imposed technological restrictions on China's tech sector. These departments must be continually integrated into U.S. long-term security planning and adapt tools and strategies for a strategic environment in which China, Russia, Iran, and North Korea are willing to collude to block international consensus, avoid sanctions, and strategically block market access to critical goods and materials and in which those adversaries can coerce their trading partners to do the same.

These departments must see their involvement in national security as a necessary component of promoting the U.S. economy and a vibrant private sector and as a key part of their overall mission. We recommend that Congress adequately fund the national security offices at the departments of Treasury and Commerce and provide necessary authorizations for the Development Finance Corporation and Export-Import Bank to reflect these responsibilities.<sup>11</sup>

Multiple aspects of U.S. national security fall under the responsibilities of the Department of Homeland Security (DHS), which often requires additional resources and legal authorities. DHS missions include improving security at the southern (and northern) border against entry by those seeking to cause harm but extends equally importantly to the Coast Guard's leadership in the Arctic, the Cybersecurity and Infrastructure Security Agency's role in protecting U.S. government computer networks and overseeing the security and resiliency of critical infrastructure, the trade mission of Customs and Border Protection, and many other examples. DHS requires additional resources, internal capacity, and legal authorities to fulfill several of these missions. The NDS identifies "protecting the homeland" as a top priority. This is challenging even with complete partnership with DHS. It is impossible without.

We recommend that Congress conduct, empanel a group for, or require an executive branch review of the military's reliance on U.S. private critical infrastructure for warfighting and the resilience of critical infrastructure, given the intelligence available on adversaries' intentions and capabilities for disruption or destruction.<sup>12</sup> That review should include recommendations on the authorities needed by DHS or sector risk management agencies to ensure adequate levels of security to underpin the implementation of the NDS.<sup>13</sup>

---

<sup>11</sup> At the 2023 Reagan National Defense Forum, Secretary of Commerce Gina Raimondo made the point this way:

[F]or members of Congress who are here, I'll just say this: BIS [Bureau of Industry and Security] has the same budget today as it did a decade ago. We have twice as many licensing requests. I get called from members of Congress, Democrat and Republican, constantly. Why aren't you doing more? Why aren't you controlling more with artificial intelligence? Why aren't you controlling more with semiconductors? I agree with you. I have a \$200 million budget. That's like the cost of a few fighter jets. Come on. If we're serious, let's go. Fund this operation like it needs to be funded so we can do what we need to do to protect America. (Reagan Foundation, "Reagan National Defense Forum 2023 Fireside Chat," p. 3)

<sup>12</sup> The Commission applauds, as one example, the recent work to address potential vulnerabilities at critical shipping ports, including the February 2024 Executive Order and U.S. Coast Guard actions to onshore production of cranes at U.S. shipping ports (White House, "Biden-Harris Administration Announces Initiative to Bolster Cybersecurity of U.S. Ports").

<sup>13</sup> The Commission also notes the requirements to review vulnerabilities, set minimum capability requirements, provide resources, and share intelligence with critical infrastructure owners and operators under White House, "National Security Memorandum on Critical Infrastructure Security and Resilience."

An all elements of national power effort also requires the integration of agencies not typically considered to be part of the national defense. For example, DoD, Commerce, State, and Treasury need to work with the Department of Education and state and local governments to reverse the decline in the percentage of graduating American high school students able to meet the educational and/or physical standards for entering military, civil, or foreign service.<sup>14</sup> Increasing education on civics and world events is critical for public understanding of the threats the United States faces and the role all Americans should play in meeting these challenges. We recommend reevaluating and renewing the National Defense Education Act for the 21st century as needed to accomplish this goal.

The Commission heard unanimously from representatives of private sector entities and from multiple service secretaries that DIB workforce shortages pose a significant challenge across the U.S. industrial base. The White House should lead coordinated efforts across the departments of Defense, Labor, Commerce, and Education to help address the critical shortage of workers who are trained in the skills needed and willing to work across industries to fill shortages in skilled trades jobs.<sup>15</sup>

## **Adding the Private Sector**

DoD cannot achieve its security goals without the active participation of and partnership with the private sector. We discuss elsewhere the importance of private companies for defense production and innovation, as well as the shortfalls in infrastructure and capacity, and recommend that DoD invest to help fill that gap.

The Commission has been impressed with DoD efforts to improve ties and its ability to work with the private sector, including the expansion (by resources and locations) at DIU, creation of the Office of Strategic Capital, issuance of the National Defense Industrial Strategy, and implementation of an array of programs across the services and commands to strengthen information-sharing and joint awareness.

These initiatives should be continued and expanded and should be complemented by meaningful and structural reforms to acquisition law, regulation, and culture.

Private sector companies should feel a responsibility to bolster U.S. innovation and competitiveness and to see themselves as important partners with the U.S. government and its allies. Companies can play an important role in promoting a culture of public service and supporting security efforts, including through their personnel practices and public statements.<sup>16</sup>

---

<sup>14</sup> Novelly, “Even More Young Americans Are Unfit to Serve, a New Study Finds. Here’s Why.”

<sup>15</sup> There is some potentially good news with increasing rates of enrollment in vocational training programs (Chen, “How Gen Z Is Becoming the Toolbelt Generation”).

<sup>16</sup> For a particularly pointed argument to this effect, see Alex Karp’s remarks at the 2023 Reagan National Defense Forum: “[S]omehow the corporate elite of this country thinks when it’s time to make money, you stand up, and when it’s time to stand up, you go play golf. And we’ve got to change that. That’s our fault” (Reagan Foundation, “Reagan National Defense Forum 2023—Panel 1”).

## All of Nation

The recommendations throughout this report will require increased resources and the political will to engage internationally that requires the support of a well-informed public.<sup>17</sup> The American people will need to pay for the increases in federal outlays to build the force needed. The American public will have to produce the people to serve in the military, the public sector, and the industrial base. While it is incumbent on political leaders—particularly the President—to make the case for the need for a strong and engaged United States, it cannot be done without the public’s support.

Just as Sputnik and the height of the Cold War spurred public support for the space program, passage of the National Defense Education Act of 1958, and creation of the Peace Corps, the United States is at a watershed moment in need of ways for public participation in the nation’s security affairs. The Commission is struck by how often the lack of civic engagement came up in our meetings with DoD personnel and especially with retired senior leaders.

Polls show declining public trust in the military as an institution, down from 70 percent having a great deal of confidence in the military in 2018 to 45 percent in late 2021, where it has plateaued, driven by lower levels of confidence (30 percent) among Americans under the age of 30.<sup>18</sup> A separate poll showed that only 38 percent of respondents said that patriotism was very important to them, down from 70 percent in 1998.<sup>19</sup> There has also been an increasing call from both sides of the aisle for isolationism and a reduced investment by the United States internationally.

Given questions among some in the public and some elected officials over military aid to Ukraine and the importance of defending Taiwan, political leaders must be prepared to explain the security and economic consequences of failing to support other nations in conflicts that further U.S. interests.

The President, members of Congress, key figures in the administration, and business and civil leaders must engage in repeated, regular conversations with the American people about the importance of global engagement and the risks to the United States and its interests and must justify the costs demanded to build and use the national security system required.

---

<sup>17</sup> See, for example, George Kennan’s “Long Telegram”: “Our only stake lies in what we hope rather than what we have; and I am convinced we have better chance of realizing those hopes if our public is enlightened and if our dealings with Russians are placed entirely on realistic and matter-of-fact basis” (Kennan, “861.00/2—2246: Telegram. The Charge in the Soviet Union (Kennan) to the Secretary of State”).

<sup>18</sup> Anderson et al., “Results from the 2023 Annual Ronald Reagan Presidential Foundation and Institute National Defense Survey.”

<sup>19</sup> Zitner, “America Pulls Back from Values That Once Defined It, WSJ-NORC Poll Finds.”

## Allies and Partners

The NDS describes allies and partners as “foundational” to U.S. national security and the ability of DoD to deter and engage in combat.<sup>20</sup> We wholeheartedly agree and believe that these nations are, along with the American people, the most important U.S. advantage over China and Russia.

The United States cannot succeed in deterrence or in combat without its allies and partners. Such cooperation requires moving beyond allies and partners providing access, basing, and overflight and toward demonstrating integrated and combined capability, interoperability in employing that capability, and the collective resolve to do so.

We commend the Biden administration for its active and successful efforts to forge and strengthen ties with foreign allies and partners. Increased defense spending by NATO and other allies (e.g., Japan), the AUKUS agreement, trilateral relations with Japan and South Korea, and access agreements in the Philippines are a few of the significant recent developments, though these efforts will require work and resources to operationalize.

The United States must continue to use all tools to continue to build these relationships. In keeping with the previous section, we recommend expanding the use of commercial and cultural relationships, financial instruments, energy policy, shared views on environmental risk, and anything else in the toolbox by which the United States can promote shared interests and draw contrasts with China and Russia.

In keeping with our stated reliance on alliances, we recommend the following:

- Ending the overuse of classification restrictions, including the overuse of special access programs, to prevent information-sharing with allies. If the U.S. military intends to fight alongside allies beyond the Five Eyes partners, it has to share information with them. If the combatant commands are (rightfully) incorporating allied personnel in their headquarters, DoD should support the technological means for those personnel to have a shared operating picture.<sup>21</sup> We recommend that the Director of National Intelligence and the Secretary of Defense set a date to accomplish this.
- Overhauling the International Traffic in Arms Regulations (ITAR) and Export Administration Regulations governing the export of defense-related articles. These systems were built when warfighting technologies were solely the realm of defense rather than the dual-use and commercialization regime that exists today.<sup>22</sup> These Industrial Age regulations are an impediment to defense innovation and integration with allies and, at best, add enormous delay and costs to allies. As with the “small yard and high fence” approach to protecting technologies from China, when it comes to military sales to U.S. treaty allies, the U.S.

---

<sup>20</sup> DoD, *2022 National Defense Strategy of the United States*, p. 14.

<sup>21</sup> The Commission commends in this regard the operations of the Security Assistance Group–Ukraine, which has created an international, collaborative approach to coordinating support to Ukraine.

<sup>22</sup> Defense Secretary Gates noted that the system is a “byzantine amalgam of authorities, roles, and missions scattered around different parts of the federal government” (Gates, “U.S. Export Control System”).



government should protect a small number of core technologies that provide American asymmetric advantage but should create a presumption of sharing.<sup>23</sup>

- Increasing coproduction and coordinating international DIB investments to ensure the ability to produce weapons, equipment, and munitions to meet joint needs.
- Deepening strategic and operational planning with allies and partners for the most stressing scenarios they may face to understand what allies could bring to bear—including military and nonmilitary tools—and identifying potential roles and missions in such a conflict. Coordinating in advance of a potential conflict would enhance preparedness and improve multilateral responsiveness to potential aggression. Moreover, peacetime planning may serve as a powerful signal of collective resolve.<sup>24</sup>

---

<sup>23</sup> White House, “Remarks by National Security Advisor Jake Sullivan on the Biden-Harris Administration’s National Security Strategy.”

<sup>24</sup> Pettyjohn and Wasser, *No I in Team*.

## CHAPTER 5

# Innovation at DoD in Technology, Concepts, and Approaches

---

**Fundamental shifts in threats and technology require fundamental change in how DoD functions. DoD is operating at the speed of bureaucracy when the threat is approaching wartime urgency.**

In light of the strategic environment described above, technological change, and the evolving character of war, DoD and the Joint Force will need to make far-reaching changes to the way they operate. The NDS recognizes this imperative for innovation and change, citing a need for “overhauling the Department’s force development, design, and business management practices.”<sup>1</sup>

## Technology and Technology Adoption

The U.S. military, underpinned by the national security innovation base, has employed cutting-edge technology to its decisive advantage for decades. The assumption of uncontested technological superiority has given the United States the luxury to build exquisite capabilities, with long acquisition cycles and little tolerance for failure or risk. Given that peer-level competitors (such as China) are incorporating technology at accelerating speed and that even relatively unsophisticated actors (such as the Houthis) are able to obtain and use modern technology (e.g., drones) to strategic effect, DoD will have to continue to develop, adopt, and iterate new technologies at greater speed and scale and at an affordable cost.

Unfortunately, DoD R&D and procurement systems were built around a closed network of defense-funded organizations and traditional defense companies.<sup>2</sup> This does not reflect today’s innovation environment, which exists across the private sector and is largely driven by commercial interests. Effectively harnessing the national security potential of this new environment will place the United States (and others) on the cusp of a revolution in military affairs. To illustrate this dynamic, DoD has identified 14 critical technologies that are “vital to maintaining the

---

<sup>1</sup> DoD, *2022 National Defense Strategy of the United States*, p. 19.

<sup>2</sup> “Venture-backed companies were awarded less than 1% of the \$411 billion Defense Department contracts awarded in the government’s [2023] fiscal year through September, according to data compiled by Govini, a defense software company” (Somerville, “Investors Are Betting on Defense Startups. The Pentagon Isn’t.”).

United States' national security."<sup>3</sup> Of the 14, only three (directed energy, hypersonics, and integrated sensing and cyber) are defense specific; the others are emerging fields and areas where the private sector plays the lead role in research, development, and implementation and where DoD needs to focus on adopting and adapting technology rather than driving its innovation.<sup>4</sup>

The NDS cites the need to "increase collaboration with the private sector" and "be a fast-follower where market forces are driving commercialization of military-relevant capabilities," but DoD has had difficulty for years in implementing this vision.<sup>5</sup> In 2018, the Defense Innovation Board noted that DoD does not have an innovation problem, it has an innovation adoption problem.<sup>6</sup> This remains true today; as the Director of DIU wrote in releasing *DIU 3.0*, "we can and must do more to identify and adopt impactful commercial technologies at speed and scale."<sup>7</sup> The National Defense Industrial Strategy and the National Defense Science and Technology Strategy describe the needs for innovation and next-generation capabilities within DoD but fall short in terms of clear practical recommendations and reforms.<sup>8</sup>

Overcoming the cultural and institutional barriers to innovation at speed and scale is a critical requirement for achieving the goals of the NDS. It will require the concerted attention of senior DoD leaders and Congress to replace legal, regulatory, and cultural barriers with the mindset and exhortation to solicit, identify, test, procure, and adapt new technology. Several government and external organizations have provided useful recommendations to improve adoption of technical innovation; we recommend that the Secretary of Defense establish a team, with congressional involvement, dedicated to developing an implementation plan for this transformation.<sup>9</sup>

---

<sup>3</sup> Office of the Under Secretary of Defense for Research and Engineering, "USD(R&E) Technology Vision for an Era of Competition." See also DoD, *National Defense Science and Technology Strategy 2023*.

<sup>4</sup> "Even in areas directly relevant to military applications, the commercial sector now plays a dominant role; non-defense firms currently lead progress in 11 of the Pentagon's 14 designated critical technology areas" (Fontaine, "Foreword," p. 1). Fontaine also notes, "In 1960, U.S. defense spending accounted for some 36 percent of global research and development. By 2019, that portion had fallen to just 3.1 percent."

<sup>5</sup> DoD, *2022 National Defense Strategy of the United States*, pp. 19–20.

<sup>6</sup> See Work, Brown, and Lord, "Innovation Adoption for All"; and Tucker, "Here's How to Stop Squelching New Ideas, Eric Schmidt's Advisory Board Tells DoD." The observation was recently repeated in McNamara et al., *Commission on Defense Innovation Adoption*, p. 1: "Unfortunately, the United States' defense acquisition process is plagued with lengthy timelines and inefficiencies, underscoring the urgent need for a fundamental shift in how the Department of Defense (DoD) approaches the adoption and integration of new technology."

<sup>7</sup> Beck, "*DIU 3.0*," p. 9.

<sup>8</sup> DoD, *National Defense Industrial Strategy*; and DoD, *National Defense Science and Technology Strategy*.

<sup>9</sup> See, for example, DoD, *National Defense Science and Technology Strategy 2023*, p. 1 ("DoD must be more proactive with its engagements with the private sector to make the right investments to capitalize on emerging technologies, as well as to preempt adversary attempts to do the same"); DoD, *National Defense Industrial Strategy*; McNamara et al., *Commission on Defense Innovation Adoption*, p. 1 ("Unfortunately, the United States' defense acquisition process is plagued with lengthy timelines and inefficiencies, underscoring the urgent need for a fundamental shift in how the Department of Defense [DoD] approaches the adoption and integration of new technology"); Thornberry et al., "An Innovation Strategy for the Decisive Decade"; and Commission on Planning, Programming, Budgeting, and Execution Reform, *Defense Resourcing for the Future*.

DoD must confront the institutional processes and incentives that favor continuing existing programs, such as long planning cycles, overly specific requirements, inflexible budget lines, long-standing relationships with providers, proprietary technology, familiarity in using existing equipment, political support, ostensibly less risk of schedule delays and cost overruns, and fears that replacing existing programs will lead to operational gaps.

The Commission has seen numerous examples in the private sector in which these incentives are reversed, driven by the financial motivations to solve operational problems quickly. But identifying and adopting new technology, especially as provided by less traditional suppliers, is disruptive. The Commission believes that DoD needs to better identify the operational capabilities it needs rather than establish overly prescribed technical requirements. Private sector companies can then propose existing or developing technology to meet those requirements in creative ways. This shift is facilitated by more consistent use of open standards and leveraging the idea of modular open system architecture.<sup>10</sup> Such an approach will separate the development of hardware from software, enable more-rapid upgrades, and help diversify the industrial base.

As DoD modifies its processes to adopt more commercial, dual-use technology, it should also consider technological risk and the flexibility to end unsuccessful programs early in the development and procurement processes. Although some programs are so important that they cannot be canceled, others should be structured to allow termination or a change in technical approach to avoid unacceptable cost and schedule overruns and to explore alternative pathways.

The U.S. security clearance system also impedes innovation by delaying nontraditional defense companies in conducting work with warfighting applications. Recent reforms have reduced the average time to process an application for a security clearance,<sup>11</sup> but the system still limits the ability of government officials to share details on defense operational needs and priorities and engage iteratively with private sector workers. The cost and delay in obtaining clearances disadvantages the smaller and nontraditional defense companies that DoD relies on to diversify its supplier base.<sup>12</sup> Collaboration with international allies is also hindered by differing classification systems, impeding joint efforts on essential security innovations.

DoD has created dozens of mechanisms and offices for identifying, supporting, adopting, and scaling innovation, most of which exist outside the main R&D and procurement channels. These include the Rapid Capabilities Offices in the Air Force and Army, the Air Force and SOCOM Project Works, DIU, the Defense Advanced Research Projects Agency (DARPA), and OSC. While each has had notable successes, they have also had problems transitioning technologies and getting them produced at scale.<sup>13</sup> The sheer number of these efforts is causing confusion within DoD and among private sector companies and requires internal coordination,

---

<sup>10</sup> DoD, “Defense Standardization Program: Modular Open Systems Approach (MOSA)”; Office of the Under Secretary of Defense for Research and Engineering, “Systems Engineering and Architecture: Modular Open Systems Approach.”

<sup>11</sup> See U.S. General Services Administration, “Top Secret / Sensitive Compartmented Information (TS/SCI) Clearance.” See also Security, Suitability, and Credentialing Performance Accountability Council, “Trusted Workforce 2.0.”

<sup>12</sup> DoD, *National Defense Industrial Strategy*.

<sup>13</sup> See Work, Brown, and Lord, “Innovation Adoption for All.”

which DIU has been tasked to deliver.<sup>14</sup> The next step should be to identify the most successful mechanisms, streamline the process for using them, and fund them at levels commensurate with the importance of this kind of technical innovation.

In the near term, DoD should continue to formalize efforts to increase coordination and synergy across the technology innovation units under the direct supervision of the Secretary or Deputy Secretary and test the role of cross-functional teams of operators, technologists, and personnel with acquisition, budgeting, and strategy roles to develop programs as an alternative to the traditional Program Executive Office. DoD should also codify how to transition innovative projects to full-scale programs by identifying an end user (usually, a service) to own the mission, build funding, and provide links to operations. The Commission notes that the war in Ukraine provides an opportunity to develop, field, test, and augment new technologies and concepts for using them at the speed and scale required in conflict.

The Commission notes the success of DIU, which was founded in August 2015 at the direction of Secretary Ash Carter and was, crucially, restored as a direct report to the Secretary by Secretary Austin.<sup>15</sup> The Commission applauds the work of DIU, the plan outlined in *DIU 3.0* to embrace an innovation-driven DoD, and the support of the Defense Appropriations Subcommittees in Congress for providing significant funds and contract flexibility to allow this organization to succeed.

The Commission also notes Deputy Secretary Hicks's leadership on the Replicator initiative, designed to field thousands of autonomous systems across domains within 18–24 months, intentionally going around the standard service planning and procurement systems and without creating a new program of record. Replicator is based on the idea of rapidly fielding large numbers of autonomous systems to improve readiness and operational capability. The Commission also appreciates the side benefits of Replicator: demonstrating that rapid procurement can be done, streamlining the requirements process, building trust with Congress, and fostering innovation and collaboration in the defense industry. The Commission applauds Deputy Secretary Hicks and Vice Chairman Christopher Grady for driving the cultural change necessary inside the Pentagon and recommends that DoD document and apply lessons from this initiative so it can scale to solve other emerging operational needs without requiring the same level of attention from senior leadership.

## Innovation in DoD Structure and Function

The Commission did not conduct a detailed study of DoD's organization and recognizes that reorganization often destabilizes management and slows the reform it was proposed to enable.

---

<sup>14</sup> Beck, "*DIU 3.0*," p. 6.

<sup>15</sup> See Beck, "*DIU 3.0*." During this phase, DIU has proven this model works, cultivating a reputation as an acquisition pioneer by exercising Other Transaction Authority to rapidly tailor and acquire relevant commercial technology, yielding more than 80 prototypes, 52 of which culminated in commercial solutions that transitioned to the warfighter. Importantly, these prototypes have attracted more than \$30 billion of private investment, deepening a broad set of enduring relationships with private capital sources that are interested in alternative defense investment.

However, DoD and the Joint Force are largely products of the National Security Act of 1947 and the Goldwater-Nichols Act of 1986, which were written in past eras and need updating to reflect the current environment.<sup>16</sup>

The process by which military services identify operational needs, build requirements for solutions, and acquire specific systems is not producing a system that is optimized for joint warfighting. The Joint Requirements Oversight Council is charged with assessing joint capabilities and identifying and prioritizing gaps, but it lacks the ability to direct service-level investments or issue joint requirements for common procurement, and there is no incentive or mechanism for the services or industry to identify, acquire, or fund such programs.<sup>17</sup>

DoD and the White House should review the Unified Command Plan (UCP) in light of the global and coordinated efforts of U.S. adversaries. Given that China and Russia operate across multiple theaters and given the partnerships among U.S. adversaries, coordination and integration across U.S. geographic commands must be stronger and must better reflect the increased threat and potential for military conflict in U.S. Northern Command's (NORTHCOM's) area of responsibility. The Commission also notes that the functional commands—U.S. Strategic Command, U.S. Transportation Command (TRANSCOM), U.S. Cyber Command (CYBERCOM), and SOCOM—are integral to deterrence, campaigning, and warfighting. Operational plans, however, are more centered on geographic commands and may not take into account competing demands on the functional commands across multiple theaters. The importance of alignment in the UCP was demonstrated by CENTCOM's efforts to coordinate air defense around Israel, which would have been made more difficult if military responsibility for Israel and its neighbors was still under different commands.

The recent practice to assign warfighting responsibilities to joint task forces during modern conflicts illustrates the disconnect within DoD's structure, particularly between the combatant commands and the services. The Commission recommends an evaluation of the organizational structure and roles and missions to identify areas for improvement and evolution, including further changes to the UCP. We also recommend aligning the allocation of regional responsibilities at DoD and the Department of State.

## Warfighting Operational Concepts

As U.S. warfighting advantages are eroding in key domains, the United States sorely needs innovative operational concepts that create dilemmas for and impose constraints on adversaries while expanding U.S. options to gain or sustain a competitive edge. Emerging technologies provide new opportunities for such concepts.

Joint operational concepts are the vital connective tissue between the strategic guidance laid out in the NDS and how forces will fight at the theater level in future conflicts. These concepts guide force design and development and can drive organizational and technological innova-

<sup>16</sup> Forrestal, "Functions of the Armed Forces and the Joint Chiefs of Staff"; Public Law 99-443, Goldwater-Nichols Department of Defense Reorganization Act of 1986.

<sup>17</sup> U.S. Code, Title 10, Section 181, Joint Requirements Oversight Council. See Center for Strategic and International Studies, "DoD's Warfighting Concept with the Vice Chairman of the Joint Chiefs of Staff."

tion.<sup>18</sup> At present, the services are experimenting with a variety of operational concepts. From the Army's Multi-Domain Operations to the Air Force's Future Operating Concept, Agile Combat Employment scheme of maneuver, and Joint All-Domain Command and Control, to the Marine Corps' Expeditionary Advanced Base Operations, all services have ideas about how to fight the next war. However, many of these concepts remain disconnected, which runs counter to DoD's aspirations and need for greater jointness.

The 2018 NDS Commission highlighted the lack of innovative thinking in terms of developing new operational concepts in warfighting that are made necessary by advances in China's and Russia's military capability and capacity. The Joint Warfighting Concept (JWC), now in its third iteration, was intended to offer a modern vision comparable to Air-Land Battle in the late Cold War.<sup>19</sup> The JWC deserves credit for attempting to break down service stovepipes and integrate capability development with warfighting.

The Commission found little evidence, however, that the JWC is actually influencing how the services build their service-level operational concepts or staff, train, and equip their forces. The JWC falls short of prescribing how forces will fight and instead offers a high-level vision of future conflict and the attributes needed in the Joint Force.<sup>20</sup> The Commission finds that the JWC does not provide the operational guidance needed to overcome the United States' strategic challenges, retain core areas of American advantage, and impose challenges on U.S. adversaries.

We strongly recommend the continued development of new warfighting and operational concepts to achieve strategic advantage to prevail in future conflicts. These constructs must address gaps in existing operational concepts to focus on closing kill chains, fully integrating space and cyber operations, deploying emerging capabilities, considering conventional-nuclear integration, and more effectively integrating allies and partners.<sup>21</sup> New concepts should be developed for contested logistics and protracted war, as distinct operational concepts will be required at different periods of the conflict to sustain a U.S. competitive advantage.<sup>22</sup> New operational concepts must also incorporate emerging technology, such as artificial intelligence (AI) and autonomous systems, as these technologies are fundamentally changing modern warfare. Operational concepts must take advantage of these and other technologies to present new challenges to adversaries, harness opportunities provided by the speed of rapid decisionmaking, and close gaps in integration within the Joint Force and with allies through interoperable technology. Lastly, the Commission believes DoD should seek to better align its concepts with other parts of the interagency to better coordinate military tools and other instruments of national power in pursuit of integrated deterrence.

The Commission finds that it is crucial for there to be a greater civilian role in operational concept development. Incorporating DoD civilians into concept development will improve the link between the NDS and warfighting concepts to ensure they support the strategic objectives.

---

<sup>18</sup> Mahnken, Montgomery, and Hacker, *Innovating for Great Power Competition*.

<sup>19</sup> Milley, "Strategic Inflection Point"; Grady, "Sharpening Our Competitive Edge."

<sup>20</sup> Milley, "Strategic Inflection Point"; Grady, "Sharpening Our Competitive Edge."

<sup>21</sup> Creedon et al., *America's Strategic Posture*.

<sup>22</sup> Metrick, *Rolling the Iron Dice*; Rehman, *Planning for Protraction*.



Moreover, civilian oversight will help connect new warfighting concepts to service concepts and combatant command operation plans.

The Commission applauds the establishment of the Analysis Working Group (AWG) to provide a baseline for DoD's analytic assumptions that underpin force design and concept development.<sup>23</sup> While great strides have been made in strengthening strategic analysis in the Department, we agree that the AWG should expand its work and that its role should be institutionalized to ensure that it continues beyond the current Pentagon leadership.<sup>24</sup> Without continued improvements to and investments in strategic analysis and concept development, DoD's ability to translate the strategic objectives laid out in the NDS to operational concepts and investments in technology and capability will be unsound.

## Closing the Operational-Industrial Planning Gap

DoD faces a disconnect between its operational planning and its industrial planning. The war in Ukraine is a reminder that modern warfare at industrial scale requires a tight connection between the needs of warfighters and the priorities of industrial base policy. Mobilizing the U.S. industry in the event of a protracted conflict requires DoD, as well as interagency and industry partners, to engage in detailed planning tailored to specific contingencies.

In general, operational planning and industrial planning are conducted by different organizations in DoD. Operational planning is primarily the responsibility of the Under Secretary of Defense for Policy, the Joint Staff, and the combatant commands. Industrial planning at DoD, however, is primarily the responsibility of the Under Secretary of Defense for Acquisition and Sustainment and the military services.

Operational planning and defense industrial planning also tend to occur on different timelines. Campaign and contingency plans are reviewed and revised on a frequent basis, with a focus on near-term horizons and largely limited to forces or resources that are already available or assumed to be available when a crisis arises.<sup>25</sup> Defense industrial planning often involves multiple budget cycles.<sup>26</sup> Furthermore, a DoD contingency plan (e.g., an operational plan) will specify the types and quantities of munitions required but might not provide specific courses of action for the President, the Secretary of Defense, and other relevant interagency leaders to rapidly

---

<sup>23</sup> Office of the Deputy Secretary of Defense, "Principles and Standards for Analysis Supporting Strategic Decisions."

<sup>24</sup> Commission on Planning, Programming, Budgeting, and Execution Reform, *Defense Resourcing for the Future*.

<sup>25</sup> According to Joint Publication 5-0, *Joint Planning*, p. I-10, emphasis in original,

Planners use the *Global Force Management Implementation Guidance* (GFMIG), Global Force Management Allocation Plan (GFMAP), existing contracts, and task orders to identify forces available for campaign and contingency plans. Planning for contingencies is based on hypothetical situations and therefore relies heavily on assumptions regarding the circumstances that will exist when a crisis arises.

<sup>26</sup> The Navy's shipyard infrastructure optimization plan, for example, is a 20-year plan.

increase the production of munitions that are specifically required for execution of the plan.<sup>27</sup> DoD needs to bridge this operational-industrial gap and incorporate the DIB into both its strategy and its operational planning. DoD must also review its operation plans, and assumptions for supporting allies, to ensure that they adequately recognize the likelihood of protracted conflict. Overly optimistic estimates for conflict to end quickly or to require fewer weapons, platforms, and munitions than are needed, given the strategic environment discussed previously, will yield insufficient stockpiles, a lack of industrial capacity to replenish or surge production, and a failure to recognize that the Joint Staff could not support multiple requirements simultaneously.<sup>28</sup>

---

<sup>27</sup> Operational planning involves “verifying high-demand forces or capabilities,” such as munitions, “are sufficient” and “[arranging] sustainment for the employment of U.S. military forces” (Joint Publication 5-0, *Joint Planning*, p. I-10).

<sup>28</sup> The Commission recognizes and applauds the Joint Staff in particular for its efforts to better estimate equipment and manpower needs across theaters and planning scenarios and encourages DoD and Congress to make use of this analysis for investment decisions.

## Force Sizing, Capabilities, and Posture

**The NDS force-sizing construct is inadequate for today’s needs and tomorrow’s challenges. We propose a Multiple Theater Force Construct—with the Joint Force, in conjunction with U.S. allies and partners—sized to defend the homeland and tackle simultaneous threats in the Indo-Pacific, Europe, and the Middle East.**

The United States and its allies face two ongoing wars, with the prospect of a third, potentially more serious one looming on the horizon. Consequently, the United States and its allies need to be sized, postured, and equipped to tackle this multisided threat.

### An Out-of-Date Force-Sizing Construct

From World War II until the past decade, the United States sized its military to fight two wars simultaneously.<sup>1</sup> The 2022 NDS—much like its 2018 predecessor—“sizes and shapes the Joint force to simultaneously defend the homeland; maintain strategic deterrence; and deter, and if necessary prevail in conflict” while still “deter[ring] opportunistic aggression elsewhere.”<sup>2</sup> In other words, the 2022 NDS argues that the United States should be able to defeat aggression by a major power while deterring conflicts in other parts of the world.<sup>3</sup>

The Commission finds that the current force-sizing construct is inadequate for today’s needs and tomorrow’s challenges.

We believe that there is a high probability that the next war would be fought across multiple theaters, would involve multiple adversaries, and likely would not be concluded quickly. Both China and Russia independently have global reach and have committed to a “no-limits friendship,” with additional partnerships developing with North Korea and Iran, as described previously. As U.S. adversaries are cooperating more closely together than before, the United States and its allies must be prepared to confront an axis of multiple adversaries. Not building a force construct that is appropriately resourced and sufficiently agile to deal with this environment could deter the United States from committing itself in any one theater, given the threat of conflicts in other theaters. As a defense strategist warned, “A force that can only wage one conflict

<sup>1</sup> See Cohen, *The History and Politics of Defense Reviews*.

<sup>2</sup> DoD, *2022 National Defense Strategy of the United States*, p. 17.

<sup>3</sup> For an explanation of the force construct, see Mitre, “A Eulogy for the Two-War Construct.”

is effectively a zero-conflict force since employing it would require the president to preclude any other meaningful global engagement.”<sup>4</sup>

The Commission believes the United States needs a force-planning approach that is both global *and* prioritized. Such an approach must be grounded in the premise that the United States is a global power with global interests and commitments. An exclusive focus on a single adversary or single region, as some have suggested, is a fundamentally flawed response to the global nature of challenges posed by such adversaries as China and Russia and to the growing cooperation between adversaries across regions. That said, the United States’ force-planning approach must be prioritized to effectively and efficiently allocate finite resources, address threats of varying scope and scale, and ensure a mix of U.S. instruments of national power that are tailored to specific strategic objectives. The Commission cautions that attempts to prioritize by suddenly and drastically reducing U.S. military presence in a particular region are unlikely to be effective or sustainable and may eventually require larger and more expensive force deployments.

The past three administrations have named five adversaries that pose sufficient threats as to require military and nonmilitary forces in defense: China, Russia, Iran, North Korea, and violent extremist organizations. Although China poses the most consequential threat to the United States and its allies, all five adversaries threaten vital American interests and cannot be ignored. Attempts to deprioritize theaters and significantly reduce U.S. presence—notably in Europe and the Middle East—have emboldened U.S. adversaries and required the United States to surge forces back. In addition, demonstrating U.S. support to allies in one theater reinforces deterrence in others.<sup>5</sup>

And even if the United States focused exclusively on China, the United States would still need to maintain a global presence, given the breadth of China’s interests and influence.<sup>6</sup>

Finally, the United States needs to prepare for the possibility that future wars will be protracted.<sup>7</sup> As the United States’ recent experiences in Iraq, Afghanistan, and Ukraine demonstrate, modern wars often last a long time. If the United States becomes directly engaged in great power conflict, the war will likely last more than a few weeks or a few months. The United States must therefore ready its forces and its industrial base for the potential of protracted conflict.

Consequently, we propose a *Multiple Theater Force Construct*. This is distinct from the two-war construct designed after the Cold War for separate wars against less capable rogue states—essentially, one in northeast Asia and one in the Middle East. Neither model meets the dimensions of today’s threat or the wide variety of ways in which and places where conflict could erupt, grow, and evolve.

The proposed force construct is the military backbone of our comprehensive approach. It reflects the partnership of U.S. peer or near-peer adversaries, the U.S. system of alliances, and the need to engage globally.

---

<sup>4</sup> Karlin, “Hearing on Recommendations for a Future National Defense Strategy.”

<sup>5</sup> Edelman and Kramer, “4 Myths About Ukraine That Might Sound Right but Are Actually Wrong.”

<sup>6</sup> See, for example, Richardson, “Statement of General Laura J. Richardson, Commander, United States Southern Command”; and Langley, “Statement of General Michael E. Langley, United States Marine Corps, Commander, United States Africa Command.”

<sup>7</sup> Cohen and Gentile, “The U.S. Should Get Over Its Short War Obsession.”

The Joint Force must leverage technology, expertise, and allies across domains to maintain existing and develop new asymmetric advantages against U.S. adversaries rather than seeking to match them platform-to-platform. It should be sized and structured to simultaneously

1. defend the homeland, maintain strategic deterrence, prevent mass casualty terrorist attacks, maintain global posture, and respond to small-scale, short-duration crises
2. lead the effort, with meaningful allied contribution, to deter China from territorial aggression in the Western Pacific—and fight and win if needed
3. lead NATO planning and force structure to deter and, if necessary, defeat Russian aggression
4. sustain capabilities, along with U.S. partners in the Middle East, to defend against Iranian malign activities.

## Force Sizing and Capabilities

Although the Commission was not resourced to do a comprehensive analysis of all the composite elements of force structure, we outline some of most important components of the future force.

### U.S. Navy

Given the rapid expansion of the PLA Navy and the centrality of the maritime domain, particularly to the Indo-Pacific but also to the Middle East and Europe, the Commission remains gravely concerned by the diminishing size of the U.S. Navy. The fleet has had fewer than 300 manned ships each year since 2003,<sup>8</sup> and the Navy’s ability to maintain and upgrade the ships it has remains a concern.<sup>9</sup> For several years, the Navy has produced assessments calling for fleets of 321 to 404 manned ships, with more recent plans also calling for substantial numbers of large, unmanned surface and subsurface ships.<sup>10</sup> Because of anemic funding and DIB constraints, the path to get to the larger fleet remains unclear at best. Even with steady budgetary growth, the Navy will still only have 330 ships in the mid-2030s and peak at 377 ships in FY 2045.<sup>11</sup>

The Commission also notes the potential presented by uncrewed capabilities—including air, surface, and subsurface—to conduct and support a variety of missions, including surveillance, transport, refueling, and combat operations. Task Force 59 in the Fifth Fleet has demonstrated

<sup>8</sup> O’Rourke, *Navy Force Structure and Shipbuilding Plans*.

<sup>9</sup> Lendon, “Expert’s Warning to US Navy on China: Bigger Fleet Almost Always Wins.”

<sup>10</sup> Navy plans in 2016 called for a 355 manned ship navy. Similar plans from 2022 call for a fleet of 321 to 404 manned ships and 45 to 204 large, uncrewed vessels. Finally, the June 2023 Battle Force Ship Assessment and Requirement report called for 381 manned ships and 134 uncrewed vessels (O’Rourke, *Navy Force Structure and Shipbuilding Plans*, p. 3).

<sup>11</sup> Lagrone and Shelbourne, “New Navy Long-Range Shipbuilding Plan Details 19 Ship Decommissionings in FY 2025.”

the capability of these systems, but there are questions about whether the Navy has embraced autonomous systems as complements to the manned fleet.<sup>12</sup> The Commission recommends that the Navy expands its development, procurement, and operational concepts to employ these capabilities as part of the future fleet.

The readiness of the current fleet is another significant problem. Too many ships are unavailable for operations or combat because of maintenance and repair that take too long.<sup>13</sup>

The Commission remains concerned about the type of vessels the Navy is buying. The *Virginia*-class attack submarine is often considered the cornerstone of the Indo-Pacific fight and is a core component of AUKUS, but the FY 2025 budget decreased the request from two submarines to one, citing budget and industrial base concerns.<sup>14</sup> At the same time, the Ukraine war has highlighted the vulnerability of large surface combatants to antiship missiles and uncrewed surface vessels.<sup>15</sup> This vulnerability further underscores the need for the fleet to be able to strike on mass at longer ranges through a mixture of uncrewed vessels and aircraft and longer-range munitions.

The Commission supports efforts to expand the Navy to the fleet ranges proposed by the Navy in recent years, specifically addressing the gaps in undersea capabilities, and to include and integrate a sizable number of uncrewed vessels. The Commission recommends substantial investment elsewhere in shipbuilding, depot, and maintenance infrastructure, as well as procurement of ships from allies to supplement U.S. production, which will all be necessary to reach any of the fleet sizes proposed by the Navy in the time frame demanded by the threat. The Commission recognizes that Congress has empaneled a separate Commission on the Future of the Navy with the mandate to, among other things, make recommendations on the size and mixture of the Navy fleet.

## U.S. Marine Corps

Of the services, the Marine Corps deserves the most credit for embracing the 2018 NDS's direction to refocus on great power competition and the nature of future warfighting. Despite the controversy, the Marine Corps' Force Design 2030 offers a coherent way for the Marine Corps to operate in the Indo-Pacific against the pacing threat while retaining the ability to serve as the nation's emergency response for crises as they materialize.<sup>16</sup> The service deserves high marks for displaying the agility that DoD often yearns for but rarely achieves. As the United States confronts an increasingly tumultuous and unpredictable world, the Marine Corps' role remains as important as ever, and the service needs to preserve its ability to respond quickly outside the Indo-Pacific as the need arises.

---

<sup>12</sup> Brock and Stone, "Insight: Sea Drone Warfare has Arrived. The U.S. Is Floundering."

<sup>13</sup> Shkolnikova, "Navy's Ships Spend Less Time at Sea Amid Persistent Maintenance Delays, Report Says"; Cook, "US Navy Has a Maintenance Problem."

<sup>14</sup> Eckstein, "US Navy Nixed a Virginia Sub Amid Spending Frenzy to Support Suppliers."

<sup>15</sup> Uchimiya and Watson, "The Neptune"; Novikov, "Ukraine Claims It Has Sunk Another Russian Warship in the Black Sea Using High-Tech Sea Drones."

<sup>16</sup> See U.S. Marine Corps, "Force Design 2030."

## U.S. Air Force

The U.S. Air Force is at the forefront of a host of missions: from defending the homeland; to projecting power in the Indo-Pacific, Europe, and the Middle East; to providing the operational reach and intelligence support that allows the rest of the Joint Force to function. Unfortunately, the size of the service (as measured in either personnel or aircraft) has stagnated, if not declined.<sup>17</sup> Many of its platforms have been suffered from lackluster mission capable rates, meaning that only a fraction of the force is actually ready for combat at a given time.<sup>18</sup> While the service has new capabilities—such as the B-21—under development, these capabilities are still years away from fully coming online.<sup>19</sup>

Given the future demands, the Air Force requires significantly more resources to expand both its capacity and its capabilities. To its credit, the Department of the Air Force is in the midst of an effort, that is necessary but not sufficient, to better structure itself for great power competition, but preparing the service for future threats will require more than just a reorganization.<sup>20</sup> In particular, the Commission recommends supporting the Collaborative Combat Aircraft program. We encourage the service to invest more in attritable and runway independent aircraft to increase platforms and operate in environments in which adversaries will target air bases. The Commission also supports the Air Force's investments in Next Generation Air Dominance fighter aircraft, the Next Generation Air-Refueling System, and autonomy and basing to prepare the service for the future fight. The service also needs to increase its air base defenses, both passive and active, in order to operate against such adversaries as China or Russia. Finally, the Air Force plays important roles in all theaters—including the Middle East, Africa, and South America—so the service needs to maintain sufficient aircraft to support those requirements, but generally with less sophisticated, more cost-effective solutions.

## U.S. Army

Landpower remains central to American security, no matter the adversary or theater. In large-scale operations, the Army remains critical to dominating adversaries and enabling the Joint Force. The FY 2025 budget request proposed reducing the Army's end strength to 443,000, down from a recent high in FY 2021 of 486,000, continuing a decrease over the past three years largely caused by recruiting and budget shortfalls.<sup>21</sup> The FY 2025 budget request contains no growth in funding from current levels. The Commission believes that this force size is insufficient. Although the use of technology, operational concepts, and mission requirements should inform the size of the Army, we believe that a force size prior to the recent reductions would be

<sup>17</sup> Cancian, "U.S. Military Forces in FY 2022."

<sup>18</sup> Marrow, "Only 55 Percent of F-35s Mission Capable, Putting Depot Work in Spotlight."

<sup>19</sup> Marrow, "B-21 Raider Stealth Bomber in Production, Pentagon Says."

<sup>20</sup> U.S. Air Force, "Reoptimizing for Great Power Competition."

<sup>21</sup> Obis, "Army Cutting Empty Posts in Major Force Structure Transformation."



more appropriate. The Army budget would need to grow in real terms to support sufficient personnel, operations, readiness, and modernization.<sup>22</sup>

Lessons from the Ukraine war demonstrate that the U.S. Army needs to expand its force structure in key areas—particularly air defense, counter-unmanned aerial systems, electronic warfare, and long-range fires—that are applicable across theaters, including in a Western Pacific contingency. As the Ukraine war also demonstrates, there is still very much a need for heavy armored forces, particularly in Europe but also likely in a Korean Peninsula contingency. Moreover, as the Israel-Hamas war demonstrates, the Iranian and violent extremist organization threats necessitate continued investments in special operations forces and security force assistance brigades to build partner capacity. Both conflicts further demonstrate the Army’s central role in assuring allies and partners through forward presence and exercises. Finally, the Army continues to play a critical role in logistics and sustainment—across all the theaters—enabling the Joint Force to project power and then sustain its ability to fight.

## U.S. Space Force

Space has emerged as a critical asymmetric advantage in modern warfare, underpinning nearly all military operations. From communications; to position, navigation, and timing; to intelligence, space undergirds how the Joint Force fights. With China, Russia, and other U.S. adversaries fielding antisatellite capabilities to hold U.S. assets at risk, space increasingly is a warfighting domain in its own right. The Commission is encouraged by the efforts of a relatively new service and combatant command: the U.S. Space Force and U.S. Space Command (SPACECOM); both must be given continued attention and resources as they organize, bolster space defense and resiliency, and present forces to the Joint Force.

Given the indispensable reliance on these capabilities and the advent of space as a warfighting domain, the Commission recommends continued investment in diversifying and dispersing satellite constellations, developing redundant communication pathways, enhancing cybersecurity measures for space systems, investing in on-orbit defensive and offensive capabilities, and fostering international cooperation to enhance the resiliency of U.S. space capabilities. The Commission also encourages the Space Force and SPACECOM to work in close partnership with commercial and international partners.<sup>23</sup> As the Ukraine war demonstrates, commercial space offers significant potential to augment existing government systems, and the United States should continue to expand this area of American advantage.

---

<sup>22</sup> Army active duty end strengths before 9/11 and after the surge for the wars in Afghanistan and Iraq fluctuated between 475,000 and 490,000 and reached a peak of 556,000 in 2010 and 2011. The 2014 National Defense Panel recommended that the “Army and Marine Corps should not be reduced below their pre-9/11 end-strengths—490,000 active duty soldiers in the Army and 182,000 active Marines” (Perry et al., *Ensuring a Strong U.S. Defense for the Future*, p. 49). See Kapp, “FY2023 NDAA”; and Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for Fiscal Year 2024*, pp. 288–290.

<sup>23</sup> Overclassification of space capabilities and operations has hampered commercial and international collaboration and has restricted information-sharing within the U.S. government. The Commission recognizes recent DoD efforts to address overclassification and encourages continued policy and operation attention on this effort.

## The National Guard and Reserve Component

The Reserve Component, including the National Guard, plays an increasingly important role as part of the Total Force. The Reserve Component offers the Joint Force the ability to readily expand the size of the active force in wartime and plays a vital role in day-to-day operations in all major theaters of concern. The National Guard's State Partnership Program with more than 100 countries all over the world is a key element of great power competition and provides a way to foster military-to-military ties. Indeed, the program deserves some of the credit for the success in supporting Ukraine after Russia's February 2022 invasion.<sup>24</sup> At the same time, the National Guard plays an increasingly important role in homeland defense and responding to crises at home, particularly as natural disasters become increasingly frequent and more devastating. However, restrictions within the Executive Order invoking this statutory authority limit the flexibility of the Secretary of Defense to activate Reserve Component members beyond the 3,000 presently authorized; we recommend increasing this cap.

Reserve and National Guard units offer an opportunity for the Joint Force to retain talent in high-demand fields that DoD might not otherwise be able to tap. Especially given the likely size and scale of great power war, it is vital that DoD maintains a robust and healthy reserve component going forward. Moreover, unlike in previous eras, the United States cannot expect months of strategic warning prior to conflict and therefore must invest in both the equipment and soldier readiness levels needed to quickly mobilize and deploy the reserve component to theater, should war break out.

## Munitions

Previous NDS Commissions have warned that DoD has systematically underinvested in munitions, choosing to raid these accounts as quick fixes to solve budget shortfalls. The Ukraine war and the Israel-Hamas war, however, vividly demonstrate that modern wars are likely to be protracted and consume a lot of munitions, from the relatively basic 155-mm artillery rounds, to Army Tactical Missile System (ATACMS) missiles, to air defense interceptors, and the United States simply does not have enough of such munitions on hand. The Joint Force routinely uses munitions that are significantly more expensive to produce than their targets, including in Operation Prosperity Guardian in the Red Sea to maintain freedom of navigation. DoD needs to develop additional options to keep the cost of munitions relative to the value of their intended targets in check. To do this, DoD should embrace digital architecture, open architecture, and modularity in munitions design and production.<sup>25</sup> Over the longer term, directed energy has particular promise to restore magazine depth at an affordable cost.<sup>26</sup>

---

<sup>24</sup> National Guard, "State Partnership Program."

<sup>25</sup> See Hacker, *Beyond Precision*.

<sup>26</sup> Directed energy weapons have reportedly been used in combat for the first time in the Middle East (Bogaitsky, "U.S. Military Is Using Laser Weapons in Battle").

## C4ISR

C4ISR—command, control, communications, computers, intelligence, surveillance, and reconnaissance—provides the connective tissue that allows the services to operate together and deliver effects as a Total Force. The increase in the total amount of information and the ability of adversaries to complicate access to accurate information pose enormous challenges for situation awareness and decisionmaking in times of conflict. Although DoD is working to provide connectivity across the different services, domains, and platforms, more work still needs to be done before the Joint Force and civilian leadership can seamlessly share information, make sense of it, and make good decisions. Considerably more work is needed to advance Combined Joint All-Domain Command and Control from the “initial version [as] a minimum viable capability” to an operational capability.<sup>27</sup>

DoD must also place a greater emphasis on integrating allies into its C4ISR architecture, given the need to integrate them into coalition operations.

## Posture

The 2022 NDS directs the Joint Force to “optimize our posture for denial.”<sup>28</sup> Accomplishing this task requires fielding combat-credible forces in areas of potential conflict, ensuring the ability to move forces quickly under contested logistics, and investing in the functional commands that would enable the United States to fight and win no matter the contingency.<sup>29</sup> Force posture for the various theaters is discussed below. The Commission also recommends that DoD review its balance between rotational and permanently stationed forces and, when appropriate, shift to the latter model—particularly in Europe—where permanently stationing forces would send an added deterrence signal to U.S. adversaries and reassure U.S. allies.

## The Homeland

As discussed above, a future conflict with a major power would likely involve attacks on the U.S. homeland, particularly cyberattacks on U.S. critical infrastructure, disinformation campaigns, and the possibility of kinetic strike. Because the large majority of critical infrastructure and information systems fall outside the direct purview of DoD, defense of the homeland requires effective integration and planning with other U.S. government departments and agencies, as well as with the private sector. To defend these assets and to enable deployment of U.S. forces and resources in a future conflict, the United States must invest in the resilience of its domestic critical infrastructure.

---

<sup>27</sup> Clark, “Hicks to See Joint, Combined Command and Control Capabilities in Action During Project Convergence Experiment.”

<sup>28</sup> DoD, 2022 *National Defense Strategy of the United States*, p. 8.

<sup>29</sup> For more on this task, see Frederick et al., *Understanding the Deterrent Impact of U.S. Overseas Forces*.

DoD has a critical role in providing sufficient air defenses, air and maritime awareness, and other forces to defend the homeland.<sup>30</sup> It needs to continue the Noble Eagle mission to defend American airspace, bolster its air and missile defense, and increase air and sea domain awareness to detect threats. In particular, DoD will need to be able to counter new and emerging threats to the homeland—including hypersonics and unmanned aerial systems. Importantly, DoD needs to ensure that these assets remain dedicated to homeland defense and not double-tapped to project for oversea contingencies, since the homeland will likely remain at risk for the duration of a conflict.

As is noted at greater length elsewhere in this report, DoD also needs to invest in cyber resources to engage adversaries in cyberspace to help protect U.S. critical infrastructure from attack. Given that much of the critical infrastructure that the United States relies on for power projection overseas falls outside DoD's remit, the department needs to further its integration with and increase the capability of other parts of the U.S. government, including DHS and its Cybersecurity and Infrastructure Security Agency, the intelligence community, the Federal Bureau of Investigation, and state and local governments.

## The Indo-Pacific

With four of the five NDS-named adversaries present, the Indo-Pacific remains not only the largest but potentially the most dangerous theater of concern. There has been impressive progress in enhancing cooperation with Australia, Japan, and India and gaining greater access to the Philippines, among other efforts, which will strengthen U.S. allies and deterrence and, over time, will create more ability for the United States to fight jointly in the region. At the same time, however, China has increased aggression toward Taiwan and in the East China Sea and South China Sea and is attempting to create new patterns of behavior in the region to its advantage and to reduce warning time, should it decide to engage in more aggressive action.

Reestablishing deterrence in the Indo-Pacific and establishing a posture to deter and, if necessary, prevail in conflict requires an urgent increase in force structure and access. In terms of forces, the United States will need more undersea assets (particularly *Virginia*-class submarines but also large, uncrewed underwater vessels); long-range bombers with sufficient stocks of anti-ship munitions; uncrewed, runway independent systems; and long-range fires. In addition, the United States needs assured access, basing, and overflight to use these capabilities in a conflict and the ability to project these forces forward and sustain them. The Commission is encouraged by recent agreements with regional allies and partners to expand U.S. access. But the Commission remains concerned by continued underinvestment in new and updated facilities in the First and Second Island Chains, as well as the lack of new forces postured west of the International Date Line. Finally, the United States needs to work diplomatically and militarily to continue

---

<sup>30</sup> As former NORTHCOM Commander Gen. Vanherck testified in his final posture hearing,

homeland defense is a potential limiting factor to ensuring rapid and effective implementation and execution of global contingency plans. This is due to my lack of domain awareness, limited timely access to forces that are ready to operate throughout my areas of responsibility, including the Arctic, and a lack of resilient infrastructure enabling the joint force to fight in and from the homeland while ensuring forward power projection. (Vanherck, "Statement of General Glen D. Vanherck, United States Air Force, Commander, United States Northern Command and North American Aerospace Defense Command")

enhancing the capabilities of its network of allies and partners across the region to resist aggression through a mixture of high-end capabilities (such as nuclear-powered attack submarines in Australia’s case) and asymmetric means (such as mines, uncrewed surface and underwater vessels, and air defense in Taiwan’s case).

## Europe

In Europe, the United States will likely continue to need to maintain its current level of forward posture and should consider shifting some of its rotational presence to permanently based forces.<sup>31</sup> While European spending is on the upswing, Europe’s rearmament is proving slower than it should be, especially in wealthier countries that are farther from Russia’s borders.<sup>32</sup> Consequently, the United States should boost its forward presence in Eastern Europe—built around an armored corps and complete with headquarters, fires, air defenses and armored, sustainment, and aviation units—to deter Russian aggression against NATO’s eastern flank.<sup>33</sup> Ultimately, the goal is for Europe to take on a larger role in providing for its defense, with assured and critical support of the United States. In light of the potential for simultaneous conflicts, capability targets apportioned to European allies through the NATO Defense Planning Process should be intentionally selected to reduce overreliance on the United States for key capabilities enablers. New European defense investments should be focused on delivering on those capability targets.

Simultaneously, the United States needs to ensure that it continues its robust support of Ukraine in its fight against Russia. In practice, this means ensuring an uninterrupted flow of intelligence and weaponry that has proven integral to Ukraine’s defense thus far—particularly ATACMS, the High Mobility Artillery Rocket System (HIMARS), Abrams tanks, Bradley fighting vehicles, air defenses, and F-16s—as well as the associated munitions and sustainment capabilities. We believe that the United States should also maintain a larger presence on the ground in Ukraine to learn lessons from that war and proactively field and test new technologies on the modern battlefield that can be integrated into the Joint Force.

## The Middle East

The United States has enduring interests in the Middle East that will require a stabilizing presence to deter conflict.<sup>34</sup> Notably, this presence need not rely heavily on high-end platforms that are better suited for other theaters, nor should it rely on the military presence of the past two decades. The Commission is impressed with the Navy’s Task Force 59 as a good example of leveraging relatively low-cost innovative concepts to solve the region’s security challenges.

---

<sup>31</sup> Cohen, “Why Overseas Military Bases Continue to Make Sense for the United States.”

<sup>32</sup> Rathbone, “European Defence Spending ‘Lacks Urgency.’”

<sup>33</sup> See DoD, “U.S. Defense Contributions to Europe.”

<sup>34</sup> As noted previously, the NDS states, “In service of our strategic priorities, we will accept measured risk but remain vigilant in the face of other persistent threats, including those posed by North Korea, Iran, and violent extremist organizations (VEOs)” (DoD, *2022 National Defense Strategy of the United States*, p. 2).

Given the continuing need to deter Iran, degrade Iranian proxies, and disrupt the Islamic State and other jihadist terrorist organizations, the United States will need to maintain a robust intelligence, surveillance, and reconnaissance apparatus; air defenses (to protect its bases); and air and special operations forces to action the targets. And it will need to maintain a global posture and force readiness that enables the Joint Force to surge conventional forces into theater on relatively short time frames, as appropriate.

### **Africa and Latin America**

Although both Africa and Latin America get relatively little focus in the NDS, they both are important theaters of great power competition. Both China and Russia are making inroads in these regions, often to the detriment of the United States and its allies. Countries in both regions are also wrestling with a host of other security challenges—from internal instability, to climate change, to terrorism—that affect U.S. security interests.

Consequently, Africa and Latin America are also regions where limited U.S. military assets—such as security force assistance brigades, civil affairs, special operations forces, and airlift—can have an outsize impact. Importantly, given that competition in these regions is largely playing in the diplomatic, informational, and economic arenas, the United States needs to ensure that DoD is supporting other parts of the U.S. government that play lead roles in furthering U.S. national security interests but that are often underresourced to do so effectively. The United States requires a civilian presence, with DoD support, to present alternatives to Chinese and Russian entreaties, development, harvesting of natural resources, and facilities and capabilities for projecting power, such as commercial seaports, bases, and infrastructure for space operations.

### **Space and Cyberspace**

Space and cyberspace are critical domains, and each has its unique challenges and risks. Demands for space and cyberspace assets are, perhaps, harder to quantify than posture in the physical domains, but they nonetheless underpin the Joint Force's operational and information advantage and ability to function. Both are active domains now, as evidenced by repeated cyberattacks from all U.S. peer adversaries and by Russian attempts to jam U.S. satellites in Ukraine. We fully believe that space and cyberspace would be active domains in any future full-fledged war, and that the United States should invest in building capability and capacity to empower military operations and resilience.

While the Commission applauds the work of CYBERCOM and SPACECOM in their respective domains, the Commission emphasizes the need for the United States to increase the capacity and capability in both to maintain U.S. advantage (or parity) and to be prepared for the need to surge in these areas in the event of a likely conflict. The Commission also emphasizes the need to better integrate both space and cyberspace capabilities into conventional war planning and with U.S. Strategic Command, so that these domains are leveraged to the fullest extent possible.

## Transportation

The last time the U.S. military conducted a major strategic deployment was more than 20 years ago at the beginning of Operation Iraqi Freedom, which was largely uncontested and not time constrained. The next strategic deployment is likely to be over a major crisis, potentially on short notice and with the very real possibility of cyber disruption and kinetic interdiction. The leadership at TRANSCOM is focused on this challenge and has improved coordination and communication with the private sector owners and operators of the critical infrastructure and commercial transportation providers on which TRANSCOM relies. The command needs to be able to periodically exercise the mobilization and deployment of forces as part of campaigning requirements. The Secretary of Defense should be delegated partial mobilization authority specifically to exercise this authority with a funding mechanism to improve mobilization capabilities, increase readiness, and provide much-needed deterrence.

The Commission notes that DoD mobility platforms do not possess the battle space awareness needed to operate in a combat environment. Sealift ships, mobility aircraft, and ground support at nodes must be securely and reliably connected to see and understand the threats and respond to meet dynamic mission requirements at scale. Logistics should be integrated with all joint functions and be viewed as a true joint enabler. The Commission recommends that mobility fleets be resourced to ensure sufficient credible capacity, with the connectivity, survivability, and agility to successfully maneuver and sustain the Joint Force in future combat operations. The Commission further recommends addressing the relative underinvestment in key assets, such as aerial refueling, strategic airlift, sealift, and intratheater lift (air and sea), that are necessary to deploy and support combat operations.

## Special Operations

During the Global War on Terrorism, the special operations community was at the forefront of the U.S. military response. The strategic environment has shifted, but special operations forces remain an essential tool of military power, both for their contributions to the remaining threat from violent extremists and because special operations forces have a vital role in great power competition—particularly in building influence with allies and partners and countering gray-zone threats.

Therefore, the Commission recommends preserving the special operations force structure and funding. However, we recommend that Army Special Forces in particular shift resources from counterterrorism and direct action to unconventional warfare, special reconnaissance, and foreign internal defense.

## Nuclear Modernization

In consideration of the October 2023 Strategic Posture Commission's report, we largely avoided another independent review of the U.S. strategic deterrent.<sup>35</sup> However, we note that, as China develops a full-fledged nuclear triad and Russia threatens to employ nuclear weapons

---

<sup>35</sup> Creedon et al., *America's Strategic Posture*.



in Ukraine—not to mention continued advancements in the North Korean nuclear arsenal and the threat of Iranian nuclear proliferation—the U.S. strategic deterrent remains critical. The United States is in the midst of recapitalizing all three legs of the nuclear triad—with the B-21 bomber, Sentinel intercontinental ballistic missile, and *Columbia*-class submarine. Especially given the worsening threat environment, it is existential for U.S. national security that these modernization programs continue at pace to preserve the strategic deterrent. Given the scale of this generational investment in America’s strategic deterrent, the Commission supports fully funding nuclear modernization but also ensuring that these efforts do not come at the expense of modernizing and expanding the Navy and Air Force conventional forces.



# The Defense Industrial Base and Defense Production

---

**U.S. industrial production is grossly inadequate to provide the equipment, technology, and munitions needed today, let alone given the demands of great power conflict.**

As multiple senior DoD officials have recognized, “Production is deterrence.”<sup>1</sup> But today, the United States has a DIB with too few people, too few companies, declining and unstable financial support, and insufficient production capacity to meet the needs of the Joint Force in both peacetime and wartime.<sup>2</sup> Failure to restore the former might of U.S. defense production capability and capacity not only would render the objectives of the 2022 NDS unachievable but also would gravely erode the credibility of U.S. deterrence, undermine U.S. support to allies and partners in a crisis or conflict, and leave the Joint Force ill-prepared and ill-equipped to fight and win a conflict.

Unfortunately, the DIB is not as robust and resilient as it needs to be. The diminished scale of the U.S. industrial sector, the increased sophistication of modern weapon systems, and other factors mean the United States no longer has the capability for a World War II–style industrial mobilization “involving conversion of civilian industry to military use, mass production, a long buildup of forces, [and] well-equipped, massive armies that overwhelm opponents.”<sup>3</sup>

---

<sup>1</sup> Edwards, “Deputy Defense Secretary Kathleen Hicks: Production Is Deterrence”; Clark, “Resilient Defense Industrial Base Critical for Deterring Conflict.”

<sup>2</sup> The U.S. DIB is the network of people, organizations, facilities, and resources that provides the U.S. government—particularly DoD—with defense-related materials, products, and services. It is composed of commercial firms (from large, traditional defense companies to small tech startups) and government-owned industrial facilities (such as maintenance depots, research centers, and university laboratories), among other entities. It provides platforms (e.g., ships and aircraft), weapons, software, operational support, commercial products, basic services, and more. As DoD, *National Defense Industrial Strategy*, p. 7, summarizes, “A robust and resilient industrial base provides the enduring foundation for military advantage.” See Nicastro, *The U.S. Defense Industrial Base*.

<sup>3</sup> Cancian et al., *Industrial Mobilization*.

### Causes and Effects of a Weak Defense Industrial Base

Challenges to the DIB have been documented at length over many years by industry, academic and policy experts and the past two presidential administrations and include the following:<sup>a</sup>

- insufficient defense budgets, both as a share of the federal budget and as a share of the U.S. economy
- unstable and unpredictable defense spending exacerbated by government shutdowns, sequestration, and continuing resolutions
- the triple decline of defense R&D spending as a share of federal R&D, federal R&D as a share of total U.S. R&D, and U.S. R&D as a share of global R&D<sup>b</sup>
- consolidation and reduced competition in the defense industry, and reliance by defense companies on the DoD as a single buyer<sup>c</sup>
- policy, regulatory, and cultural barriers to attracting new entrants and harnessing commercial innovation in defense
- acquisition processes that complicate production and stifle innovation
- erosion of the broader U.S. manufacturing ecosystem over multiple decades
- shortages of skilled workers due to educational issues, high employment rates, and other factors
- insufficient access to strategic and critical minerals.

These forces have produced a lengthy catalog of defense industrial shortcomings, as follows:

- a net loss of more than 17,000 defense sector companies over five years<sup>d</sup>
- a 40-percent decrease in small businesses participating in the DIB in the past decade, increasing acquisition costs, reducing quality of service, and impeding innovative concepts and capabilities<sup>e</sup>
- an inability to produce defense items at the scale and speed required
- severely limited surge capacity marked by underinvestment in idle capacity and modern infrastructure, equipment, and tooling
- deteriorating conditions and backlogged modernization of DoD maintenance depots, reducing their performance, increasing costs, and impeding military readiness<sup>f</sup>
- overreliance on sole sources or single sources, with one industry survey finding that 42 percent of companies claimed to be the sole eligible U.S. provider of a defense-related product<sup>g</sup>
- dependence on foreign suppliers not domiciled in allied or partner nations for certain materials or manufacturing capabilities.<sup>h</sup>

---

<sup>a</sup> Office of the Under Secretary of Defense for Acquisition and Sustainment and Office of the Deputy Assistant Secretary of Defense for Industrial Policy, *Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States*; Office of the Under Secretary of Defense for Acquisition and Sustainment, *State of Competition Within the Defense Industrial Base*.

### Causes and Effects of a Weak Defense Industrial Base (Continued)

<sup>b</sup> Defense R&D has declined along these three measures despite the fact that defense R&D spending has increased overall and as a share of the defense budget (Sargent and Gallo, *The Global Research and Development Landscape and Implications for the Department of Defense*).

<sup>c</sup> Office of the Under Secretary of Defense for Acquisition and Sustainment, *State of Competition Within the Defense Industrial Base*.

<sup>d</sup> National Defense Industrial Association, *Vital Signs 2023*.

<sup>e</sup> DoD, “Small Business Strategy.”

<sup>f</sup> U.S. Government Accountability Office, *Military Depots*.

<sup>g</sup> National Defense Industrial Association, *Vital Signs 2023*.

<sup>h</sup> Office of the Under Secretary of Defense for Acquisition and Sustainment and Office of the Deputy Assistant Secretary of Defense for Industrial Policy, *Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States*.

## The Defense Industrial Base and NDS Implementation

The Joint Force relies on the DIB to maintain and operate ready forces; field sufficient quantities of platforms, weapons, and other enablers for U.S., allied, and partner forces; and regenerate forces during and after a conflict. However, the Commission finds that insufficient U.S. defense production capacity presents major challenges for implementation of the NDS.

Insufficient defense production capacity impedes the Joint Force’s ability to deter or prevail in a protracted conflict, especially with China and particularly in terms of munitions. Defense experts have extensively documented that DoD “has long failed to invest adequately in stocks of preferred munitions,” which remains true even after DoD’s efforts to boost munitions production in response to Russia’s 2022 invasion of Ukraine.<sup>4</sup> As a result, unclassified public wargames suggest that, in a conflict with China, the United States would largely exhaust its munitions inventories in as few as three to four weeks, with some important munitions (e.g., anti-ship missiles) lasting only a few days.<sup>5</sup> Once expended, replacing these munitions would take years.<sup>6</sup>

The DIB’s shortcomings hamper DoD’s ability to operate and sustain a ready force to fulfill the NDS’s objective of strengthening deterrence through campaigning. Shortcomings include the deteriorating condition of defense depots, contract maintenance performance issues, and underproduction of spare parts, among many others. Longer and more frequent maintenance delays and spiraling repair costs mean U.S. Navy ships are spending less time at sea.<sup>7</sup> Likewise, underinvestment in depot repair capacity and lack of spare parts contribute to unsatisfactory

<sup>4</sup> Pettyjohn and Dennis, *Precision and Posture*.

<sup>5</sup> Cancian, Cancian, and Heginbotham, *The First Battle of the Next War*; Pettyjohn, Wasser, and Metrick, “Bad Blood.”

<sup>6</sup> Jones, “The U.S. Industrial Base Is Not Prepared for a Possible Conflict with China.”

<sup>7</sup> U.S. Government Accountability Office, *Weapon System Sustainment*.

mission-capable rates of the F-35 fleet.<sup>8</sup> Consequently, there are fewer forces available for campaigning, as well as for crisis response.

Problems with lack of DIB capacity are particularly acute for the U.S. shipbuilding industrial base. As a result, the Navy's ability to construct, maintain, and repair the maritime forces it requires is fundamentally in doubt. For the past two decades, the Navy has been shrinking as ship retirements have largely outpaced the procurement of new ships.<sup>9</sup> However, recognizing that China's navy has more battle force ships and significantly larger production capacity, the U.S. Navy has sought to reverse its decline and set a goal of fielding 381 battle force ships, up from 287 today. As described before, the U.S. shipbuilding industry faces major obstacles to producing this number of vessels, including destroyers and *Virginia*- and *Columbia*-class submarines, until at least 2042 and only with significantly increased investment and expanded capacity of the shipbuilding industrial base.<sup>10</sup>

Aside from building ships, the DIB cannot repair and maintain them at the speed needed. One Chinese shipyard has more capacity than all U.S. shipyards combined.<sup>11</sup> As former Marine Corps Commandant David Berger warned in 2020,

Replacing ships lost in combat will be problematic, inasmuch as our industrial base has shrunk, while peer adversaries have expanded their shipbuilding capacity. In an extended conflict, the United States will be on the losing end of a production race—reversing the advantage we had in World War II when we last fought a peer competitor.<sup>12</sup>

## Roles of Allies and Partners

DoD “anchors” the NDS on allies and partners and relies on “coordination with and contribution of Allies and partners” to deter aggression when the United States is engaged in an all-domain conflict elsewhere.<sup>13</sup> However, allies and partners rely on U.S. defense production capacity to a significant degree, so U.S. defense production will be required regardless of who is fighting. For example, one analysis found that, aside from the United States, “no country in NATO . . . has sufficient initial weapons stocks for warfighting or the industrial capacity to sustain largescale operations . . . . At the height of the fighting in Donbas, Russia was using more ammunition in two days than the entire British military has in stock.”<sup>14</sup>

---

<sup>8</sup> U.S. Government Accountability Office, *F-35 Aircraft*.

<sup>9</sup> Eaglen, “America’s Incredible Shrinking Navy.”

<sup>10</sup> See Office of the Chief of Naval Operations, *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels For Fiscal Year 2025*; Shelbourne, “OSD Comptroller Says U.S. Shipyards Can’t Build 3 Destroyers a Year”; and U.S. Government Accountability Office, *Columbia Class Submarine*.

<sup>11</sup> Lendon and Britzky, “US Can’t Keep Up with China’s Warship Building, Navy Secretary Says.”

<sup>12</sup> McLeary, “In War, Chinese Shipyards Could Outpace US in Replacing Losses; Marine Commandant.”

<sup>13</sup> DoD, *2022 National Defense Strategy of the United States*, p. 17.

<sup>14</sup> Zabrodskyi et al., *Preliminary Lessons in Conventional Warfighting from Russia’s Invasion of Ukraine*, pp. 2, 55.

DoD has struggled to provide Ukraine with sufficient quantities of weapons and equipment. Despite laudable efforts by DoD to ramp up production in support of Ukraine, Russia is on pace to produce nearly three times more artillery munitions than the United States and Europe combined.<sup>15</sup> In some cases, DoD hesitated to provide certain weapons to Ukraine out of concern that doing so “would undercut the readiness of U.S. forces for other possible conflicts.”<sup>16</sup> Even with sustained funding, some U.S. weapon inventories are unlikely to be restored within five years.<sup>17</sup>

In Asia, Taiwan faces a many-year delay on billions of dollars’ worth of weapon orders from the United States, driven primarily by limitations in the U.S. DIB.<sup>18</sup> AUKUS represents one of the most significant strategic opportunities for the United States, fully consistent with the objectives of the NDS. But the limits of the U.S. DIB have raised major concerns about AUKUS’s feasibility, particularly as it relates to the sale of U.S. attack submarines to Australia.<sup>19</sup> Moreover, despite strong support for AUKUS at the highest levels of the presidential administration and across Congress, the U.S. government has struggled to share the necessary information and technology with two of its closest allies.

Allies and partners have the capability and capacity to contribute to the U.S. DIB. Too often, however, U.S. policy and regulation prevent those contributions from getting into the hands of U.S. warfighters. For example,

- Increasingly high “Buy American” requirements directly reduce opportunities for allies and partners to participate in the U.S. defense market. Such requirements might also lead those nations to adopt higher domestic content requirements of their own, reducing opportunities for U.S. firms internationally.<sup>20</sup>
- ITAR disincentivizes defense technology cooperation with allies and partners. Ally and partner governments and companies fear losing control of their intellectual property, the high financial and human capital costs of ITAR compliance, a slow process for license approvals and waivers, and more.<sup>21</sup>
- U.S. law prohibits U.S.-homeported ships from undergoing maintenance in foreign shipyards, except for mid-deployment voyage repairs or to correct battle damage.<sup>22</sup> Even as maintenance backlogs grow at U.S. shipyards, the Navy cannot make greater use of quality shipyards in allied nations, such as Japan and South Korea. DoD has requested authority for limited maintenance and repair of U.S. vessels, aircraft, and other equip-

<sup>15</sup> Lillis et al., “Russia Producing Three Times More Artillery Shells Than US and Europe for Ukraine.”

<sup>16</sup> DeYoung and Hudson, “U.S. Will Send Ukraine Long-Range Missiles, After Delay.”

<sup>17</sup> Cancian, “Rebuilding U.S. Inventories.”

<sup>18</sup> Hadano and Nakamura, “Taiwan Waiting for U.S. F-16s and Tanks in \$19bn Arms Sale Backlog”; Kavanagh and Cohen, “The Real Reason for Taiwan’s Arms Backlog—and How to Help Fill It.”

<sup>19</sup> Mai, “Is AUKUS Pillar I Unworkable?”; Katz, “Reed, Inhofe Warn Biden AUKUS Risks Becoming ‘Zero Sum Game’ for US Navy.”

<sup>20</sup> Gould, “US Defense Allies Push to Block New ‘Buy American’ Boost.”

<sup>21</sup> Greenwalt and Corben, *Breaking the Barriers*.

<sup>22</sup> Robb, “Repair Deployed Ships in Theater to Optimize Combat Power.”



ment in foreign theaters when deployed. The Commission recommends support and expansion of DoD's request.<sup>23</sup>

## Recommendations

DoD has taken some initial steps to strengthen the DIB, including the publication of the National Defense Industrial Strategy and its expanded use of multiyear procurement authority for preferred munitions when that authority has been supported by Congress. DoD has requested additional legislative authority to raise limits on multiyear production and to expand the authority to other programs, which the Commission supports.

The Commission believes that rebuilding the DIB requires greater urgency and resources. The proposed SHIPYARD Act, introduced in 2021 on a bipartisan and bicameral basis, is an example of the scope and scale required.

Fixing the munitions shortfall should remain a top priority for DoD and will require a multi-pronged approach. First, although Congress granted DoD multiyear authority for certain munitions, it has been slow to provide and enable appropriations to implement this concept.<sup>24</sup> Second, Congress needs to significantly increase the level of investment domestically in munitions and in the capacity to build them. Third, DoD needs to work with other countries to expand production capacity for munitions across U.S. allies and partners to build added resiliency in the supply chain. Fourth, while continuing to expand production of existing munitions, DoD needs to invest in new munitions and weapons to keep pace with warfighter needs and expand the DIB. Fifth, DoD needs to fund the recapitalization of armories and invest in advanced manufacturing and further stockpiling of munitions. Finally, DoD needs to seek to increase interoperability of parts and ensure that it can buy all munitions at sufficient scale to deliver the desired operational effects.

There is a marked lack of sub-tier suppliers across defense industries, at least in part because of disincentives that smaller and nontraditional defense companies face when producing defense-related hardware or software. Such disincentives include unreliable flow of money, significantly more regulations than exist for other procurement, and more stringent requirements than exist in commercial markets.<sup>25</sup> DoD is encouraging direct acquisition from small and midsize businesses as one approach to this problem, but others are needed. The Commission recommends that DoD consider providing continual funding for stockpiles of strategic parts, streamlining clearances for personnel at sub-tier companies, focusing requirements for testing and performance at larger "prime" contractors rather than suppliers, and encouraging interoperable parts and software across more programs.<sup>26</sup> While some defense activities require higher levels of performance or reliability than commercial products (because of austere environments or risk to

---

<sup>23</sup> DoD, "Amendments to Contractor Employee Protections from Reprisal for Disclosure to Certain Information," pp. 44–47.

<sup>24</sup> Harris, "Defense Spending Bill Has Some Ukraine Aid, Multiyear Munitions Buys."

<sup>25</sup> DoD, *National Defense Industrial Strategy*, pp. 14–15; Defense Innovation Board, *Lowering Barriers to Innovation*, pp. 11–12.

<sup>26</sup> See also Delfeld and Colby, *Broadening the Base*, pp. 15–19.

life of service members), the Commission believes that the fundamental shift from defense-led production to commercialization justifies a whole-scale review and reduction (where possible) of barriers to using commercial products and software for defense purposes.

Additionally, the Commission recommends that Congress

- refocus and enhance the use of DoD’s authorities to implement the Defense Production Act (DPA) to drive increased production capacity; support DIB workforce recruitment, training, and development; fast-track permitting for DPA-supported projects; and mitigate single points of failure in the DIB supply chain
- authorize the U.S. Navy to expand the scope of fleet maintenance performed at shipyards in allied or partner nations, as requested by DoD in the FY 2025 National Defense Authorization Act, especially while U.S. shipyards clear maintenance backlogs and modernize facilities, equipment, and tooling, as proposed by multiple U.S. officials<sup>27</sup>
- authorize the U.S. Navy to procure support vessels built at shipyards in allied or partner nations if such procurements exceed the current capacity of U.S. shipyards
- expand the use of multiyear contracts and block-buy contracting while prioritizing maximized production rather than cost savings
- expand authorities and funding available to DoD to initiate and accelerate new starts, such as section 229 of the National Defense Authorization Act for Fiscal Year 2024<sup>28</sup>
- strengthen U.S. capacity to work effectively with allies and partners by reducing barriers to export, expanding opportunities for codevelopment and coproduction, and allowing DoD to supplement DIB production with procurement from allies and partners with advanced manufacturing capability and capacity.

Furthermore, the Commission recommends that DoD

- directly incorporate the DIB into U.S. force-planning and force-sizing constructs in future versions of the NDS and Defense Planning Guidance
- complement deterrence by denial, resilience, and cost imposition with “deterrence by endurance,” which would consist of actions taken to convey to adversaries that the United States can sustain and regenerate military strength over the course of a protracted war
- consider a joint portfolio of munitions to align requirements across the services to optimize munitions procurement and assess munitions shortages
- work with the State Department and other interagency partners to reform and accelerate Foreign Military Sales, including consideration of a new framework enabling the prioritization of key allies and partners in arms deliveries to better align with NDS priorities.

---

<sup>27</sup> Geddie and Kelly, “U.S. Wants Japanese Shipyards to Help Keep Warships Ready to Fight in Asia”; Woody, “China’s Massive Navy Is Only Getting Bigger, and the US Is Looking Overseas for Help Keeping Its Warships in Action.”

<sup>28</sup> Section 229 allows the secretary of a military department to use specific authorities—established pursuant to U.S. Code, Title 10, Section 3601—to initiate urgent or emerging operational development activities for a period of up to one year. Use of these authorities is limited to the purpose of leveraging an emergent technological advancement of value to the national defense to address a military service-specific need or to provide a rapid response to an emerging threat identified by a military service (Public Law 118-31, National Defense Authorization Act for Fiscal Year 2024).



## Personnel and Readiness

---

**The DoD workforce and the all-volunteer force provide an unmatched advantage. However, recruiting failures have shrunk the force and raise serious questions about the all-volunteer force in peacetime, let alone in major combat. The civilian workforces at DoD and in the private sector also face critical shortfalls.**

The 2022 NDS notes that the “extraordinary people” of DoD and the all-volunteer force are America’s “most valuable resource.”<sup>1</sup> The Commission emphatically agrees but believes more must be done to maximize this resource. DoD needs to recruit, retain, and mobilize military personnel and hire and equip a civilian workforce of the size, skill, and creativity required to address the sizable challenges facing the nation. The Commission also notes that the people in DoD are joined in achieving national security goals by skilled professionals serving in other U.S. departments and agencies, in Congress, in the industrial sector, and at think tanks, as well as other experts, all of whom depend on an educated, motivated, and service-oriented public.

### Military Recruitment and Retention

The U.S. military is facing significant recruiting challenges that threaten the viability of the all-volunteer force. Diminished force size threatens readiness to meet existing needs and fulfill the missions dictated by the NDS, let alone to achieve the additional requirements to implement the all elements of national power approach and force construct recommended by the Commission.

Of the military services, only the Marine Corps and Space Force met their 2023 active duty recruiting goals.<sup>2</sup> Halfway through FY 2024, the Army and Air Force indicated that their recruitment levels were substantially improved from the previous year, while the Navy expected to remain short.<sup>3</sup> Reduced propensity and eligibility to serve have contributed to these shortfalls.

---

<sup>1</sup> DoD, *2022 National Defense Strategy of the United States*, p. iv.

<sup>2</sup> The Marine Corps also met its reserve component goals; no other services met reserve or National Guard goals (U.S. Department of Defense, “Department of Defense Announces Recruiting and Retention Numbers for Fiscal Year 2023”).

<sup>3</sup> Senate Committee on Armed Services, Subcommittee on Readiness and Management Support, “To Receive Testimony on the Current Readiness of the Joint Force”; Baldor, “New Recruiting Programs Put Army, Air Force on Track to Meet Enlistment Goals. Navy Will Fall Short.”

The number of qualified individuals who can serve is in decline because of the number of people who do not meet educational, medical, physical, or moral requirements.<sup>4</sup>

Even more concerning is the lack of interest in military service for qualified individuals, which has been exacerbated by public narratives related to the dangers of military service, difficulties in transitioning from military to civilian life, the unclear value proposition of military service on future educational and career prospects, and a lack of familiarity with military service for much of the population.<sup>5</sup> Negative experiences of recently separated and serving military personnel—such as the publicized challenges in securing safe housing and food scarcity; racial, gender, and sexual orientation discrimination and harassment; mental health challenges, such as posttraumatic stress disorder; and the impact of moves on spouse employment and child education—further contribute to both the recruitment of new military personnel and the retention of service members.<sup>6</sup> These experiences have further narrowed potential recruitment pools and have increased the reliance on financial incentives for enlistment and retention.

The Commission urges the services to adapt their methods of recruitment. The current recruiting crisis shows that the United States can no longer continue to target the same communities with the same methods it has used for decades. The U.S. military can no longer rely on recruitment centers in strip malls or billboards to communicate the value of service and capture the attention of interested Americans. Recruiters should make better use of social media to engage younger Americans, leveraging online platforms such as YouTube, which is used by approximately 95 percent of teens.<sup>7</sup>

We commend the U.S. Marine Corps' practice of making recruitment an important component of service, elevating the role and turning its best and most enterprising marines into recruiters.<sup>8</sup> We recommend that the other services adopt this approach, and there are initial signs that the U.S. Air Force and U.S. Army are doing so.<sup>9</sup>

Increased engagements at high schools, vocational trade schools, junior colleges, and community colleges may provide more-fertile venues for recruitment. But recruiters should look beyond younger recruits, as trends indicate that Americans are delaying major life decisions—including military service—until later in life. Recruiting methods should seek to engage older

---

<sup>4</sup> Novelly, “Even More Young Americans Are Unfit to Serve, a New Study Finds. Here’s Why.”

<sup>5</sup> Senate Committee on Armed Services, Subcommittee on Readiness and Management Support, “To Receive Testimony on the Current Readiness of the Joint Force.”

<sup>6</sup> Thayer, “Racial Disparity in Army Officer Promotions Has Improved Since Service Removed Photos from Selection Process”; Lytell et al., *Retention of Racial-Ethnic Minorities in the Regular Army*; DoD Inspector General, “Management Advisory”; U.S. Government Accountability Office, *Military Housing*; Lehrfeld, “Army Finds Mold in over 2,000 Facilities After Service-Wide Inspection”; Office of People Analytics, “2021 Active Duty Spouse Survey (ADSS)”; U.S. Chamber of Commerce Foundation, “Unemployment and Underemployment Continue to Plague Military Spouses and Affect Financial Stability.”

<sup>7</sup> Vogels, Gelles-Watnick, and Massarat, “Teens, Social Media and Technology 2022.”

<sup>8</sup> See testimony by General Eric M. Smith, Assistant Commandant of the Marine Corps, in Senate Committee on Armed Services, Subcommittee on Readiness and Management Support, “To Receive Testimony on the Current Readiness of the Joint Force,” pp. 21–23.

<sup>9</sup> Baldor, “The Army Is Launching a Sweeping Overhaul of Its Recruiting to Reverse Enlistment Shortfalls.”

potential recruits who may already have valuable education and work experience that would contribute to the force.<sup>10</sup>

A 2020 Pentagon study showed that only 23 percent of Americans meet the minimum eligibility requirements for military service.<sup>11</sup> The Commission notes that the services have begun their own post–high school training courses to help interested candidates achieve the academic or physical requirements to serve and boast thousands of successful recruitments due to these programs. The Commission supports changes to military standards to enable those who wish to serve to do so. The need to waive requirements to enable eligibility suggests that military standards need modification. This may require changes to the medical conditions that are allowable for enlistment and reenlistment or placing personnel in military career fields that are appropriate for their conditions in order to allow them to serve.<sup>12</sup> That is not to suggest that standards should drop; rather, they should adapt to enable individuals with a propensity to serve to do so, and DoD should review whether existing standards have kept up with societal norms.

The Commission believes that the narratives related to military and public service must change. American society must understand the value of service—both military and civilian—and effective narratives should highlight how service to the nation contributes to society. The fact that military retention rates remain high demonstrates that people involved in the services find value in their work; DoD should find more ways to showcase their experience. DoD must better inform Americans, with the backing of elected officials and business and civic leaders, about the unique experiences that military and government service can provide and how such service will serve Americans in their careers and lives. Leveraging social media to promote this narrative will ensure broader reach and engage new communities. We emphasized these themes in Chapter 4 in relation to an all elements of national power approach to defense and national security.

An improved value proposition for service is needed to fix recruitment challenges and maintain retention rates. The Commission urges the services to better link enlistment and service to future employment and develop programs so that military service begins and ends with a job already in hand. Where possible, job offers should be in critical industries and the sectors most needed to ensure U.S. strength, such as the DIB.

Retaining talent in the U.S. military requires better incentives and a more flexible personnel system. The Commission applauds the work of the House Armed Services Committee Quality of Life Panel to review and recommend improvements to military pay, housing, and other factors affecting morale and retention.<sup>13</sup>

We believe the services should consider shorter, more flexible enlistment and reenlistment cycles to incentivize new recruits to “try” military service and to retain existing military personnel. Adopting shorter contracts and flexible cycles of “in-and-out” service, in which per-

<sup>10</sup> Pollard et al., *Identifying Opportunities to Recruit More Individuals Above the Age of 21 into the U.S. Army*.

<sup>11</sup> DoD, “2020 Qualified Military Available (QMA) Study.”

<sup>12</sup> Thayer, “Pentagon Reviews Whether 38 Medical Conditions Should Remain Disqualifiers for Military Service”; Nostrant, “A Nurse with an Amputation Hopes to Join the Air Force. A New Bill Could Allow Her to Do So.”

<sup>13</sup> House Armed Services Committee, *Quality of Life Panel Report*.

sonnel can gain critical skills outside the military through education or entering the civilian workforce and bring them back to the military, may prove more beneficial to retention than an “up-or-out” policy or could provide a viable second pathway. We believe this policy will strengthen the technical skills in the military, which are needed for increasingly complex and technology-driven future warfare. The Commission strongly encourages the military services to make use of their existing authorities as provided by Congress to access, retain, and promote technically skilled talent.<sup>14</sup>

Lastly, the Commission notes that the typical pathway for military careers involves enlistment or commissioning at a young age, followed by many years of continued service with frequent rotation requirements. Especially given the increase in marriage and family rates among military personnel, this model places considerable stress on military families. The services have begun to implement policy changes to reduce deployments, assist with spousal employment, and provide “employ-in-place” opportunities for those with specialized skills.<sup>15</sup> We recommend broader implementation of these policies to help retain talent in the services.

## Civilian Hiring and Retention

Hiring and retention are also a challenge for the civilian workforce, which must be strengthened to create the comprehensive solutions to the problems at hand. DoD is routinely edged out of critical technical skills and language and area expertise by the private sector, which offers more-competitive salaries and incentives, an easier hiring process, promotion potential, and flexible working hours and locations. Part of the problem, as a Defense Business Board study found, is that DoD has not marketed itself as an attractive civilian employer, making it difficult to compete against the private sector.<sup>16</sup>

The Commission strongly believes that DoD must find alternative ways to bring in talent, highlight the importance of the public service mission, and create new personnel policies that enable flexibility, employee growth and promotion, and civilian talent management. DoD should seek to create a noncontinuous option for service, whereby personnel can and are encouraged to cycle out of government service, gain critical skills in the private sector, and come back to public service. Existing policies, including benefits and security clearance, disincentivize such movement. Specialized skills—particularly in advanced technologies, such as AI—should be retained by such incentives as competitive pay and flexible work environments, as they are for military and certain other types of civilian government work.

The U.S. government must also develop and foster these specialized skill sets through education. The Commission recommends that Congress pass a new National Defense Education Act—akin to the 1958 act established after Russia launched Sputnik—to match national educa-

---

<sup>14</sup> Public Law 115-232, John S. McCain National Defense Authorization Act for Fiscal Year 2019; Robbert et al., *Officer Career Management*.

<sup>15</sup> See, e.g., Smith and Evans, “A Conversation with the Commandant, Gen. Eric Smith.”

<sup>16</sup> Defense Business Board, *Strengthening Defense Department Civilian Talent Management*.



tional programs to defense needs.<sup>17</sup> Doing so would develop a new generation of Americans with the technical and language skills needed to fight future wars, develop and build defense technology, and understand U.S. adversaries. We vehemently believe that the United States must make investments today to build the future civil servants that the United States needs.

DoD must create more civilian pathways to service for these talented Americans. We acknowledge the progress made in strengthening DoD's civilian workforce as hiring freezes have been lifted, new direct hiring authorities have been established, and programs created by Congress (such as the John S. McCain Strategic Defense Fellowship) have yielded a new cadre of young civil servants.<sup>18</sup> However, there is more to be done to create hiring pathways into DoD for those who wish to serve, provide opportunities for detailees and participants in the Intergovernmental Personnel Act mobility program to be hired by DoD, and create more flexibility to move jobs within DoD and the military services. The Commission encourages DoD to make greater use of existing hiring authorities, especially Direct Hire Authorities and other hiring flexibilities provided by Congress.<sup>19</sup> Even with these authorities, we find that new hiring authorities are likely needed to bring in civilian personnel with the advanced technical and analytic skills sorely needed to meet the demands of future conflict.

## Service and Mobilization

The requirements of peer or near-peer conflict, especially given the likelihood of simultaneous conflicts and protracted fighting discussed earlier, raise serious questions about whether the size of the force is sufficient and could be sustained.<sup>20</sup> Although such a consideration potentially is politically volatile, DoD should, in conjunction with other elements of the executive branch, consider what mandatory mobilization means and would entail. Doing so would strengthen U.S. preparedness for future conflict and, in the process, bolster deterrence. The Commission agrees in this regard with the recommendations of the National Commission on Military, National, and Public Service and a June 2024 Center for a New American Security report, including that DoD should name an executive agent for mobilization and that DoD should lead exercises in peacetime to practice and identify shortcomings in the Selective Service System.<sup>21</sup>

Consistent with the need for an all elements approach to national security, we recommend that requirements for mandatory service include not only military service but defense industrial work, skilled trade programs, health care, protection and resilience of critical infrastructure, and

<sup>17</sup> Public Law 85-864, National Defense Education Act of 1958.

<sup>18</sup> Washington Headquarters Services, "John S. McCain Strategic Defense Fellowship Program."

<sup>19</sup> Under Secretary of Defense for Personnel and Readiness, "Direct Hire Authority for Certain Personnel of the Department of Defense"; Defense Civilian Personnel Advisory Service, "Department of Defense Hiring Authorities and Other Flexibilities"; DoD, "Top DOD Hiring Options and Appointment Authorities (Non-Inclusive)."

<sup>20</sup> See, e.g., Dempsey and Barndollar, "The All-Volunteer Force Is in Crisis."

<sup>21</sup> National Commission on Military, National, and Public Service, *Inspired to Serve*, pp. 93–123; Kuzminski and Sylvester, *Back to the Drafting Board*.

other relevant work. The integration of the DIB into force planning means that a potential conflict with a major adversary would involve not only the military but also the private sector workforce. Just as World War II led to a major mobilization of key industries, so too would a future conflict.<sup>22</sup> We recommend increased planning now by DoD, the Department of Commerce, and others about what commercial mobilization would entail, whether the authorities in the Defense Production Act and elsewhere are sufficient, and the resources associated with such an effort.

The Commission heard concern from several current and retired DoD personnel and others about the lack of military, public, and national service by the U.S. population and the importance of volunteering, shared sacrifice, and supporting the national good. The U.S. public are largely unaware of the dangers facing the nation and do not understand the devastating impact a potential conflict could have on daily life. This not only affects efforts to build preparedness in peacetime but could also affect national mobilization in the event of major conflict. The Commission believes the nation needs a renewed sense of engagement and patriotism, and we support calls for increased public and civic service. It is outside the Commission's charter to conduct a detailed review, but we commend the National Commission on Military, National, and Public Service for its report on the topic.<sup>23</sup>

## Readiness Challenges

**The Joint Force is at the breaking point of maintaining readiness today. Adding more burden without adding resources to rebuild readiness will cause it to break.**

The NDS tasks the Joint Force to be ready for strategic competition, with an emphasis on China and Russia, while maintaining the ability to respond to small-scale and short global crises rapidly and credibly.<sup>24</sup> As a global power, the United States must be able to deter the threats it faces in multiple theaters in a tailored, timely fashion while preparing the military for potential future conflict against advanced adversaries.

The Commission assesses that the U.S. military does not possess the readiness to meet the twin demands of protracted conflict with China and Russia while having the ability to “fight tonight.” We believe the readiness levels of the Joint Force are insufficient to meet the expanded force-sizing objectives that we laid out in Chapter 6.

*Readiness* refers to the military's ability to carry out missions and operations in a timely fashion around the globe. It is guided by three essential questions: Ready for what? Ready for when? And what needs to be ready?<sup>25</sup> The answers to these questions dictate trade-offs among the missions and operations, timelines, and force employment. The biggest trade-offs in terms of readi-

---

<sup>22</sup> Herman, *Freedom's Forge*.

<sup>23</sup> National Commission on Military, National, and Public Service, *Inspired to Serve*.

<sup>24</sup> DoD, *2022 National Defense Strategy of the United States*.

<sup>25</sup> Betts, *Military Readiness*.

ness are between what is required to “fight tonight” and the requirements to prepare to be able to “fight tomorrow.” Near-term requirements often emphasize the availability of forces to deploy to conduct peacetime operations and crisis response, whereas longer-term requirements emphasize training and equipping forces to build proficiency on new capabilities and warfighting missions in preparation for future conflict.

U.S. force readiness is being tested by crisis response operations, causing the balance between expending readiness for today’s challenges and preserving readiness for tomorrow to become increasingly fraught. DoD has made great strides in rebuilding readiness that had eroded due to unanticipated force demands, but these improvements may be ephemeral. We believe there is an underappreciated and burgeoning readiness challenge that DoD and Congress must urgently address.

At present, the United States is supporting allies in ongoing conflicts in Europe and the Middle East. U.S. forces are shoring up deterrence on NATO’s Eastern Flank by training and equipping Ukrainian soldiers in their fight against Russia.<sup>26</sup> In the Middle East, the United States has increased its military presence and security assistance to Israel since the October 7, 2023, attack.<sup>27</sup> It has also strengthened U.S. presence in the Red Sea, where U.S. and ally and partner forces have routinely come under attack from Houthi drones and missiles.

Such crises have led to unplanned force deployments to Europe and the Middle East, creating high demand for “stressed” force elements with multiple requirements across theaters, such as air defense and aerial refueling. The extraordinary level of munitions consumption and demand by allies and partners in Europe and, more recently, preferred munitions expenditures in the CENTCOM area of responsibility—a region of risk acceptance in the NDS—also provide cause for concern because these stockpiles are already inadequate for a high-end conflict. The result of these crisis response missions has been unplanned and extended deployments, additional forces on prepare to deploy orders, higher munitions consumption, and prevention of recovery for “stressed” force elements, all of which negatively tilt the readiness balance.<sup>28</sup>

These responses to crises come on top of other demands for day-to-day campaigning activities described in the NDS for deterrence.<sup>29</sup> In practice, campaigning requires a continuous expenditure of readiness to exercise and demonstrate capability for operations aligned to defense priorities, as it can interrupt force generation cycles.<sup>30</sup> The constant demand for presence operations, exercises, and security cooperation activities has exacerbated readiness challenges, especially when paired with the training requirements to prepare for great power competition and conflict. The Army, in particular, has felt the strain of the high operational tempo for campaign-

<sup>26</sup> DoD, “U.S. Defense Contributions to Europe”; U.S. Army Europe and Africa, “US Department of Defense Establishes Security Assistance Group-Ukraine in Wiesbaden.”

<sup>27</sup> DoD, “Statement from Secretary of Defense Lloyd J. Austin III on Steps to Increase Force Posture.”

<sup>28</sup> U.S. Marine Corps, “26th MEU(SOC) and BATARG to Return Home After an 8 Month Deployment”; DoD, “Statement From Secretary of Defense Lloyd J. Austin III on Steps to Increase Force Posture.”

<sup>29</sup> DoD, *2022 National Defense Strategy of the United States*. *Campaigning* is defined as “the conduct and sequencing of logically-linked military initiatives aimed at advancing well-defined, strategy-aligned priorities over time” (DoD, *2022 National Defense Strategy of the United States*, p. 1).

<sup>30</sup> Wasser, *Campaign of Denial*.

ing on its readiness.<sup>31</sup> The U.S. Navy is also suffering from readiness issues stemming from its high operational tempo, aging ships, shipyard backlogs, and crew fatigue.<sup>32</sup> Continued mishaps at sea and in military aviation pose risks to troop safety and are symptomatic of a decline in readiness, reflecting both a lack of experience and the increased complexity of the future warfighting mission.<sup>33</sup> The steady demands of campaigning on a smaller military force—and an even smaller number of responsive, modernized, and combat-credible forces—has stressed force readiness.

Moreover, shortcomings of the DIB further hamper DoD's ability to operate and sustain a ready force. These shortcomings include the deteriorating condition of defense depots, contract maintenance performance issues, and underproduction of spare parts, among many others.

All this comes as the Joint Force is still in the process of building readiness for high-end warfighting with peer or near-peer competitors. This is an evolutionary process that requires force modernization and breaking the path dependency of existing exercises, training, and professional military education to align them to the future challenges and missions in a highly contested environment, which require greater technical skills and proficiencies.<sup>34</sup> But there is still a yawning gap between readiness for steady state campaigning activities and warfighting.

The result is a U.S. military that is minimally *operationally* ready today but is unlikely to be ready for tomorrow. The Commission believes that the U.S. military must be ready to respond to today's crises while being prepared to fight alongside U.S. allies and partners to deter and, if necessary, win wars in the future. DoD and Congress must do more to improve the readiness of the Joint Force to meet this standard. We note that, to meet the budget caps of the Fiscal Responsibility Act of 2023, DoD was forced in its FY 2025 budget submission to choose between the fight tonight and preparation for future war in its future budget. The request understandably emphasizes near-term priority. As we recommend elsewhere, Congress should exercise its prerogative to amend the law to fund both near-term readiness and necessary longer-term preparation for future conflict.

## Readiness Reform

The Commission applauds DoD's effort to understand readiness trade-offs over time and the emphasis on senior leader decisionmaking support. DoD has advanced a new framework of strategic readiness, which broadens the concept of readiness beyond the near-term availability of forces to holistically weigh the factors that influence the military's ability to fight across time, threats, and geography. These factors include sustainment, modernization, allies and partners, business systems and organizational effectiveness, human capital, global posture, force struc-

---

<sup>31</sup> Wasser, *Campaign of Denial*.

<sup>32</sup> Maurer, "Military Readiness"; U.S. Government Accountability Office, *Navy Readiness*.

<sup>33</sup> Beynon, "National Guard Grounds All of Its Helicopters Following Apache Crash in Mississippi That Killed 2 Soldiers"; Copp, "Pentagon IDs Possible Cause of Nov. 29 Osprey Crash That Killed 8"; U.S. Navy, "Navy Locates and Recovers Downed Blackhawk in the Mediterranean Sea."

<sup>34</sup> Brown and Berger, "Redefine Readiness or Lose."

ture, resilience, operational readiness, and mobilization.<sup>35</sup> DoD's understanding of the trade-offs among these metrics has been bolstered by descriptive and predictive analytic tools, such as the Readiness Decision Impact Model (RDIM).<sup>36</sup> The intent is to help senior leaders make choices that balance competing priorities and requirements, understand trade-offs between resourcing a request today and future readiness, and make decisions that align to the NDS priorities.

We agree that a holistic view of readiness enables a more accurate and more comprehensive assessment of Joint Force readiness. However, we find that the proliferation of readiness metrics obscures the critical questions of whether forces are available and ready to deploy and whether they are ready for the demands of future warfare. For example, *operational* readiness—whether forces are ready and available to “fight tonight”—is a component of *strategic* readiness. This means the Joint Force can be operationally but not strategically ready. We believe these terminologies make it difficult for senior leaders and lawmakers to understand force readiness levels. Moreover, there is variability in measuring operational readiness, as each service has specific approaches to capturing readiness metrics that reflect its own doctrine and organization.<sup>37</sup> We urge DoD to be more transparent in its terminology, framework, and readiness metrics. Greater transparency is needed in readiness assessments and reporting, including in data and reporting provided to Congress and the public.<sup>38</sup>

The Commission recommends that future readiness assessments more strongly consider two critical dynamics to support the implementation of our proposed Multiple Front Force Construct: the demands of protracted warfare and the demands of simultaneous multitheater operations. We find that these two dynamics are underappreciated in existing readiness assessments and planning and that additional exploration of these dynamics will improve DoD's ability to implement a new force construct and balance the demands of today while preparing for future conflict.

We also urge DoD to continue to mature its analytic tools. RDIM is not yet mature, as it does not have models for forces operating in all domains, reducing its efficacy as a predictive tool.<sup>39</sup> Additionally, while current strategic readiness assessments incorporate limited data from the DIB, we believe these data should be expanded significantly to help identify potential shortfalls in stressed force elements and inform resourcing decisions.

The Commission applauds DoD in incorporating force management guidance into the strategy. We find that this guidance has helped align force employment decisions with the threat prioritization laid out in the NDS and has reduced additional demands on finite resources. While this approach is imperfect, we recommend that this practice continue because it provides a disciplining framework that bounds requests for forces.<sup>40</sup> We believe that continued civilian

---

<sup>35</sup> Jackson and Berger, “Readiness Redefined”; Department of Defense Instruction 3000.18, *Strategic Readiness*.

<sup>36</sup> Myers, “New Data Model Predicts How Deployments Affect Future Readiness.”

<sup>37</sup> Maurer, “Military Readiness.”

<sup>38</sup> Myers and Winkie, “Pentagon Won't Say If Troop Deployment Tempo Exceeds Recommended Goal”; Nicastro, “Military Readiness.”

<sup>39</sup> Jackson and Berger, “Readiness Redefined.”

<sup>40</sup> Wittman et al., letter to Secretary of Defense Lloyd J. Austin and Deputy Secretary of Defense Kathleen Hicks.

oversight of the allocation of military force is deeply important and needed to maintain strategic discipline.<sup>41</sup> The Commission strongly encourages senior civilian leaders to ensure that future readiness is not sacrificed unnecessarily. Military force should not be the tool of first response when a problem could be addressed by diplomacy and other tools of national power.

U.S. adversaries demonstrate why the United States ignores readiness at its peril. Russia's poor military performance in Ukraine in 2022 demonstrated that it lacked the readiness levels required for a successful invasion.<sup>42</sup> All signs indicate that Moscow has learned its lesson as it takes steps to reconstitute its forces and readiness to regain a battlefield advantage. China's President Xi has emphasized the need to build the PLA's combat readiness, and DoD assesses that the PLA has made progress in improving readiness.<sup>43</sup> Readiness is a critical component of the United States' ability to deter threats and, if needed, fight and defeat adversaries.

---

<sup>41</sup> The civilian oversight role is outlined in Title 10 of the U.S. Code.

<sup>42</sup> Kofman and Lee, "Not Built for Purpose."

<sup>43</sup> DoD, *Military and Security Developments Involving the People's Republic of China*.

## Resources

---

**The United States must spend more effectively and more efficiently to build the future force, not perpetuate the existing one. Additional resources will be necessary. Congress should pass a supplemental appropriation to begin a multiyear investment in the national security innovation and industrial base. Additionally, Congress should revoke the 2023 Fiscal Responsibility Act spending caps and provide real growth for FY 2025 defense and nondefense national security spending that, at bare minimum, falls within the range recommended by the 2018 NDS Commission. Subsequent budgets will require spending that puts defense and other components of national security on a glide path to support efforts commensurate with the U.S. national effort seen during the Cold War.**

The United States faces the most challenging and most dangerous international security environment since World War II. It faces peer and near-peer competitors for the first time since the end of the Cold War. During that period, including the Korean War and Vietnam War, DoD spending ranged from 4.9 percent to 16.9 percent of GDP (Figure 9.1).

The comparison to the Cold War is apt in terms of the magnitude of the threat, risks of strategic instability and escalation, and need for U.S. global presence. The comparison does not reflect many significant differences between that period and today. Among these differences are advances in technology that fundamentally change the character of warfare and the shift from traditional DoD-led R&D and procurement to private sector–driven investment and innovation and commercial production of hardware and software. When incorporated through improved operational concepts, these advances have enormous national security potential that place the United States (and others) on the cusp of a revolution in military affairs. The NATO alliance and the network of U.S. alliances in Asia reshape how the United States prepares for, deters, and wins conflicts.

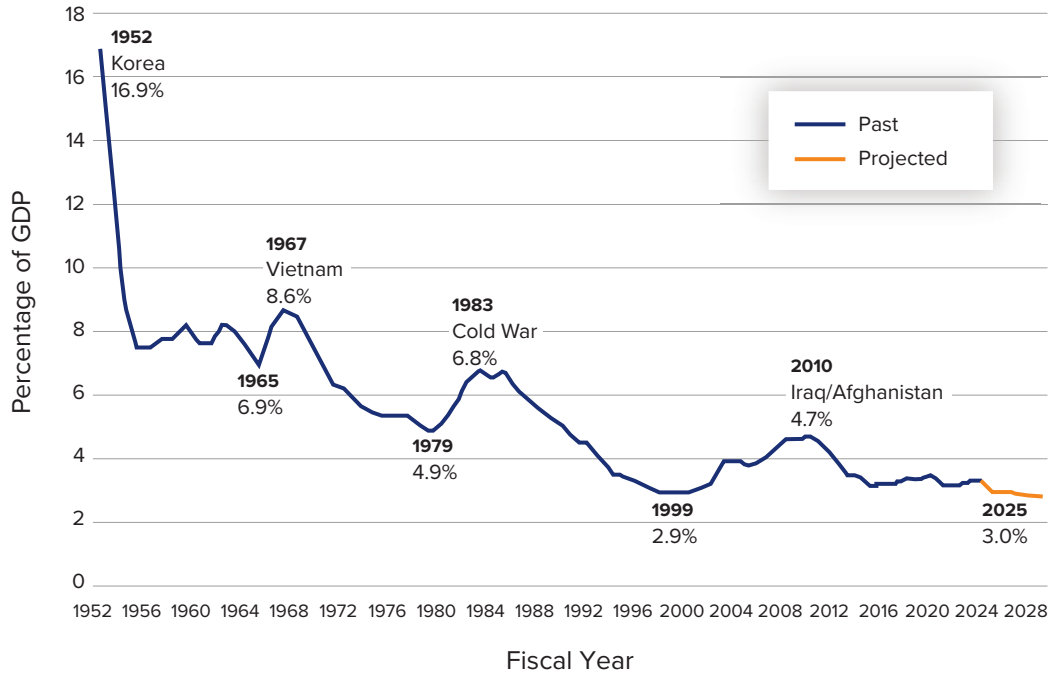
The biggest difference between today and the Cold War is in the homeland. The Cold War demanded a national mobilization for military service, an economy geared toward national security, and a unity of effort across government (including Congress) behind shared security missions that are missing today. Defense spending in the Cold War relied on top marginal income tax rates above 70 percent and corporate tax rates above 50 percent.<sup>1</sup> Using the Cold War as a benchmark for spending should be accompanied by acknowledging the other fundamental changes that could supplement America’s efforts to deter threats and prepare for the future.

---

<sup>1</sup> Ingraham, “The Tax Code Treats All 1 Percenters the Same. It Wasn’t Always This Way”; Peter G. Peterson Foundation, “Six Charts That Show How Low Corporate Tax Revenues Are in the United States Right Now.”



**Figure 9.1**  
**Defense Department Budget Authority as Percentage of Gross Domestic Product, FY 1952 to FY 2029**



SOURCES: Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2025*, Tables 1-1 and 6-8, pp. 6 and 138–145; U.S. House of Representatives, “Division: Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2024,” pp. 94–98; U.S. House of Representatives, “Division: Department of Defense Appropriations Act, 2024,” pp. 299–313; Keys and Nicastro, “FY2024 National Security Supplemental Funding,” p. 4; Office of Management and Budget, Fiscal Year 2025 Historical Tables, Table 10.1.

NOTE: Includes DoD discretionary, mandatory, and supplemental funding.

According to an April 2024 estimate, China’s full spending on defense exceeds \$700 billion annually.<sup>2</sup> Additionally, in March 2024, China announced a 7.2 percent increase in its official defense budget.<sup>3</sup> In 2024, Russia is projected to spend 35 percent of its federal budget, representing 7.1 percent of its economic output, on military and security spending.<sup>4</sup> U.S. competitors are fusing military, diplomatic, and industrial strength to expand power worldwide and coerce their neighbors.

U.S. spending on defense far outweighs other elements of national power and will continue to do so. However, all these accounts (i.e., national security missions at the departments of State,

<sup>2</sup> Eaglen, “Keeping Up with the Pacing Threat.” For technical debate over how to estimate Chinese defense spending, see Fravel, Gilboy, and Heginbotham, “Estimating China’s Defense Spending.”

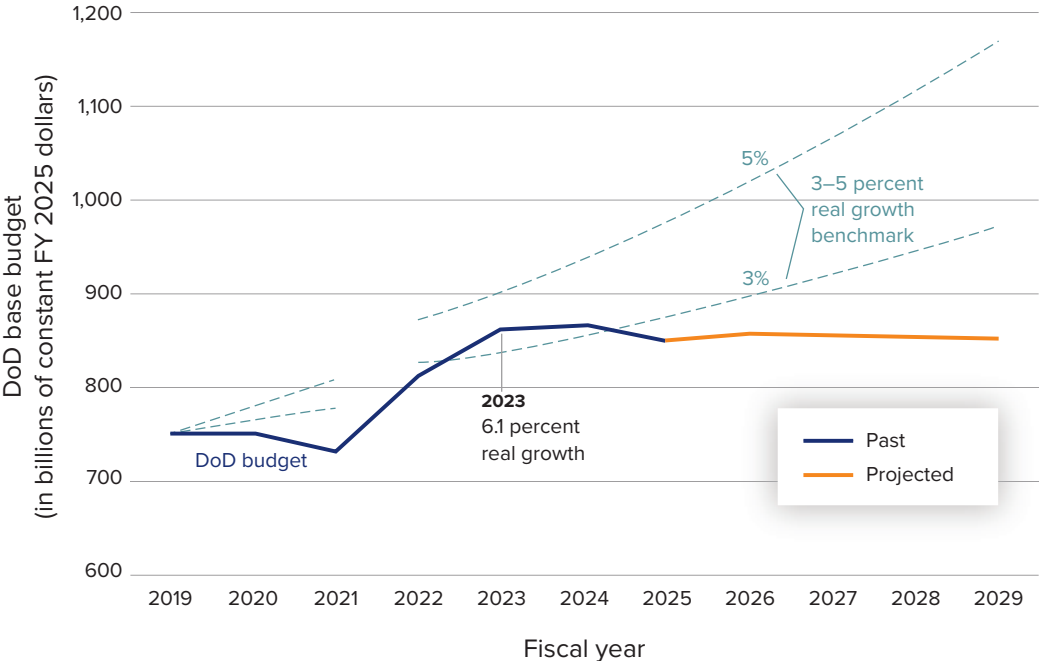
<sup>3</sup> Wu and Bodeen, “China Raises Defense Budget by 7.2% as It Pushes for Global Heft and Regional Tensions Continue.”

<sup>4</sup> Cooper, “Another Budget for a Country at War,” p. 19.

Treasury, Homeland Security, Commerce, Education, and others) must be considered as part of a notional, overall national security budget.

The 2018 NDS Commission recommended increasing the base defense budget at an average rate of 3–5 percent above inflation (Figure 9.2). That was not achieved, but the combination of merging Overseas Contingency Operations funds into the base budget and Congress increasing the FY 2022 and FY 2023 base budgets brought spending above the 3 percent benchmark. Funding for allies, munitions, and submarines in the April 2024 supplemental appropriations law is also significant.

**Figure 9.2**  
**Defense Department Base Budget Has Not Kept Pace with 3–5 Percent Annual Real Growth Benchmark Recommended by 2018 NDS Commission**



SOURCES: Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2025*, Tables 1-1 and 5-6, pp. 6 and 63; Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2025 Budget Request: Defense Budget Overview,” p. 24; Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2022 Budget Request: Defense Budget Overview,” p. 7-1; U.S. House of Representatives, “Division: Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2024,” pp. 94–98; U.S. House of Representatives, “Division: Department of Defense Appropriations Act, 2024,” pp. 299–313.  
NOTE: Discretionary base budget authority in constant FY 2025 dollars. FY 2022 benchmark values adjusted upward by \$42.1 billion to reflect merging \$14.3 billion for direct war requirements and \$27.8 billion for enduring requirements into the FY 2022 base budget.

## Recommendations to Spend More Effectively

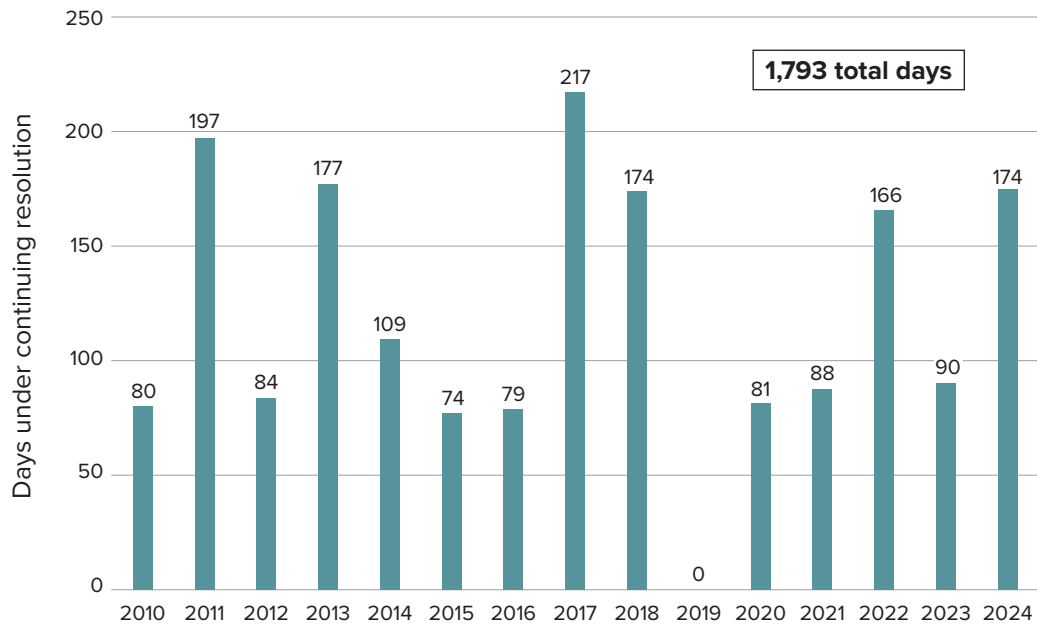
Building all the elements of national power necessary to preserve U.S. influence, deter conflict, and defeat adversaries (if needed), the U.S. government must spend funds more efficiently and more effectively and must increase spending levels.<sup>5</sup>

### Mitigate Harmful Effects of Continuing Resolutions

Policymakers should enact changes to mitigate the disruptions caused by continuing resolutions, which have become a routine part of defense and nondefense appropriating.

DoD started 14 of the past 15 fiscal years under a temporary continuing resolution rather than a regular full-year budget. From FY 2010 to FY 2024, defense continuing resolutions averaged 120 days each year, and DoD spent close to 1,800 total days operating under temporary funding—the equivalent of nearly five full years (Figure 9.3).

**Figure 9.3**  
**Days Spent Under Continuing Resolutions at Defense Department, FY 2010 to FY 2024**



SOURCE: Adapted from Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2025 Budget Request: Defense Budget Overview,” p. 3.

<sup>5</sup> See Harman and Edelman, “Spend More on Defense?”

The executive branch deserves a small amount of blame for this dysfunction when it fails to submit its budget request by the first Monday in February, which has become the norm, with only one on-time budget submission since FY 2012.<sup>6</sup> Still, continuing resolutions make administration delays more likely because, without finalized prior year spending, a new request cannot present accurate year-over-year comparisons, which underpin congressional evaluations of budget plans.

Continuing resolutions prevent DoD from operating as efficiently as it could, although DoD has developed practices to mitigate some consequences of temporary funding.<sup>7</sup> Continuing resolutions force DoD to spend late-delivered funds in less time, undermining desired execution rates and aggravating year-end spending surges.<sup>8</sup> Continuing resolutions also typically prohibit new program starts and increased production rates, halting innovation and optimization.<sup>9</sup> Overall, the evolution of continuing resolutions from emergency stopgap to regular business has disrupted DoD operations.

Ultimately, Congress should solve this problem by passing appropriations legislation on time. Given recent history, however, we also concur with the PPBE Commission's recommendation that continuing resolutions should permit both new program starts and increased production rates under certain well-defined criteria.<sup>10</sup> We also applaud Congress for including in the FY 2024 National Defense Authorization Act a provision to allow military services to begin spending funds on new programs under emerging threats or the identification of new technologies.<sup>11</sup>

## Spend Smarter

DoD and Congress should review all major systems against likely future needs, prioritizing agility, interoperability, and survivability. The Office of the Secretary of Defense and the Joint Staff should be more empowered to cancel programs, determine needs for the future, and invest accordingly. DoD should invest more in cyber, space, and software, which have enabled war-fighting for decades but are now central to conflict and are global.

DoD and Congress should continue harvesting internal savings from the defense budget to the greatest extent possible. In recent years, DoD has proposed about \$5 billion in annual savings, on average, through performance improvement initiatives.<sup>12</sup> Congress often approves

<sup>6</sup> Harrison et al., "What to Look for in the FY 2022 Defense Budget Request," p. 2.

<sup>7</sup> U.S. Government Accountability Office, *Defense Budget*.

<sup>8</sup> Commission on Planning, Programming, Budgeting, and Execution Reform, *Defense Resourcing for the Future*, pp. 81–82.

<sup>9</sup> Commission on Planning, Programming, Budgeting, and Execution Reform, *Defense Resourcing for the Future*, pp. 81–82.

<sup>10</sup> Commission on Planning, Programming, Budgeting, and Execution Reform, *Defense Resourcing for the Future*, pp. 81–82.

<sup>11</sup> See Public Law 118-31, Section 229, Rapid Response to Emergent Technology Advancements or Threats.

<sup>12</sup> Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, "Fiscal Year 2021 Budget Estimates: Operation and Maintenance Overview," p. 172; Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, "Fiscal Year 2022 Budget Request: Operation and Maintenance Overview,"

fewer cost savings than what DoD proposes, particularly by blocking proposed weapon system divestments.<sup>13</sup> There are often legitimate disagreements over what constitutes “legacy systems” and when to end programs, but there are clearly institutional incentives within the services, DoD, and Congress to keep existing programs.<sup>14</sup> The Commission recommends addressing those incentives. For DoD, this might mean ensuring that money saved from ending a program will remain with the service for higher-priority needs. For Congress, divestments might be more palatable if DoD and industry worked to keep jobs in a district, potentially through retraining opportunities.

Elsewhere in this report, we have recommended changes to what the services buy to make greater use of cheaper, proliferated systems of drones, munitions, platforms, and satellites instead of fewer, more advanced, and more complicated systems and greater use of commercially available technology. We expect that, in addition to operational benefits, such an approach will reduce costs in DoD R&D, procurement, and operations and maintenance accounts. The Commission also heard repeatedly that services can upgrade capability through regular software updates rather than by building new platforms. In many instances, better integration between the U.S. and allies’ industrial bases can yield cost savings and improved readiness through coproduction, aligning procurement to the industrial strengths of allies, and making better use of allies’ infrastructure for repair and maintenance. DoD has increasingly requested the authority to spend funds more efficiently and more reliably through multiyear procurements and block buy contracting, with mixed approval from Congress. These authorities provide the dual benefit of reducing overall costs and providing more-reliable funding mechanisms for industry.

As described throughout this report, the U.S. government should undertake structural changes and adjust priorities to spend national security funds more effectively and more efficiently. These reform efforts should include rewriting regulations to speed defense procurement (and address cultural impediments and risk aversion) and shifting the R&D paradigm to better adopt technological innovation from outside DoD for warfighting purposes. The U.S. government also should enable and facilitate information-sharing and export controls to better work with allies.

## Recommendations for Additional Resources

Americans rightfully demand that DoD and Congress work relentlessly to maximize the military and other forms of national security power generated by their taxpayer dollars, and advocates for additional defense spending have an obligation to ensure that existing funds are being spent wisely. Decades of review, however, suggest that no feasible combination of institutional

---

p. 173; Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2023 Budget Request: Defense Operation & Maintenance Overview Book,” p. 170; Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2024 Budget Estimates: Defense Operation & Maintenance Overview Book,” p. 177.

<sup>13</sup> See, for example, Public Law 117-263, James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, Sections 121, 143, 1029.

<sup>14</sup> Cancian and Saxton, “What’s in a Name?”

adaptation, process improvement, or waste reduction will generate defense savings of sufficient size, and with sufficient speed, to finance the all elements approach we view as necessary. Bigger budgets are therefore essential.

Congress should pass a supplemental appropriation immediately to begin a multiyear investment in the national security innovation and industrial base. The supplemental funding should support U.S. allies at war; build industrial capacity, including infrastructure for shipbuilding and the ability to surge munitions production; increase and accelerate military construction to expand and harden facilities in Asia; secure access to critical minerals; and invest in a digital and industrial workforce.

Congress should revoke or override the spending caps in the Fiscal Responsibility Act of 2023 that serve as the basis for the FY 2025 budget request. For FY 2025, real growth in defense and nondefense national security spending is needed and, at a bare minimum, should fall within the range recommended by the 2018 NDS Commission. While the reforms recommended above are made and investments in capacity from the supplemental appropriation are underway, increased spending should be allocated to prioritize near-term readiness demands to restore and reinforce deterrence. Policymakers should not spread increased spending around the entire defense bureaucracy, as this will not produce the desired effect of a more capable force to deter and, if needed, succeed in war.

Given the severity of the threats, the FY 2027 and later budgets for all elements of national power will require spending that puts defense and other components of national security on a glide path to support efforts commensurate with the U.S. national effort seen during the Cold War.

Larger amounts of defense spending should be accompanied by sufficient resources to build capacity at the departments of State, Commerce, and Treasury; intelligence, trade, and investment agencies; USAID; and DHS and focus these organizations on national security missions. The United States should continue to provide support to its allies, whom it relies on to fight with (or for) it.

The ballooning U.S. deficit also poses national security risks. Therefore, increased security spending should be accompanied by additional taxes and reforms to entitlement spending.





## Commissioner Biographies

---

### Jane Harman, Chair

Jane Harman served nine terms in Congress as the U.S. representative for California's 36th congressional district and was ranking member of the Intelligence Committee after 9/11. After leaving the House in 2011, she was the first woman president and CEO of the Wilson Center until 2021. She has served on numerous government advisory boards (Central Intelligence Agency, Director of National Intelligence, DoD, and State Department) and is a member of the President's Intelligence Advisory Board and the NASA and DHS advisory councils. She chairs the Commission on the National Defense Strategy, cochairs the Board of Freedom House, and is a member of the Aspen Strategy Group, the Munich Security Conference Executive Committee, and the Board of Governors of the National Intelligence University. Harman's book, *Insanity Defense: Why Our Failure to Confront Hard National Security Problems Makes Us Less Safe*, was published by St. Martin's Press in 2021.

### Eric Edelman, Vice Chair

Ambassador Eric S. Edelman retired as a Career Minister from the U.S. Foreign Service on May 1, 2009. He has been a Practitioner in Residence at the Philip Merrill Center for Strategic Studies at the Johns Hopkins University School of Advanced International Studies, Counselor at the Center for Strategic and Budgetary Assessments, and a nonresident senior fellow at the Miller Center for Public Affairs at the University of Virginia. He cochaired the National Defense Strategy Commission, 2017–2018.

Ambassador Edelman served as U.S. Ambassador to Finland and the Republic of Turkey in the Clinton and George W. Bush administrations and was Principal Deputy Assistant to the Vice President for National Security Affairs. From 2005 to 2009, he was the Under Secretary of Defense for Policy. In other assignments, he served as Chief of Staff to the Deputy Secretary of State, special assistant to the Under Secretary of State for Political Affairs, and special assistant to Secretary of State George Shultz. He also served in the State Department Operations Center, Prague, Moscow, and Tel Aviv, where he was a member of the U.S. Middle East Delegation to the West Bank/Gaza Autonomy Talks.

He has been awarded the Department of Defense Medal for Distinguished Public Service, the Presidential Distinguished Service Award, the Chairman of the Joint Chiefs of Staff Joint Distinguished Civilian Service Award, and several Department of State Superior Honor Awards. In January 2011, he was awarded the Legion d'Honneur by the French government. He holds a B.A. from Cornell University and a Ph.D. in Diplomatic History from Yale.

## **General John M. Keane**

General Jack Keane is a foreign policy and national security expert who provides nationwide analysis and commentary in speeches, articles, and congressional testimony and through several hundred television and radio interviews annually. He serves as an advisor to presidents, cabinet officials, members of Congress, international leaders, CEOs, and business leaders. He is the Chairman of the Institute for the Study of War; a member of the prestigious Secretary of Defense Policy Board, having advised four Defense Secretaries; and a member of the 2018 and 2022 Congressional Commission on the National Defense Strategy.

General Keane, a four-star general, completed 37 years of public service in December 2003, culminating in his appointment as acting Chief of Staff and Vice Chief of Staff of the U.S. Army. General Keane was in the Pentagon on 9/11 and provided oversight and support for the wars in Afghanistan and Iraq. In late 2006, President Bush invited General Keane and others to the Oval Office to discuss Iraq. Alone among them, General Keane brought the President a concrete strategic concept, later to be known as the troop “surge” (which he helped develop), to change American strategy for the war and improve its execution. During the surge period, General Keane conducted frequent trips to Iraq and Afghanistan for senior defense officials. General Keane is a career infantry paratrooper and a combat veteran of the Vietnam War decorated for valor who spent much of his military life in operational commands, including command of the famed 101st Airborne Division (Air Assault) and the legendary 18th Airborne Corps, the Army’s largest warfighting organization.

General Keane was commissioned an infantry 2nd Lieutenant from Army Reserve Officers’ Training Corps (ROTC) as a Distinguished Military Graduate at Fordham University, receiving a B.S. degree, and he received an M.A. degree from Western Kentucky University. He is a graduate of the Army War College and the Army Command and General Staff College.

General Keane was the first military leader to be honored with the Ronald Reagan Peace Through Strength Award and the prestigious Bradley Prize, among other awards. In March 2020, General Keane was presented with the Presidential Medal of Freedom at the White House. General Keane’s numerous military service medals and citations include two Defense and two Army Distinguished Service Medals, five Legions of Merit, the Silver Star, the Bronze Star, three Vietnam Service medals, the Combat Infantryman Badge, the Master Parachutist Badge, and the Ranger Tab, to list a few.

## **Thomas G. Mahnken**

Thomas G. Mahnken is President and CEO of the Center for Strategic and Budgetary Assessments and a Senior Research Professor at the Philip Merrill Center for Strategic Studies at Johns Hopkins University’s Paul H. Nitze School of Advanced International Studies.

He currently serves as a member of the Army Science Board. His previous government career includes service as Deputy Assistant Secretary of Defense for Policy Planning from 2006 to 2009, where he helped craft the 2006 Quadrennial Defense Review and 2008 National Defense Strategy; in the Office of Net Assessment; and in the Non-Proliferation Policy Office in the Office of the Secretary of Defense. He served as a member of the 2018 National Defense Strategy Commission and on the Board of Visitors of Marine Corps University. He served on the staff of the 2014 National Defense Panel, 2010 Quadrennial Defense Review Independent Panel,

Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, and Gulf War Air Power Survey. He served for 24 years as an officer in the U.S. Navy Reserve, including tours in Iraq and Kosovo.

He was awarded the Secretary of Defense Medal for Outstanding Public Service in 2009 and the Department of the Navy Superior Civilian Service Medal in 2016.

Mahnken is the author of *Net Assessment and Military Strategy: Retrospective and Prospective Essays* (Cambria Press, 2020), *Learning the Lessons of Modern War* (Stanford University Press, 2020), *The Gathering Pacific Storm: Emerging U.S.-China Strategic Competition in Defense Technological and Industrial Development* (Cambria Press, 2018), *Arms Races in International Politics from the Nineteenth to the Twenty-First Century* (Oxford University Press, 2016), *Strategy in Asia: The Past, Present, and Future of Regional Security* (Stanford University Press, 2014), *Competitive Strategies for the 21st Century: Theory, History, and Practice* (Stanford University Press, 2012), *Technology and the American Way of War Since 1945* (Columbia University Press, 2008), and *Uncovering Ways of War: U.S. Intelligence and Foreign Military Innovation, 1918–1941* (Cornell University Press, 2002), among other works.

Mahnken received a B.A. in History and International Relations (summa cum laude) from the University of Southern California and an M.A. and Ph.D. in International Affairs from Johns Hopkins University's School of Advanced International Studies.

## **Mara Rudman**

Mara Rudman is James R. Schlesinger Distinguished Professor at the University of Virginia Miller Center, where she directs the Ripples of Hope Project aimed at identifying practical approaches to help democratic leaders resolve key challenges. She also serves on the Howard University College of Arts and Sciences board of visitors.

Rudman's government positions have included serving as Deputy Assistant to the President for National Security Affairs in the Obama and Clinton administrations, Deputy Envoy for the Office of the Special Envoy for Middle East Peace at the Department of State, Assistant Administrator for the Middle East at the U.S. Agency for International Development, and Chief Counsel to the House Foreign Affairs Committee.

Previously, Rudman was Executive Vice President for Policy at the Center for American Progress, Senior Vice President for Policy/Projects at Business Executives for National Security, and General Counsel for The Cohen Group. She also led Quorum Strategies, a geopolitical strategic advisory firm.

## **Mariah Sixkiller**

Mariah S. Sixkiller is an Executive at Hakluyt & Company, a strategic advisory firm that helps clients navigate complex markets and geopolitical challenges. Prior to joining Hakluyt in 2023, Mariah was General Manager for Strategic Defense Affairs at Microsoft and, before that, a director on Microsoft's National Security Government Relations team. Before these roles, Mariah led the national security practice at Sixkiller Consulting for seven years, where she developed public policy strategies for private and nonprofit clients in the defense, tech, energy, veteran, and international exchange sectors. Before joining the private sector, Mariah worked for several members

of Congress, including as then–Majority Leader Steny Hoyer’s (D-MD) National Security Advisor from 2006 to 2014, as a foreign policy legislative assistant to Senator Paul Sarbanes (D-MD), and as Senator Maria Cantwell’s (D-WA) Director of Research. Earlier in her career, she was a political appointee in the Clinton administration, serving at the Office of Management and Budget. She is a member of two nonprofit boards: the Women in Military Service for America Memorial Foundation and the Leadership Council for Women in National Security.

### **Alissa Starzak**

Alissa Starzak serves as the Vice President and Global Head of Public Policy at Cloudflare, a web performance and cybersecurity company that is on a mission to help build a better internet.

Prior to joining Cloudflare, Starzak worked for the U.S. government in a variety of national security positions. During the Obama administration, she served as the 21st General Counsel of the U.S. Department of the Army, after confirmation by the Senate. As General Counsel of the Army, she was the primary legal counsel to the Secretary of the Army and the Army’s chief legal officer. Her appointment as Army General Counsel followed service as the Deputy General Counsel for Legislation at DoD, where she advised on legal issues with a legislative or congressional component and managed an office of attorneys responsible for developing the DoD legislative program. Prior to DoD, Starzak served as Counsel to the U.S. Senate Select Committee on Intelligence, focusing on legal issues relating to intelligence collection and covert action, and as an Assistant General Counsel at the Central Intelligence Agency’s Office of General Counsel. She also previously worked in private practice in Washington, D.C.

In addition to her position at Cloudflare, Starzak is serving in her second term as the vice chair of the Public Interest Declassification Board, appointed by Senate Majority Leader Charles E. Schumer (D-NY). She also served on the Department of Defense Agency Review Team for the Biden-Harris Transition.

Starzak graduated from Amherst College and the University of Chicago Law School, where she served as an editor of the University of Chicago Law Review. After law school, she clerked for the Honorable E. Grady Jolly, U.S. Court of Appeals for the Fifth Circuit.

### **Roger Zakheim**

Roger Zakheim serves as the Washington Director of the Ronald Reagan Presidential Foundation and Institute. He previously practiced law at Covington & Burling LLP, where he led the firm’s Public Policy and Government Affairs practice group. Before joining Covington, he was General Counsel and Deputy Staff Director of the U.S. House Armed Services Committee. In this role, Mr. Zakheim managed the passage of the annual National Defense Authorization Act, the defense policy bill that authorizes DoD’s budget. Zakheim’s government experience also includes serving as Deputy Assistant Secretary of Defense, where he supported the department’s policies and programs related to Iraq and Afghanistan coalition affairs.

Zakheim serves on the Board of Directors of the United States Institute of Peace and is a Commissioner on the Congressional Commission on the National Defense Strategy of the United States.

His other boards and advisory boards include the Marvel Government Solutions Board of Directors, Center for Strategic and Budgetary Assessments' Advisory Council, Krach Institute for Tech Diplomacy Advisory Council, and Alexander Hamilton Society's Board of Advisors.

Zakheim frequently speaks and writes on national security and defense issues. He has testified before several congressional committees and regularly lectures on national security topics. His views have appeared in the *Wall Street Journal*, *New York Times*, *Politico*, *National Public Radio*, *Fox News*, *CNBC*, *CNN*, *Bloomberg*, *The Atlantic*, and *National Review*, among other media outlets.



APPENDIX B

## Commission Staff

---

David Grannis, Executive Director  
Raphael Cohen, Deputy Executive Director  
Amy Hopkins  
Travis Sharp  
Dustin Walker  
Becca Wasser





APPENDIX C

# Commission Charter—Statutory Language

---

The Commission on the National Defense Strategy was established by Section 1095 of the Fiscal Year 2022 National Defense Authorization Act (Public Law 117-81).

National Defense Authorization Act for Fiscal Year 2022  
Public Law 117-81  
117th Congress  
An Act

SEC. 1095. COMMISSION ON THE NATIONAL DEFENSE STRATEGY.

(a) Establishment.—

(1) In general.—There is hereby established, as of the date specified in paragraph (2), an independent commission in the legislative branch to be known as the Commission on the National Defense Strategy for the United States (in this subtitle referred to as the “Commission”).

(2) Date of establishment.—The date of establishment referred to in paragraph (1) is the date that is not later than 30 days after the date on which the Secretary of Defense provides a national defense strategy as required by section 113(g) of title 10, United States Code.

(b) Membership.—

(1) Number and appointment.—The Commission shall be composed of 8 members from private civilian life who are recognized experts in matters relating to the national security of the United States. The members shall be appointed as follows:

- (A) The Majority Leader of the Senate shall appoint 1 member.
- (B) The Minority Leader of the Senate shall appoint 1 member.
- (C) The Speaker of the House of Representatives shall appoint 1 member.
- (D) The Minority Leader of the House of Representatives shall appoint 1 member.
- (E) The Chair of the Committee on Armed Services of the Senate shall appoint 1 member.
- (F) The Ranking Member of the Committee on Armed Services of the Senate shall appoint 1 member.
- (G) The Chair of the Committee on Armed Services of the House of Representatives shall

appoint 1 member.

(H) The Ranking Member of the Committee on Armed Services of the House of Representatives shall appoint 1 member.

(2) Deadline for appointment.—Members shall be appointed to the Commission under paragraph (1) not later than 45 days after the Commission establishment date specified under subsection (a)(2).

(3) Effect of lack of appointment by appointment date.—If one or more appointments under paragraph (1) is not made by the appointment date specified in paragraph (2), the authority to make such appointment or appointments shall expire, and the number of members of the Commission shall be reduced by the number equal to the number of appointments so not made.

(c) Chair and Vice Chair.—

(1) Chair.—The Chair of the Committee on Armed Services of the Senate and the Chair of the Committee on Armed Services of the House of Representatives, with the concurrence of the Majority Leader of the Senate and the Speaker of the House of Representatives, shall jointly designate 1 member of the Commission to serve as Chair of the Commission.

(2) Vice chair.—The Ranking Member of the Committee on Armed Services of the Senate and the Ranking Member of the Committee on Armed Services of the House of Representatives, with the concurrence of the Minority Leader of the Senate and the Minority Leader of the House of Representatives, shall jointly designate 1 member of the Commission to serve as Vice Chair of the Commission.

(d) Period of Appointment and Vacancies.—Members shall be appointed for the life of the Commission. A vacancy in the Commission shall not affect its powers, and shall be filled in the same manner as the original appointment was made.

(e) Purpose.—The purpose of the Commission is to examine and make recommendations with respect to the national defense strategy for the United States.

(f) Scope and Duties.—In order to provide the fullest understanding of the matters required under subsection (e), the Commission shall perform the following duties:

(1) National defense strategy review.—The Commission shall review the most recent national defense strategy of the United States including the assumptions, strategic objectives, priority missions, major investments in defense capabilities, force posture and structure, operational concepts, and strategic and military risks associated with the strategy.

(2) Assessment.—The Commission shall conduct a comprehensive assessment of the strategic environment to include the threats to the national security of the United States, including both traditional and non-traditional threats, the size and shape of the force, the readiness of the force, the posture, structure, and capabilities of the force, allocation of resources, and the strategic and military risks in order to provide recommendations on the national defense strategy for the United States.

(g) Commission Report and Recommendations.—

(1) Report.—Not later than one year [*NOTE: Amended to read “two years”; see below*] after the Commission establishment date specified under subsection (a)(2), the Commission shall trans-

mit to the President and Congress a report containing the review and assessment conducted under subsection (f), together with any recommendations of the Commission. The report shall include the following elements:

(A) An appraisal of the strategic environment, including an examination of the traditional and non-traditional threats to the United States, and the potential for conflicts arising from such threats and security challenges.

(B) An evaluation of the strategic objectives of the Department of Defense for near-peer competition in support of the national security interests of the United States.

(C) A review of the military missions for which the Department of Defense should prepare, including missions that support the interagency and a whole-of-government strategy.

(D) Identification of any gaps or redundancies in the roles and missions assigned to the Armed Forces necessary to carry out military missions identified in subparagraph (C), as well as the roles and capabilities provided by other Federal agencies and by allies and international partners.

(E) An assessment of how the national defense strategy leverages other elements of national power across the interagency to counter near-peer competitors.

(F) An evaluation of the resources necessary to support the strategy, including budget recommendations.

(G) An examination of the Department's efforts to develop new and innovative operational concepts to enable the United States to more effectively counter near-peer competitors.

(H) An analysis of the force planning construct, including—

(i) the size and shape of the force;

(ii) the posture, structure, and capabilities of the force;

(iii) the readiness of the force;

(iv) infrastructure and organizational adjustments to the force;

(v) modifications to personnel requirements, including professional military education; and

(vi) other elements of the defense program necessary to support the strategy.

(I) An assessment of the risks associated with the strategy, including the relationships and tradeoffs between missions, risks, and resources.

(J) Any other elements the Commission considers appropriate.

(2) Interim briefings.—

(A) Not later than 180 days [*NOTE: Amended to read "one year"; see below*] after the Commission establishment date specified in subsection (a)(2), the Commission shall provide to the Committees on Armed Services of the Senate and the House of Representatives a briefing on the status of its review and assessment to include a discussion of any interim recommendations.

(B) At the request of the Chair and Ranking Member of the Committee on Armed Services of the Senate, or the Chair and Ranking Member of the Committee on Armed Services of the House of Representatives, the Commission shall provide the requesting Committee with interim briefings in addition to the briefing required by subparagraph (2)(A).

(3) Form.—The report submitted to Congress under paragraph (1) of this subsection shall be submitted in unclassified form, but may include a classified annex.

(h) Government Cooperation.—

(1) Cooperation.—In carrying out its duties, the Commission shall receive the full and timely cooperation of the Secretary of Defense in providing the Commission with analysis, briefings, and other information necessary for the fulfillment of its responsibilities.

(2) Liaison.—The Secretary shall designate at least 1 officer or employee of the Department of Defense to serve as a liaison officer between the Department and the Commission.

(3) Detailees authorized.—The Secretary may provide, and the commission may accept and employ, personnel detailed from the Department of Defense, without reimbursement.

(4) Facilitation.—

(A) Independent, non-government institute.—Not later than 45 days after the Commission establishment date specified in subparagraph (a)(2), the Secretary of Defense shall make available to the Commission the services of an independent, non-governmental institute described in section 501(c)(3) of the Internal Revenue Code of 1986, and exempt from tax under section 501(a) of such Code, that has recognized credentials and expertise in national security and military affairs in order to facilitate the Commission's discharge of its duties under this section.

(B) Federally funded research and development center.—On request of the Commission, the Secretary of Defense shall make available the services of a federally funded research and development center that is covered by a sponsoring agreement of the Department of Defense in order to enhance the Commission's efforts to discharge its duties under this section.

(5) Expedition of security clearances.—The Office of Senate Security and the Office of House Security shall ensure the expedited processing of appropriate security clearances for personnel appointed to the commission by their respective Senate and House offices under processes developed for the clearance of legislative branch employees.

(i) Staff.—

(1) Status as federal employees.—Notwithstanding the requirements of section 2105 of title 5, United States Code, including the required supervision under subsection (a)(3) of such section, the members of the commission shall be deemed to be Federal employees.

(2) Executive director.—The Commission shall appoint and fix the rate of basic pay for an Executive Director in accordance with section 3161(d) of title 5, United States Code.

(3) Pay.—The Executive Director, with the approval of the Commission, may appoint and fix the rate of basic pay for additional personnel as staff of the Commission in accordance with section 3161(d) of title 5, United States Code.

(j) Personal Services.—

(1) Authority to procure.—The Commission may—

(A) procure the services of experts or consultants (or of organizations of experts or consultants) in accordance with the provisions of section 3109 of title 5, United States Code; and

(B) pay in connection with such services travel expenses of individuals, including transportation and per diem in lieu of subsistence, while such individuals are traveling from their homes or places of business to duty stations.

(2) Maximum daily pay rates.—The daily rate paid an expert or consultant procured pursuant to paragraph (1) may not exceed the daily rate paid a person occupying a position at level IV of the Executive Schedule under section 5315 of title 5, United States Code.

(k) Authority to Accept Gifts.—The Commission may accept, use, and dispose of gifts or donations of services, goods, and property from non-Federal entities for the purposes of aiding and facilitating the work of the Commission. The authority in this subsection does not extend to gifts of money. Gifts accepted under this authority shall be documented, and conflicts of interest or the appearance of conflicts of interest shall be avoided. Subject to the authority in this section, commissioners shall otherwise comply with rules set forth by the Select Committee on Ethics of the United States Senate and the Committee on Ethics of the House of Representatives governing Senate and House employees.

(l) Funding.—Of the amounts authorized to be appropriated by this Act for fiscal year 2022 for the Department of Defense, up to \$5,000,000 shall be made available to the Commission to carry out its duties under this subtitle. Funds made available to the Commission under the preceding sentence shall remain available until expended.

(m) Legislative Advisory Committee.—The Commission shall operate as a legislative advisory committee and shall not be subject to the provisions of the Federal Advisory Committee Act (Public Law 92-463; 5 U.S.C. App) or section 552b, United States Code (commonly known as the Government in the Sunshine Act).

(n) Contracting Authority.—The Commission may acquire administrative supplies and equipment for Commission use to the extent funds are available.

(o) Use of Government Information.—The Commission may secure directly from any department or agency of the Federal Government such information as the Commission considers necessary to carry out its duties. Upon such request of the chair of the Commission, the head of such department or agency shall furnish such information to the Commission.

(p) Postal Services.—The Commission may use the United States mail in the same manner and under the same conditions as departments and agencies of the United States.

(q) Space for Use of Commission.—Not later than 30 days after the establishment date of the Commission, the Administrator of General Services, in consultation with the Commission, shall identify and make available suitable excess space within the Federal space inventory to house the operations of the Commission. If the Administrator is not able to make such suitable excess space available within such 30-day period, the Commission may lease space to the extent the funds are available.

(r) Removal of Members.—A member may be removed from the commission for cause by the individual serving in the position responsible for the original appointment of such member under subsection (b)(1), provided that notice has first been provided to such member of the cause for removal, voted and agreed upon by three quarters of the members serving. A vacancy created by the removal of a member under this section shall not affect the powers of the commission, and shall be filled in the same manner as the original appointment was made.

(s) Termination.—The Commission shall terminate 90 days after the date on which it submits the report required by subsection (g).

## **Relevant Provisions from the National Defense Authorization Act for Fiscal Year 2023**

### **SEC. 1050. DEPARTMENT OF DEFENSE SUPPORT FOR RECENTLY ENACTED COMMISSIONS.**

(a) Assistance From Department of Defense.—At the request of a covered commission, the Secretary of Defense may provide to the covered commission, on a reimbursable basis, such services, funds, facilities, staff, and other support services as necessary for the performance of the functions of the commission. Amounts provided to a covered commission pursuant to this section may be provided from amounts appropriated for the Department of Defense, as provided in advance in appropriations Acts.

(b) Covered Commission Defined.—In this section, the term “covered commission” means a commission established pursuant to any of the following sections of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81):

- (1) Section 1004 (Commission on Planning, Programming, Budgeting, and Execution Reform).
- (2) section 1091 (National Security Commission on Emerging Biotechnology).
- (3) section 1094 (Afghanistan War Commission).
- (4) section 1095 (Commission on the National Defense Strategy).
- (5) section 1687 (Congressional Commission on the Strategic Posture of the United States).

### **SEC. 1057. EXTENSION OF CERTAIN REPORTING DEADLINES.**

(c) Commission on the National Defense Strategy.—Section 1095(g) of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81; 135 Stat. 1945) is amended—

- (1) in paragraph (1), by striking “one year after” and inserting “two years after”; and
- (2) in paragraph (2), by striking “180 days after” and inserting “one year after”.



APPENDIX D

# Individuals Appearing Before the Commission

---

Table D.1 provides a list of the individuals who appeared before the Commission, and Table D.2 lists the Commission's meeting with members of Congress and congressional staff.

**Table D.1**  
**NDS Commission Meetings**

Name	Title and Organization <sup>a</sup>
Geoff Turley	Counsel, Senate Ethics Committee
Dave Ochmanek	Senior Researcher, RAND
James Baker	Director, Office of Net Assessment, U.S. Department of Defense
The Honorable Mara Karlin	Assistant Secretary of Defense for Strategy, Plans, and Capabilities, U.S. Department of Defense
Eric Ridge	Deputy Assistant Secretary of Defense for Strategy, U.S. Department of Defense
Michael Chase	Deputy Assistant Secretary of Defense for China, Taiwan, and Mongolia, U.S. Department of Defense
Dale Rielage	Red Team, U.S. Department of Defense
Michael Collins	National Intelligence Council
Joseph Cyrulik	National Intelligence Council
Scott Ferry	National Intelligence Council
Richard Phillips	National Intelligence Council
Daniel Taylor	National Intelligence Council
The Honorable Christine Wormuth	Secretary of the Army
The Honorable Frank Kendall	Secretary of the Air Force
The Honorable Colin Kahl	Under Secretary of Defense for Policy, U.S. Department of Defense
The Honorable Heidi Shyu	Under Secretary of Defense for Research and Engineering, U.S. Department of Defense
The Honorable William LaPlante	Under Secretary of Defense for Acquisition and Sustainment, U.S. Department of Defense
The Honorable Sasha Baker	Deputy Under Secretary of Defense for Policy, U.S. Department of Defense
Matt Pottinger	Former Deputy National Security Advisor
The Honorable Victoria Nuland	Under Secretary of State for Political Affairs, U.S. Department of State
The Honorable Leon Panetta	Former Secretary of Defense, U.S. Department of Defense
The Honorable Robert Work	Former Deputy Secretary of Defense, U.S. Department of Defense
Ambassador James Jeffrey	Former Ambassador, Former Deputy National Security Advisor
Andrew Hoehn	Author, <i>Age of Danger</i>
Thom Shanker	Author, <i>Age of Danger</i>

**Table D.1—Continued**

<b>Name</b>	<b>Title and Organization<sup>a</sup></b>
Michael Mazarr	Senior Political Scientist, RAND
General Paul Nakasone	Director, U.S. National Security Agency, and Commander, U.S. Cyber Command
Richard Girven	Senior International/Defense Research Analyst, RAND
Admiral Christopher Grady	Vice Chairman, U.S. Joint Chiefs of Staff
Doug Beck	Director, Defense Innovation Unit, and Senior Advisor to the Secretary of Defense, U.S. Department of Defense
The Honorable Carlos Del Toro	Secretary of the Navy
The Honorable Lloyd Austin	Secretary of Defense
The Honorable Robert Gates	Former Secretary of Defense
The Honorable James Mattis	Former Secretary of Defense
Commission Members	PPB&E Reform Commission
Dennis Wilder	Senior Fellow, Initiative for U.S.-China Dialogue on Global Issues, Georgetown University
Jason Dempsey	Adjunct Senior Fellow, Military, Veterans, and Society Program, Center for a New American Security
The Honorable Madelyn Creedon	Chair, Strategic Posture Commission
The Honorable Franklin Miller	Member, Strategic Posture Commission
General Chance Saltzman	Chief of Space Operations, U.S. Space Force
Elbridge Colby	Principal, The Marathon Initiative
The Honorable Susanna Blume	Director, Cost Assessment and Program Evaluation, U.S. Department of Defense
Lieutenant General Dagvin Anderson	Director for Joint Force Development, U.S. Joint Staff
The Honorable Mike McCord	Under Secretary of Defense (Comptroller)/Chief Financial Officer, U.S. Department of Defense
The Honorable Ashish Vazirani	Acting Under Secretary of Defense for Personnel and Readiness
The Honorable Shawn Skelly	Acting Deputy Under Secretary for Personnel and Readiness
Lieutenant General Steven Basham	Deputy Commander, U.S. European Command
Ambassador Kate Burns	Civilian Deputy and Foreign Policy Advisor, U.S. European Command
Major General David Francis	Chief of Staff, U.S. Africa Command

**Table D.1—Continued**

<b>Name</b>	<b>Title and Organization<sup>a</sup></b>
Lieutenant General Andrew Rohling	Deputy Commanding General, U.S. Army Europe-Africa
Lieutenant General Tony Aguto	Commander, Security Assistance Group-Ukraine
The Honorable Mark Esper	Former Secretary of Defense, Former Secretary of the Army
The Honorable Robert O'Brien	Former National Security Advisor
The Honorable Stephen Hadley	Former National Security Advisor
Eugene Seroka	Executive Director, Port of Los Angeles
The Honorable Steve Isakowitz	President and CEO, Aerospace Corporation
John Koehn	Director, Corporate Analysis Center, Northrop Grumman Corporation
John Otto	Senior Director, Raytheon
Li Ang Zhang, Lance Menthe, Gary Briggs, Sherrill Lingel	RAND
General (Retired) Terrence O'Shaughnessy	Vice President, Special Programs, SpaceX
Admiral John Aquilino	Commander, U.S. Indo-Pacific Command
Admiral Samuel Paparo	Commander, U.S. Pacific Fleet
Ambassador Rahm Emanuel	U.S. Ambassador to Japan
Brigadier General George Rowell	Deputy Commander, U.S. Forces Japan
The Honorable Hiroyuki Miyazawa	State Minister of Defense, Japanese Ministry of Defense
General Christopher Cavoli	Commander, U.S. European Command; Supreme Allied Commander Europe
The Honorable Ronald Moultrie	Under Secretary of Defense for Intelligence and Security, U.S. Department of Defense
General C. Q. Brown	Chairman, U.S. Joint Chiefs of Staff
The Honorable Kurt Campbell	Deputy Assistant to the President and Coordinator for the Indo-Pacific
General Jacqueline Van Ovost	Commander, U.S. Transportation Command
Jason Rathje	Director, Office of Strategic Capital, U.S. Department of Defense
General Daniel Hokanson	Chief, U.S. National Guard Bureau
General Christopher Mahoney	Assistant Commandant of the Marine Corps
General Laura Richardson	Commander, U.S. Southern Command

**Table D.1—Continued**

<b>Name</b>	<b>Title and Organization<sup>a</sup></b>
The Honorable Alanna Mackay	Assistant Secretary for Strategic Policy Guidance, Australian Ministry of Defence
Admiral Lisa Franchetti	Chief of Naval Operations, U.S. Navy
The Honorable Ely Ratner	Assistant Secretary of Defense for Indo-Pacific Security Affairs
General Randy George	Chief of Staff, U.S. Army
General Bryan Fenton	Commander, U.S. Special Operations Command
Eric Chewning	Executive Vice President, Strategy and Development, HII
General David Allvin	Chief of Staff, U.S. Air Force
General Stephen Whiting	Commander, U.S. Space Command
General Michael (Erik) Kurilla	Commander, U.S. Central Command
James Taiclet	Chairman, President, and CEO, Lockheed Martin
The Honorable Stephen Biegun	Senior Vice President, The Boeing Company
Brandon Tseng	President and Cofounder, Shield AI
The Honorable Alexander Kamyshin	Minister of Strategic Industries, Ukraine
The Honorable Rustem Umerov	Minister of Defence, Ukraine
Andrey Yermak	Head, Office of the President, Ukraine
Ambassador Bridget Brink	U.S. Ambassador to Ukraine
The Honorable Kathleen Hicks	Deputy Secretary of Defense
Mircea Geoana	Deputy Secretary General, NATO
Shyam Sankar	Chief Technology Officer, Palantir Technologies

<sup>a</sup> Title and organizational affiliation are as of the time of the meeting. In some cases, the senior person representing an organization is listed, with additional personnel not included.

**Table D.2**  
**Meetings with Members of Congress and Congressional Staff**

<b>Name</b>	<b>Date</b>
Senator Susan Collins (R-ME)	July 12, 2023
Senator Roger Wicker (R-MS)	July 12, 2023
Senator Mark Warner (D-VA)	July 13, 2023
Senator John Tester (D-MT)	July 13, 2023
Senator Jack Reed (D-RI)	September 12, 2023
Representative Mike Rogers (R-AL-03)	September 14, 2023

# Abbreviations

---

AI	artificial intelligence
ATACMS	Army Tactical Missile System
CENTCOM	U.S. Central Command
CYBERCOM	U.S. Cyber Command
DHS	Department of Homeland Security
DIB	defense industrial base
DIU	Defense Innovation Unit
DoD	U.S. Department of Defense
FY	fiscal year
GDP	gross domestic product
INDOPACOM	U.S. Indo-Pacific Command
ITAR	International Traffic in Arms Regulations
NATO	North Atlantic Treaty Organization
NDS	2022 National Defense Strategy
NORTHCOM	U.S. Northern Command
NSS	National Security Strategy
OSC	Office of Strategic Capital
PLA	People's Liberation Army
PPBE	planning, programming, budgeting, and execution
PRC	People's Republic of China
R&D	research and development
RDIM	Readiness Decision Impact Model
RDT&E	research, development, test, and evaluation
SOCOM	U.S. Special Operations Command
SPACECOM	U.S. Space Command
TRANSCOM	U.S. Transportation Command
USAID	U.S. Agency for International Development





# References

---

- Anderson, Chris, Daron Shaw, Andrew Schwartz, and Rob Moser, “Results from the 2023 Annual Ronald Reagan Presidential Foundation and Institute National Defense Survey,” memorandum, November 20, 2023. As of April 10, 2024:  
<https://www.reaganfoundation.org/media/361751/rndf-2023-executive-memo.pdf>
- Aquilino, John C., “U.S. Indo-Pacific Command Posture,” testimony before the House Armed Services Committee, March 20, 2024. As of April 8, 2024:  
<https://armedservices.house.gov/sites/republicans.armedservices.house.gov/files/INDOPACOM%20Posture%20Testimony%20ADM%20Aquilino%20HASC.pdf>
- Atlantic Council Combatant Command Task Force, *All Elements of National Power: Moving Toward a New Interagency Balance for US Global Engagement*, Atlantic Council, July 2014.
- Baldor, Lolita C., “The Army Is Launching a Sweeping Overhaul of Its Recruiting to Reverse Enlistment Shortfalls,” Associated Press, October 3, 2023.
- Baldor, Lolita C., “New Recruiting Programs Put Army, Air Force on Track to Meet Enlistment Goals. Navy Will Fall Short,” Associated Press, April 15, 2024.
- Beck, Douglas A., “*DIU 3.0: Scaling Defense Innovation for Strategic Impact*,” Center for a New American Security, February 2024.
- Betts, Richard K., *Military Readiness: Concepts, Choices, Consequences*, Brookings Institution Press, 1995.
- Beynon, Steve, “National Guard Grounds All of Its Helicopters Following Apache Crash in Mississippi That Killed 2 Soldiers,” *Military.com*, February 27, 2024.
- Bogaisky, Jeremy, “U.S. Military Is Using Laser Weapons in Battle,” *Forbes*, May 6, 2024.
- Brock, Joe, and Mike Stone, “Insight: Sea Drone Warfare has Arrived. The U.S. Is Floundering,” Reuters, May 6, 2024.
- Brown, Charles Q., Jr., and David H. Berger, “Redefine Readiness or Lose,” *War on the Rocks*, March 15, 2021.
- Cancian, Mark F., “U.S. Military Forces in FY 2022: Air Force,” Center for Strategic and International Studies, November 2021.
- Cancian, Mark F., “Rebuilding U.S. Inventories: Six Critical Systems,” Center for Strategic and International Studies, January 9, 2023.
- Cancian, Mark F., Matthew Cancian, and Eric Heginbotham, *The First Battle of the Next War: Wargaming a Chinese Invasion of Taiwan*, Center for Strategic and International Studies, January 2023.
- Cancian, Mark, and Adam Saxton, “What’s in a Name? Billions in Cuts Depend on Defining ‘Legacy,’” *Breaking Defense*, March 10, 2021.
- Cancian, Mark F., Adam Saxton, Owen Helman, Lee Ann Bryan, and Nidal Morrison, *Industrial Mobilization: Assessing Surge Capabilities, Wartime Risk, and System Brittleness*, Center for Strategic and International Studies, January 2021.

- Carberry, Sean, "Army Needs to Give Industry Problems, Not Requirements," *National Defense*, May 8, 2024.
- Carlin, Robert L., and Siegfried S. Hecker, "Is Kim Jong Un Preparing for War?" 38 North, January 11, 2024.
- Castillo, Rodrigo, and Caitlin Purdy, *China's Role in Supplying Critical Minerals for the Global Energy Transition: What Could the Future Hold?* Brookings Institution, July 2022.
- Cavoli, Christopher G., "Statement of General Christopher G. Cavoli, United States Army, United States European Command," testimony before the House Armed Services Committee, April 10, 2024.
- Center for Strategic and International Studies, "DoD's Warfighting Concept with the Vice Chairman of the Joint Chiefs of Staff," video, May 1, 2024.
- Chen, Te-Ping, "How Gen Z Is Becoming the Toolbelt Generation," *Wall Street Journal*, April 1, 2024.
- Clark, Joseph, "Resilient Defense Industrial Base Critical for Deterring Conflict," U.S. Department of Defense, October 25, 2023.
- Clark, Joseph, "Hicks to See Joint, Combined Command and Control Capabilities in Action During Project Convergence Experiment," U.S. Department of Defense, February 29, 2024.
- Cohen, Raphael S., *The History and Politics of Defense Reviews*, RAND Corporation, RR-2278-AF, 2018. As of March 20, 2024:  
[https://www.rand.org/pubs/research\\_reports/RR2278.html](https://www.rand.org/pubs/research_reports/RR2278.html)
- Cohen, Raphael S., "Why Overseas Military Bases Continue to Make Sense for the United States," *War on the Rocks*, January 14, 2021.
- Cohen, Raphael S., and Gian Gentile, "The U.S. Should Get Over Its Short War Obsession," *Foreign Policy*, March 28, 2023.
- Commission on Planning, Programming, Budgeting, and Execution Reform, *Defense Resourcing for the Future*, March 2024. As of April 8, 2024:  
<https://ppbereform.senate.gov/finalreport/>
- Congressional Budget Office, "Long-Term Costs of the Administration's 2022 Defense Budget," January 2022. As of May 13, 2024:  
<https://www.cbo.gov/publication/57541>
- Congressional Budget Office, *The Budget and Economic Outlook: 2023 to 2033*, February 2023. As of April 10, 2024:  
<https://www.cbo.gov/publication/58946>
- Congressional Budget Office, *The 2023 Long-Term Budget Outlook*, June 2023. As of April 10, 2024:  
<https://www.cbo.gov/publication/59014>
- Congressional Budget Office, *Long-Term Implications of the 2024 Future Years Defense Program*, October 2023. As of April 10, 2024:  
<https://www.cbo.gov/publication/59511>
- Cook, Ellie, "US Navy Has a Maintenance Problem," *Newsweek*, November 24, 2023.
- Cook, Ellie, "How Russia and Ukraine's Losses Compare," *Newsweek*, February 23, 2024.
- Cooper, Julian, "Another Budget for a Country at War: Military Expenditure in Russia's Federal Budget for 2024 and Beyond," Stockholm International Peace Research Institute, December 2023.

- Copp, Tara, “Pentagon IDs Possible Cause of Nov. 29 Osprey Crash That Killed 8,” *Air Force Times*, February 7, 2024.
- Creedon, Madelyn R., John L. Kyl, Marshall S. Billingslea, Gloria C. Duffy, Rose E. Gottemoeller, Lisa E. Gordon-Hagerty, Rebecca L. Heinrichs, John E. Hyten, Robert M. Scher, Matthew H. Kroenig, Franklin C. Miller, and Leonor A. Tomero, *America’s Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States*, Institute for Defense Analyses, October 2023.
- Cybersecurity and Infrastructure Security Agency, “PRC State-Sponsored Actors Compromise and Maintain Persistent Access to U.S. Critical Infrastructure,” February 7, 2024.
- Defense Business Board, *Strengthening Defense Department Civilian Talent Management*, May 12, 2022.
- Defense Civilian Personnel Advisory Service, “Department of Defense Hiring Authorities and Other Flexibilities,” February 2024. As of July 16, 2024:  
[https://www.dcpas.osd.mil/sites/default/files/Comp\\_SvcHiringAuthsMatrix\\_20%20February%202024%20508.pdf](https://www.dcpas.osd.mil/sites/default/files/Comp_SvcHiringAuthsMatrix_20%20February%202024%20508.pdf)
- Defense Innovation Board, *Lowering Barriers to Innovation*, January 28, 2024.
- Defense Intelligence Agency, *Iran: Enabling Houthi Attacks Across the Middle East*, February 2024.
- Delfeld, Robert Almelor, and Elbridge A. Colby, *Broadening the Base: A Blueprint for Expanding Defense Industrial Capacity*, Marathon Initiative, April 2024.
- Dempsey, Jason, and Gil Barndollar, “The All-Volunteer Force Is in Crisis,” *The Atlantic*, July 3, 2023.
- Department of Defense Instruction 3000.18, *Strategic Readiness*, U.S. Department of Defense, November 30, 2023.
- DeYoung, Karen, and John Hudson, “U.S. Will Send Ukraine Long-Range Missiles, After Delay,” *Washington Post*, September 22, 2023.
- Dixon, Robyn, “In Putin’s Wartime Russia, Military Corruption Is Suddenly Taboo,” *Washington Post*, June 10, 2024.
- DoD—See U.S. Department of Defense.
- Driessen, Grant A., and Megan S. Lynch, “Discretionary Spending Caps in the Fiscal Responsibility Act of 2023,” Congressional Research Service, IN12168, updated June 28, 2023.
- Eaglen, Mackenzie, “America’s Incredible Shrinking Navy,” American Enterprise Institute, January 18, 2024.
- Eaglen, Mackenzie, “Keeping Up with the Pacing Threat: Unveiling the True Size of Beijing’s Military Spending,” American Enterprise Institute, April 2024.
- Eckstein, Megan, “US Navy Nixed a Virginia Sub Amid Spending Frenzy to Support Suppliers,” *Defense News*, March 11, 2024.
- Edelman, Eric, and David J. Kramer, “4 Myths About Ukraine That Might Sound Right but Are Actually Wrong,” *Politico*, February 22, 2024.
- Edelman, Eric, Gary Roughead, Christine Fox, Kathleen Hicks, Jack Keane, Andrew Krepinevich, Jon Kyl, Thomas Mahnken, Michael McCord, Michael Morell, Anne Patterson, and Roger Zakheim, *Providing for the Common Defense: The Assessment and Recommendations of the National Defense Strategy Commission*, United States Institute of Peace, 2019.

- Edwards, Jane, “Deputy Defense Secretary Kathleen Hicks: Production Is Deterrence,” *ExecutiveGov*, March 21, 2024.
- Folley, Aris, “Freedom Caucus Pushes Speaker Johnson for Full Year CR in Absence of Policy Concessions,” *The Hill*, February 21, 2024.
- Fontaine, Richard, “Foreword,” in Douglas A. Beck, *DIU 3.0: Scaling Defense Innovation for Strategic Impact*, Center for a New American Security, February 2024.
- Forrestal, James, “Functions of the Armed Forces and the Joint Chiefs of Staff,” memorandum to the Secretary of the Army, Secretary of the Navy, Secretary of the Air Force, and Joint Chiefs of Staff, Office of the Secretary of Defense, April 21, 1948. As of April 9, 2024: <https://cgsc.contentdm.oclc.org/digital/collection/p4013coll11/id/729/rec/1>
- Fox, J. Ronald, *Defense Acquisition Reform, 1960–2009: An Elusive Goal*, U.S. Army Center of Military History, 2011.
- “France Estimates 150,000 Russian Soldiers Killed in Ukraine War: Minister,” *Barron’s*, May 3, 2024.
- Fravel, M. Taylor, George J. Gilboy, and Eric Heginbotham, “Estimating China’s Defense Spending: How to Get It Wrong (and Right),” *Texas National Security Review*, Vol. 7, No. 3, Summer 2024.
- Frederick, Bryan, Stephen Watts, Matthew Lane, Abby Doll, Ashley L. Rhoades, and Meagan L. Smith, *Understanding the Deterrent Impact of U.S. Overseas Forces*, RAND Corporation, RR-2533-A, 2020. As of March 14, 2024: [https://www.rand.org/pubs/research\\_reports/RR2533.html](https://www.rand.org/pubs/research_reports/RR2533.html)
- Galston, William A., “What Americans Think About the Debt Ceiling Fight,” Brookings Institution, May 15, 2023.
- Gates, Robert M., “U.S. Export Control System,” speech before the Business Executives for National Security, C-SPAN, April 20, 2010. As of April 9, 2024: <https://www.c-span.org/video/?293084-1/us-export-control-system>
- Gates, Robert M., *Duty: Memoirs of a Secretary at War*, paperback ed., Vintage Books, 2015.
- Gates, Robert M., “The Overmilitarization of American Foreign Policy,” *Foreign Affairs*, Vol. 99, No. 4, July/August 2020.
- Geddie, John, and Tim Kelly, “U.S. Wants Japanese Shipyards to Help Keep Warships Ready to Fight in Asia,” Reuters, January 19, 2024.
- Gould, Joe, “US Defense Allies Push to Block New ‘Buy American’ Boost,” *Defense News*, November 2, 2021.
- Grady, Christopher W., “Sharpening Our Competitive Edge: Honing Our Warfighting Capabilities Through the Joint Warfighting Concept,” *Joint Force Quarterly*, Vol. 111, October 2023.
- Greenwalt, William, “Scraping Off the Barnacles of the Defense Acquisition System,” *Federal News Network*, October 13, 2014.
- Greenwalt, William, and Tom Corben, *Breaking the Barriers: Reforming US Export Controls to Realise the Potential of AUKUS*, United States Studies Centre at the University of Sydney, May 2023.
- Hacker, Tyler, *Beyond Precision: Maintaining America’s Strike Advantage in Great Power Conflict*, Center for Strategic and Budgetary Assessments, 2023.

Hadano, Tsukasa, and Ryo Nakamura, "Taiwan Waiting for U.S. F-16s and Tanks in \$19bn Arms Sale Backlog," *Nikkei Asia*, November 10, 2023.

Hadley, Stephen J., William J. Perry, Richard Armitage, J. D. Crouch, Charles Curtis, Rudy deLeon, Joan Dempsey, Eric Edelman, Sherri Goodman, David Jeremiah, George Joulwan, John Keane, Richard Kohn, John Lehman, Alice Maroni, John Nagl, Robert Scales, James Talent, Paul van Riper, and Larry Welch, *The QDR in Perspective: Meeting America's National Security Needs in the 21st Century: The Final Report of the Quadrennial Defense Review Independent Panel*, United States Institute of Peace, 2010.

Haenle, Paul, and Nathaniel Sher, "How Pelosi's Taiwan Visit Has Set a New Status Quo for U.S.-China Tensions," Carnegie Endowment for International Peace, August 17, 2022.

Harman, Jane, and Eric Edelman, "Spend More on Defense? Let's Focus on Spending Better," *Defense One*, June 11, 2023.

Harris, Bryant, "Defense Spending Bill Has Some Ukraine Aid, Multiyear Munitions Buys," *Defense News*, March 21, 2024.

Harris, Shane, Abigail Hauslohner, and Ellen Nakashima, "Gaza War May Stoke 'Generational' Terrorism Threat, Top Intel Official Says," *Washington Post*, March 11, 2024.

Harrison, Todd, Seamus P. Daniels, Mark F. Cancian, Tom Karako, and Wes Rumbaugh, "What to Look for in the FY 2022 Defense Budget Request," Center for Strategic and International Studies, April 2021.

Herman, Arthur, *Freedom's Forge: How American Business Produced Victory in World War II*, Random House, 2013.

House Appropriations Committee, "Committee Approves FY25 Subcommittee Allocations, Prioritizing Defense, Homeland Security, and Veterans Affairs," press release, May 23, 2024.

House Armed Services Committee, *Quality of Life Panel Report*, April 8, 2024.

Ingraham, Christopher, "The Tax Code Treats All 1 Percenters the Same. It Wasn't Always This Way," *Washington Post*, February 11, 2019.

Institute for Science and International Security, "The Iran Threat Geiger Counter: Reaching Extreme Danger," February 2024. As of May 13, 2024:  
<https://isis-online.org/isis-reports/detail/the-iran-threat-geiger-counter-reaching-extreme-danger>

Ip, Greg, "The U.S. Can Afford a Bigger Military. We Just Can't Build It." *Wall Street Journal*, December 6, 2023.

Jackson, Kimberly, and David H. Berger, "Readiness Redefined: Now What?" *War on the Rocks*, June 12, 2023.

Joint Publication 5-0, *Joint Planning*, Joint Chiefs of Staff, December 1, 2020.

Jones, Seth G., "The U.S. Industrial Base Is Not Prepared for a Possible Conflict with China," Center for Strategic and International Studies, undated. As of April 10, 2024:  
<https://features.csis.org/preparing-the-US-industrial-base-to-deter-conflict-with-China/>

Jun, Bong-geun, "North Korea Has Lost the 'Unification Competition,'" United States Institute of Peace, February 1, 2024.

Kapp, Lawrence, "FY2023 NDAA: Active Component End Strength," Congressional Research Service, IN11994, August 23, 2022.

- Karlin, Mara, “Hearing on Recommendations for a Future National Defense Strategy,” testimony before the Senate Armed Services Committee, November 30, 2017. As of April 10, 2024: [https://www.armed-services.senate.gov/imo/media/doc/Karlin\\_11-30-17.pdf](https://www.armed-services.senate.gov/imo/media/doc/Karlin_11-30-17.pdf)
- Katz, Justin, “Reed, Inhofe Warn Biden AUKUS Risks Becoming ‘Zero Sum Game’ for US Navy,” *Breaking Defense*, January 5, 2023.
- Kavanagh, Jennifer, and Jordan Cohen, “The Real Reason for Taiwan’s Arms Backlog—and How to Help Fill It,” *War on the Rocks*, January 13, 2023.
- Kendall-Taylor, Andrea, and Richard Fontaine, “The Axis of Upheaval: How America’s Adversaries Are Uniting to Overturn the Global Order,” *Foreign Affairs*, Vol. 103, No. 3, May/June 2024.
- Kennan, George, “861.00/2—2246: Telegram. The Charge in the Soviet Union (Kennan) to the Secretary of State,” National Security Archive, February 22, 1946. As of May 13, 2024: <https://nsarchive2.gwu.edu/coldwar/documents/episode-1/kennan.htm>
- Keys, Cameron M., and Luke A. Nicastro, “FY2024 National Security Supplemental Funding: Defense Appropriations,” Congressional Research Service, IN12274, updated April 25, 2024.
- Kofman, Michael, and Rob Lee, “Not Built for Purpose: The Russian Military’s Ill-Fated Force Design,” *War on the Rocks*, June 2, 2022.
- Kremlin, “Joint Statement of the Russian Federation and the People’s Republic of China on the International Relations Entering a New Era and the Global Sustainable Development,” February 4, 2022. As of April 9, 2024: <http://www.en.kremlin.ru/supplement/5770>
- Kuzminski, Katherine L., and Taren Sylvester, *Back to the Drafting Board: U.S. Draft Mobilization Capability for Modern Operational Requirements*, Center for a New American Security, June 2024.
- Lagrone, Sam, and Mallory Shelbourne, “New Navy Long-Range Shipbuilding Plan Details 19 Ship Decommissionings in FY 2025,” *USNI News*, March 19, 2024.
- Langley, Michael E., “Statement of General Michael E. Langley, United States Marine Corps, Commander, United States Africa Command,” testimony before the U.S. Senate Committee on Armed Services, March 7, 2024. As of April 9, 2024: [https://www.armed-services.senate.gov/imo/media/doc/langley\\_statement\\_3724.pdf](https://www.armed-services.senate.gov/imo/media/doc/langley_statement_3724.pdf)
- Lawrence, Quil, “The National Guard Turns to Firefighting amid Worsening Climate Change,” *National Public Radio*, August 22, 2023.
- Lehrfeld, Jonathan, “Army Finds Mold in over 2,000 Facilities After Service-Wide Inspection,” *Army Times*, March 28, 2023.
- Lendon, Brad, “Expert’s Warning to US Navy on China: Bigger Fleet Almost Always Wins,” CNN, January 17, 2023.
- Lendon, Brad, and Haley Britzky, “US Can’t Keep Up with China’s Warship Building, Navy Secretary Says,” CNN, February 22, 2023.
- Lillis, Katie Bo, Natasha Bertrand, Oren Liebermann, and Haley Britzky, “Russia Producing Three Times More Artillery Shells Than US and Europe for Ukraine,” CNN, March 11, 2024.
- Lopez, C. Todd, “DOD Releases National Defense Strategy, Missile Defense, Nuclear Posture Reviews,” U.S. Department of Defense, October 27, 2022.
- Lytell, Maria C., Michael L. Hansen, Avery Calkins, Matthew D. Baird, Nastassia Reed, Kristin J. Leuschner, and Clifford A. Grammich, *Retention of Racial-Ethnic Minorities in the Regular Army*, RAND Corporation, RR-A2011-1, 2023. As of April 10, 2024: [https://www.rand.org/pubs/research\\_reports/RRA2011-1.html](https://www.rand.org/pubs/research_reports/RRA2011-1.html)



- Mahnken, Thomas G., Evan B. Montgomery, and Tyler Hacker, *Innovating for Great Power Competition: An Examination of Service and Joint Innovation Efforts*, Center for Strategic and Budgetary Assessments, 2023.
- Mai, Matthew C., “Is AUKUS Pillar I Unworkable?” *The Interpreter*, February 1, 2024.
- Marrow, Michael, “Only 55 Percent of F-35s Mission Capable, Putting Depot Work in Spotlight: GAO,” *Breaking Defense*, September 21, 2023.
- Marrow, Michael, “B-21 Raider Stealth Bomber in Production, Pentagon Says,” *Breaking Defense*, January 22, 2024.
- Maurer, Diana, “Military Readiness: Improvement in Some Areas, but Sustainment and Other Challenges Persist,” testimony before the Subcommittee on Readiness and Management Support, U.S. Senate Committee on Armed Services, U.S. Government Accountability Office, May 2, 2023. As of April 10, 2024:  
<https://www.gao.gov/assets/gao-23-106673.pdf>
- Mazarr, Michael J., *Defending Without Dominance: Accelerating the Transition to the New U.S. Defense Strategy*, RAND Corporation, PE-A2555-1, September 2023. As of April 8, 2024:  
<https://www.rand.org/pubs/perspectives/PEA2555-1.html>
- McLeary, Paul, “In War, Chinese Shipyards Could Outpace US in Replacing Losses; Marine Commandant,” *Breaking Defense*, June 17, 2020.
- McLeary, Paul, and Lara Seligman, “US Preparing to Announce \$6B in Weapons Contracts for Ukraine,” *Politico*, April 25, 2024.
- McNamara, Whitney, Peter Modigliani Matthew MacGregor, and Eric Lofgren, *Commission on Defense Innovation Adoption: Final Report*, Atlantic Council, January 2024.
- Metrick, Andrew, *Rolling the Iron Dice: The Increasing Chance of Conflict Protraction*, Center for a New American Security, November 2023.
- Milley, Mark A., “Strategic Inflection Point: The Most Historically Significant and Fundamental Change in the Character of War Is Happening Now—While the Future Is Clouded in Mist and Uncertainty,” *Joint Force Quarterly*, Vol. 110, July 2023.
- Mitre, Jim, “A Eulogy for the Two-War Construct,” *Washington Quarterly*, Vol. 41, No. 4, 2018.
- Myers, Meghann, “New Data Model Predicts How Deployments Affect Future Readiness,” *Military Times*, December 29, 2022.
- Myers, Meghann, and Davis Winkie, “Pentagon Won’t Say If Troop Deployment Tempo Exceeds Recommended Goal,” *Military Times*, March 18, 2024.
- National Commission on Military, National, and Public Service, *Inspired to Serve*, March 2020.
- National Defense Industrial Association, *Vital Signs 2023: Posturing the U.S. Defense Industrial Base for Great Power Competition*, February 2023.
- National Guard, “State Partnership Program,” webpage, undated. As of July 16, 2024:  
<https://www.nationalguard.mil/Leadership/Joint-Staff/J-5/International-Affairs-Division/State-Partnership-Program/>
- NATO—See North Atlantic Treaty Organization.
- Nereim, Vivian, “Honed at Home in Yemen, Houthi Propaganda Is Going Global,” *New York Times*, January 24, 2024.
- Nicastro, Luke A., “Military Readiness: DOD Assessment and Reporting Requirements,” Congressional Research Service, IF12240, October 26, 2022.

Nicastro, Luke A., *The U.S. Defense Industrial Base: Background and Issues for Congress*, Congressional Research Service, R47751, October 12, 2023.

North Atlantic Treaty Organization, “NATO’s Military Presence in the East of the Alliance,” updated December 8, 2023. As of April 9, 2024:  
[https://www.nato.int/cps/en/natohq/topics\\_136388.htm](https://www.nato.int/cps/en/natohq/topics_136388.htm)

North Atlantic Treaty Organization, “Defence Expenditures and NATO’s 2% Guideline,” updated April 5, 2024. As of April 9, 2024:  
[https://www.nato.int/cps/en/natohq/topics\\_49198.htm](https://www.nato.int/cps/en/natohq/topics_49198.htm)

North Atlantic Treaty Organization, “Defense Expenditure of NATO Countries (2014–2024),” press release, June 17, 2024. As of June 21, 2024:  
[https://www.nato.int/cps/en/natohq/news\\_226465.htm](https://www.nato.int/cps/en/natohq/news_226465.htm)

Nostrant, Rachel, “A Nurse with an Amputation Hopes to Join the Air Force. A New Bill Could Allow Her to Do So.” *Military.com*, March 7, 2024.

Novelly, Thomas, “Even More Young Americans Are Unfit to Serve, a New Study Finds. Here’s Why.” *Military.com*, September 28, 2022.

Novikov, Illia, “Ukraine Claims It Has Sunk Another Russian Warship in the Black Sea Using High-Tech Sea Drones,” Associated Press, March 5, 2024.

Obis, Anastasia, “Army Cutting Empty Posts in Major Force Structure Transformation,” *Federal News Network*, February 28, 2024.

Ochmanek, David A., Anna Dowd, Stephen J. Flanagan, Andrew R. Hoehn, Jeffrey W. Hornung, Michael J. Lostumbo, and Michael J. Mazarr, *Inflection Point: How to Reverse the Erosion of U.S. and Allied Military Power and Influence*, RAND Corporation, RR-A2555-1, 2023. As of April 8, 2024:  
[https://www.rand.org/pubs/research\\_reports/RRA2555-1.html](https://www.rand.org/pubs/research_reports/RRA2555-1.html)

Ochmanek, David, and Andrew Hoehn, “Inflection Point: How to Reverse the Erosion of U.S. and Allied Military Power and Influence,” *War on the Rocks*, November 3, 2023.

Office of Management and Budget, Fiscal Year 2025 Historical Tables, Table 5.1, Budget Authority by Function and Subfunction: 1976–2029, March 2024. As of April 10, 2024:  
[https://www.whitehouse.gov/wp-content/uploads/2024/03/hist05z1\\_fy2025.xlsx](https://www.whitehouse.gov/wp-content/uploads/2024/03/hist05z1_fy2025.xlsx)

Office of Management and Budget, Fiscal Year 2025 Historical Tables, Table 10.1, Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2029, March 2024. As of April 10, 2024:  
[https://www.whitehouse.gov/wp-content/uploads/2024/03/hist10z1\\_fy2025.xlsx](https://www.whitehouse.gov/wp-content/uploads/2024/03/hist10z1_fy2025.xlsx)

Office of People Analytics, “2021 Active Duty Spouse Survey (ADSS),” updated March 2024. As of July 16, 2024:  
<https://www.opa.mil/research-analysis/spouse-family/military-spouse-survey-survey-reports-briefings/2021-active-duty-spouse-survey-adss-results-from-the-2021-active-duty-spouse-survey/>

Office of Senator James Lankford, “Lankford, Hassan, Colleagues Want to Stop Government Shutdowns, Force Congress to Do Its Job,” press release, January 30, 2023. As of April 9, 2024:  
<https://www.lankford.senate.gov/news/press-releases/lankford-hassan-colleagues-want-to-stop-government-shutdowns-force-congress-to-do-its-job/>

Office of Strategic Capital, homepage, undated. As of May 15, 2024:  
<https://www.cto.mil/osc/>



- Office of the Chief of Naval Operations, *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels For Fiscal Year 2025*, March 2024.
- Office of the Deputy Secretary of Defense, “Principles and Standards for Analysis Supporting Strategic Decisions,” memorandum, February 2, 2022.
- Office of the Director of National Intelligence, *National Intelligence Strategy*, 2023. As of April 10, 2024:  
[https://www.odni.gov/files/ODNI/documents/National\\_Intelligence\\_Strategy\\_2023.pdf](https://www.odni.gov/files/ODNI/documents/National_Intelligence_Strategy_2023.pdf)
- Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, February 5, 2024. As of April 9, 2024:  
<https://www.odni.gov/files/ODNI/documents/assessments/ATA-2024-Unclassified-Report.pdf>
- Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for Fiscal Year 2024*, May 2023. As of April 10, 2024:  
[https://comptroller.defense.gov/portals/45/documents/defbudget/fy2024/fy24\\_green\\_book.pdf](https://comptroller.defense.gov/portals/45/documents/defbudget/fy2024/fy24_green_book.pdf)
- Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2025*, April 2024. As of June 21, 2024:  
[https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2025/fy25\\_Green\\_Book.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2025/fy25_Green_Book.pdf)
- Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2021 Budget Estimates: Operation and Maintenance Overview,” February 2020. As of April 10, 2024:  
[https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/fy2021\\_OM\\_Overview.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/fy2021_OM_Overview.pdf)
- Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2022 Budget Request: Defense Budget Overview,” May 2021. As of June 21, 2024:  
[https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2022/FY2022\\_Budget\\_Request\\_Overview\\_Book.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2022/FY2022_Budget_Request_Overview_Book.pdf)
- Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2022 Budget Request: Operation and Maintenance Overview,” August 2021. As of April 10, 2024:  
[https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2022/FY2022\\_OM\\_Overview.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2022/FY2022_OM_Overview.pdf)
- Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2023 Budget Request: Defense Budget Overview,” March 2022. As of April 10, 2024:  
[https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY2023\\_Budget\\_Request.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY2023_Budget_Request.pdf)
- Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2023 Budget Request: Defense Operation & Maintenance Overview Book,” May 2022. As of April 10, 2024:  
[https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY023\\_OM\\_Overview.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY023_OM_Overview.pdf)
- Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2024 Budget Estimates: Defense Operation & Maintenance Overview Book,” May 2023. As of April 10, 2024:  
[https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY2024\\_OM\\_Overview.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY2024_OM_Overview.pdf)
- Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, “Fiscal Year 2025 Budget Request: Defense Budget Overview,” March 2024. As of April 8, 2024:  
[https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2025/FY2025\\_Budget\\_Request.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2025/FY2025_Budget_Request.pdf)

Office of the Under Secretary of Defense for Acquisition and Sustainment, *State of Competition Within the Defense Industrial Base*, February 2022.

Office of the Under Secretary of Defense for Acquisition and Sustainment and Office of the Deputy Assistant Secretary of Defense for Industrial Policy, *Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States: Report to President Donald J. Trump by the Interagency Task Force in Fulfillment of Executive Order 13806*, September 2018.

Office of the Under Secretary of Defense for Research and Engineering, “Systems Engineering and Architecture: Modular Open Systems Approach,” webpage, undated. As of July 11, 2024:  
<https://www.cto.mil/sea/mosa/>

Office of the Under Secretary of Defense for Research and Engineering, “USD(R&E) Technology Vision for an Era of Competition,” memorandum, February 1, 2022. As of April 8, 2024:  
[https://www.cto.mil/wp-content/uploads/2022/02/usdre\\_strategic\\_vision\\_critical\\_tech\\_areas.pdf](https://www.cto.mil/wp-content/uploads/2022/02/usdre_strategic_vision_critical_tech_areas.pdf)

O’Rourke, Ronald, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, Congressional Research Service, RL32665, March 1, 2024.

Perry, William J., John P. Abizaid, James Cartwright, Eric Edelman, Michèle Flournoy, Frank Kearney, Michael Maples, Jim Marshall, Gregory Martin, and James Talent, *Ensuring a Strong U.S. Defense for the Future: The National Defense Panel Review of the 2014 Quadrennial Defense Review*, United States Institute of Peace, July 31, 2014.

Peter G. Peterson Foundation, “Six Charts That Show How Low Corporate Tax Revenues Are in the United States Right Now,” April 7, 2023.

Pettyjohn, Stacie, and Hannah Dennis, *Precision and Posture: Defense Spending Trends and the FY23 Budget Request*, Center for a New American Security, November 2022.

Pettyjohn, Stacie L., and Becca Wasser, *No I in Team: Integrated Deterrence with Allies and Partners*, Center for a New American Security, December 2022.

Pettyjohn, Stacie L., Becca Wasser, and Andrew Metrick, “Bad Blood: The TTX for the House Select Committee on Strategic Competition Between the United States and the Chinese Communist Party (CCP),” statement before the House Select Committee on Competition. Between the United States and the Chinese Communist Party, Center for a New American Security, April 26, 2023.

Piper, Chris, “The Broken Senate Confirmation Process Is Eating Up Precious Floor Time,” Partnership for Public Service, September 19, 2023.

Plumb, John F., “Statement of Dr. John F. Plumb, Assistant Secretary of Defense for Space Policy, on Fiscal Year 2025 National Security Space Programs,” testimony before the House Armed Services Committee Subcommittee on Strategic Forces, May 1, 2024.

Pollard, Michael S., Louay Constant, Joe Cheravitch, Ryan Haberman, Katherine L. Kidder, and Christina Panis, *Identifying Opportunities to Recruit More Individuals Above the Age of 21 into the U.S. Army*, RAND Corporation, RR-A824-1, 2022. As of April 10, 2024:  
[https://www.rand.org/pubs/research\\_reports/RRA824-1.html](https://www.rand.org/pubs/research_reports/RRA824-1.html)

Public Law 85-864, National Defense Education Act of 1958, September 2, 1958.

Public Law 99-443, Goldwater-Nichols Department of Defense Reorganization Act of 1986, October 1, 1986.

Public Law 115-232, John S. McCain National Defense Authorization Act for Fiscal Year 2019, August 13, 2018.

- Public Law 117-81, National Defense Authorization Act for Fiscal Year 2022, December 27, 2021.
- Public Law 117-263, James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, December 23, 2022.
- Public Law 118-31, National Defense Authorization Act for Fiscal Year 2024, December 22, 2023.
- Rasmussen, Nicholas, “Adopting a Whole-of-Society Approach to Terrorism and Counterterrorism,” *Just Security*, September 10, 2021.
- Rathbone, John Paul, “European Defence Spending ‘Lacks Urgency,’” *Financial Times*, February 13, 2024.
- Reagan Foundation, “Reagan National Defense Forum 2023 Fireside Chat,” December 2, 2023.
- Reagan Foundation, “Reagan National Defense Forum 2023—Panel 1: Asking Americans: Polling on U.S. Global Engagement Ahead of 2024,” December 2, 2023.
- Rehman, Iskander, *Planning for Protraction: A Historically Informed Approach to Great-Power War and Sino-US Competition*, Routledge, 2023.
- Richardson, Laura J., “Statement of General Laura J. Richardson, Commander, United States Southern Command,” testimony before the U.S. Senate Armed Services Committee, March 11, 2024. As of April 9, 2024:  
[https://www.armed-services.senate.gov/imo/media/doc/richardson\\_statement\\_31424.pdf](https://www.armed-services.senate.gov/imo/media/doc/richardson_statement_31424.pdf)
- Robb, Douglas, “Repair Deployed Ships in Theater to Optimize Combat Power,” *Defense News*, January 17, 2024.
- Robbert, Albert A., Katherine L. Kidder, Caitlin Lee, Agnes Gereben Schaefer, and William H. Waggy, *Officer Career Management: Steps Toward Modernization in the 2018 and 2019 National Defense Authorization Acts*, RAND Corporation, RR-2875-OSD, 2019. As of April 10, 2024:  
[https://www.rand.org/pubs/research\\_reports/RR2875.html](https://www.rand.org/pubs/research_reports/RR2875.html)
- Rogin, Josh, “The U.S. Military Plans a ‘Hellscape’ to Deter China from Attacking Taiwan,” *Washington Post*, June 10, 2024.
- Sanger, David E., and Jim Tankersley, “U.S. Warns Russia of ‘Catastrophic Consequences’ If It Uses Nuclear Weapons,” *New York Times*, September 25, 2022.
- Sargent, John F., Jr., and Marcy E. Gallo, *The Global Research and Development Landscape and Implications for the Department of Defense*, Congressional Research Service, R45403, updated June 28, 2021.
- Sayler, Kelley M., “Climate Change and Adaptation,” Congressional Research Service, IF12161, April 6, 2023.
- Security, Suitability, and Credentialing Performance Accountability Council, “Trusted Workforce 2.0: Personnel Vetting Quarterly Progress Update, FY24 Q2,” April 2024. As of June 21, 2024:  
[https://assets.performance.gov/files/Personnel\\_Vetting\\_QPR\\_FY24\\_Q2.pdf](https://assets.performance.gov/files/Personnel_Vetting_QPR_FY24_Q2.pdf)
- Senate Committee on Armed Services, “Hearing to Receive Testimony on Worldwide Threats,” May 2, 2024. As of June 21, 2024:  
<https://www.armed-services.senate.gov/imo/media/doc/5224fulltranscript.pdf>
- Senate Committee on Armed Services, Subcommittee on Readiness and Management Support, “To Receive Testimony on the Current Readiness of the Joint Force,” May 2, 2023. As of April 8, 2024:  
[https://www.armed-services.senate.gov/imo/media/doc/23-42\\_05-02-2023.pdf](https://www.armed-services.senate.gov/imo/media/doc/23-42_05-02-2023.pdf)
- Sevastopulo, Demetri, and Alex Rogers, “Joe Biden Halts Plan for Indo-Pacific Trade Deal After Opposition from Democrats,” *Financial Times*, November 14, 2023.

- Shelbourne, Mallory, “CNO Gilday: Industrial Capacity Largest Barrier to Growing the Fleet,” *USNI News*, August 25, 2022.
- Shelbourne, Mallory, “OSD Comptroller Says U.S. Shipyards Can’t Build 3 Destroyers a Year,” *USNI News*, March 21, 2023.
- Shkolnikova, Svetlana, “Navy’s Ships Spend Less Time at Sea Amid Persistent Maintenance Delays, Report Says,” *Stars and Stripes*, January 31, 2023.
- Sly, Liz, and Júlia Ledur, “China Has Acquired a Global Network of Strategically Vital Ports,” *Washington Post*, November 6, 2023.
- Smith, Eric, and Ryan Evans, “A Conversation with the Commandant, Gen. Eric Smith,” podcast, *War on the Rocks*, October 25, 2023.
- Somerville, Heather, “Investors Are Betting on Defense Startups. The Pentagon Isn’t.” *Wall Street Journal*, January 25, 2024.
- Stavridis, James, “China and Russia Are Beating the US in Africa,” Bloomberg, June 12, 2024.
- Stengle, Jamie, and Josh Boak, “Biden Wants People to Know Most of the Money He’s Seeking for Ukraine Would Be Spent in the US,” Associated Press, February 20, 2024.
- Stockholm International Peace Research Institute, *SIPRI Yearbook 2023: Armaments, Disarmaments, and International Security*, Oxford University Press, 2023.
- Tankersley, Jim, and Alan Rappeport, “New Details in Debt Limit Deal: Where \$136 Billion in Cuts Will Come from,” *New York Times*, May 29, 2023.
- Thayer, Rose L., “Pentagon Reviews Whether 38 Medical Conditions Should Remain Disqualifiers for Military Service,” *Stars and Stripes*, March 7, 2023.
- Thayer, Rose L., “Racial Disparity in Army Officer Promotions Has Improved Since Service Removed Photos from Selection Process,” *Stars and Stripes*, December 4, 2023.
- Thornberry, Mac, Gilda Barabino, Michael G. Mullen, and Ryan Swann, “An Innovation Strategy for the Decisive Decade,” Defense Innovation Board, July 17, 2023.
- Tucker, Patrick, “Here’s How to Stop Squelching New Ideas, Eric Schmidt’s Advisory Board Tells DoD,” *Defense One*, January 17, 2018.
- Uchimiya, Ellen, and Eleanor Watson, “The Neptune: The Missiles That Struck Russia’s Flagship, the Moskva,” *CBS News*, April 16, 2022.
- Under Secretary of Defense for Personnel and Readiness, “Direct Hire Authority for Certain Personnel of the Department of Defense,” memorandum for senior Pentagon leadership, commanders of the combatant commands, and defense agency and DoD field activity directors, June 23, 2023. As of July 16, 2024:  
<https://www.dcpas.osd.mil/sites/default/files/DHA%20for%20Certain%20Personnel%20of%20DoD%20Memo%20Update%20v2.pdf>
- U.S. Air Force, “Reoptimizing for Great Power Competition,” webpage, undated. As of March 28, 2024:  
<https://www.af.mil/reoptimization-for-great-power-competition/>
- U.S. Army Europe and Africa, “US Department of Defense Establishes Security Assistance Group-Ukraine in Wiesbaden,” press release, November 16, 2022.
- U.S. Chamber of Commerce Foundation, “Unemployment and Underemployment Continue to Plague Military Spouses and Affect Financial Stability,” September 15, 2022.
- U.S. Code, Title 10, Section 181, Joint Requirements Oversight Council.

- U.S. Code, Title 10, Section 3601, Procedures for Urgent Acquisition and Deployment of Capabilities Needed in Response to Urgent Operational Needs or Vital National Security Interest.
- U.S. Department of Defense, “2020 Qualified Military Available (QMA) Study,” briefing slide, undated. As of April 10, 2024:  
[https://prod-media.asvabprogram.com/CEP\\_PDF\\_Contents/Qualified\\_Military\\_Available.pdf](https://prod-media.asvabprogram.com/CEP_PDF_Contents/Qualified_Military_Available.pdf)
- U.S. Department of Defense, “Defense Standardization Program: Modular Open Systems Approach (MOSA),” webpage, undated. As of July 11, 2024:  
<https://www.dsp.dla.mil/Programs/MOSA/>
- U.S. Department of Defense, “Tackling the Climate Crisis,” webpage, undated. As of May 13, 2024:  
<https://www.defense.gov/Spotlights/Tackling-the-Climate-Crisis/>
- U.S. Department of Defense, “Top DOD Hiring Options and Appointment Authorities (Non-Inclusive),” undated. As of April 10, 2024:  
[https://dcpas-dev.online14.net/sites/default/files/2021-04/8\\_Top\\_DoD-Hiring\\_and\\_Appointing\\_Authorities\\_v2.pdf](https://dcpas-dev.online14.net/sites/default/files/2021-04/8_Top_DoD-Hiring_and_Appointing_Authorities_v2.pdf)
- U.S. Department of Defense, *Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States*, September 2018.
- U.S. Department of Defense, “U.S. Defense Contributions to Europe,” fact sheet, June 29, 2022.
- U.S. Department of Defense, *2022 National Defense Strategy of the United States*, October 27, 2022.
- U.S. Department of Defense, *Military and Security Developments Involving the People’s Republic of China: Annual Report to Congress, 2023*.
- U.S. Department of Defense, *National Defense Industrial Strategy, 2023*.
- U.S. Department of Defense, *National Defense Science and Technology Strategy 2023, 2023*.
- U.S. Department of Defense, “Small Business Strategy,” January 2023.
- U.S. Department of Defense, “Comptroller Michael J. McCord and Vice Adm. Sara A. Joyner Hold a Press Briefing on President Biden’s Fiscal 2024 Defense Budget,” March 13, 2023.
- U.S. Department of Defense, “Department of Defense Announces Recruiting and Retention Numbers for Fiscal Year 2023,” press release, September 2023.
- U.S. Department of Defense, “Statement from Secretary of Defense Lloyd J. Austin III on Steps to Increase Force Posture,” press release, October 21, 2023.
- U.S. Department of Defense, “Department of Defense Announces Recruiting and Retention Numbers Fiscal Year 2023,” press release, undated.
- U.S. Department of Defense, “Pacific Deterrence Initiative: Department of Defense Budget Fiscal Year (FY) 2025,” March 2024.
- U.S. Department of Defense, “Deputy Secretary of Defense Kathleen H. Hicks and Vice Chairman of the Joint Chiefs of Staff Admiral Christopher W. Grady Opening Remarks on the Department of Defense F.Y. 2025 Budget Request,” March 11, 2024.
- U.S. Department of Defense, “Amendments to Contractor Employee Protections from Reprisal for Disclosure to Certain Information,” March 19, 2024. As of April 10, 2024:  
[https://ogc.osd.mil/Portals/99/OLC%20Proposals/FY%202025/19Mar2024Proposals.pdf?ver=Pa9g9\\_UE4nwjqreu-QX1g%3d%3d](https://ogc.osd.mil/Portals/99/OLC%20Proposals/FY%202025/19Mar2024Proposals.pdf?ver=Pa9g9_UE4nwjqreu-QX1g%3d%3d)
- U.S. Department of Defense, “DOD Support to National Security Memorandum 22,” press release, May 7, 2024.

U.S. Department of Defense Inspector General, “Management Advisory: Concerns with Access to Care and Staffing Shortages in the Military Health System,” DODIG-2024-033, November 29, 2023.

U.S. Department of Defense, Office of the Under Secretary for Policy (Strategy, Plans, and Capabilities), *Department of Defense Climate Risk Analysis*, report submitted to National Security Council, October 2021.

U.S. Department of State, *Country Reports on Terrorism 2022*, 2022.

U.S. Department of State and U.S. Agency for International Development, *Joint Strategic Plan FY 2022–2026*, March 2022.

U.S. General Services Administration, “Top Secret / Sensitive Compartmented Information (TS/SCI) Clearance,” webpage, undated. As of June 21, 2024:  
<https://handbook.tts.gsa.gov/general-information-and-resources/business-and-ops-policies/top-secret/>

U.S. Government Accountability Office, *Defense Budget: DOD Has Adopted Practices to Manage Within the Constraints of Continuing Resolutions*, GAO-21-541, September 2021.

U.S. Government Accountability Office, *Military Depots: DOD Strategy for Addressing Deteriorating Facilities and Equipment Is Incomplete*, GAO-22-105009, May 2022.

U.S. Government Accountability Office, *Columbia Class Submarine: Program Lacks Essential Schedule Insight Amid Continuing Construction Challenges*, GAO-23-106292, January 2023.

U.S. Government Accountability Office, *Weapon System Sustainment: Navy Ship Usage Has Decreased as Challenges and Costs Have Increased*, GAO-23-106440, January 2023.

U.S. Government Accountability Office, *Military Housing: DOD Can Further Strengthen Oversight of Its Privatized Housing Program*, GAO-23-105377, April 2023.

U.S. Government Accountability Office, *F-35 Aircraft: DOD and the Military Services Need to Reassess the Future Sustainment Strategy*, GAO-23-105341, September 2023.

U.S. Government Accountability Office, *Navy Readiness: Challenges to Addressing Sailor Fatigue in the Surface Fleet Continue*, GAO-24-106819, October 11, 2023.

U.S. House of Representatives, “Division: Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2024,” joint explanatory statement, March 4, 2024. As of June 21, 2024:  
<https://docs.house.gov/billsthisweek/20240304/FY24%20MVA%20Conference%20JES%20scan%203.1.24.pdf>

U.S. House of Representatives, “Division: Department of Defense Appropriations Act, 2024,” joint explanatory statement, March 18, 2024. As of June 21, 2024:  
<https://docs.house.gov/billsthisweek/20240318/Division%20A%20Defense.PDF>

U.S. Institute of Peace, *Senior Study Group on Counterterrorism in Afghanistan and Pakistan: Final Report*, May 2024.

U.S. Marine Corps, “Force Design 2030: Annual Update,” June 2023.

U.S. Marine Corps, “26th MEU(SOC) and BATARG to Return Home After an 8 Month Deployment,” press release, March 13, 2024.

U.S. Navy, “Navy Locates and Recovers Downed Blackhawk in the Mediterranean Sea,” press release, December 21, 2023.



- Vanherck, Glen D., “Statement of General Glen D. Vanherck, United States Air Force, Commander, United States Northern Command and North American Aerospace Defense Command,” testimony before the Subcommittee on Strategic Forces, Senate Armed Services Committee, May 9, 2023. As of April 24, 2024:  
<https://www.armed-services.senate.gov/imo/media/doc/VanHerck%20Written%20Testimony%20-%2005.09.23%20SASC-SF%20Missile%20Defense%20Hearing.pdf>
- Vogels, Emily A., Risa Gelles-Watnick, and Navid Massarat, “Teens, Social Media and Technology 2022,” Pew Research Center, August 10, 2022.
- Walker, Christopher, “The Global Information Wars: Is the U.S. Winning or Losing?” testimony before the Subcommittee on State Department and USAID Management, International Operations, and Bilateral International Development of the Senate Foreign Relations Committee, May 3, 2023. As of April 10, 2024:  
[https://www.foreign.senate.gov/imo/media/doc/7f8ce369-f2aa-52a7-702e-ebafc4c4b243/050323\\_Walker\\_Testimony.pdf](https://www.foreign.senate.gov/imo/media/doc/7f8ce369-f2aa-52a7-702e-ebafc4c4b243/050323_Walker_Testimony.pdf)
- Washington Headquarters Services, “John S. McCain Strategic Defense Fellowship Program,” webpage, undated. As of April 10, 2024:  
<https://www.whs.mil/About-WHS/Directorates/Human-Resources-Directorate-HRD/Careers/John-S-McCain-Strategic-Defense-Fellowship-Program>
- Wasser, Becca, *Campaign of Denial: Strengthening Simultaneous Deterrence in the Indo-Pacific and Europe*, Center for a New American Security, August 2023.
- Weaver, Greg, and Andrea Kendall-Taylor, “What NATO Allies Must Do to Prepare for Russian Aggression,” *Politico*, March 5, 2024.
- Welch, Jennifer, Jenny Leonard, Maeva Cousin, Gerard DiPippo, and Tom Orlik, “Xi, Biden and the \$10 Trillion Cost of War over Taiwan,” Bloomberg, January 8, 2024.
- “Where Are All the U.S. Ambassadors?” editorial, *Washington Post*, December 5, 2022.
- White House, *National Security Strategy*, October 2022.
- White House, “Remarks by National Security Advisor Jake Sullivan on the Biden-Harris Administration’s National Security Strategy,” October 13, 2022.
- White House, “Biden-Harris Administration Announces Initiative to Bolster Cybersecurity of U.S. Ports,” press release, February 21, 2024.
- White House, “National Security Memorandum on Critical Infrastructure Security and Resilience,” NSM-22, April 30, 2024.
- Whiting, Stephen N., “Fiscal Year 2025 Priorities and Posture of United States Space Command,” testimony before the U.S. Senate Armed Services Committee, February 29, 2024. As of April 9, 2024:  
[https://www.armed-services.senate.gov/imo/media/doc/whiting\\_statement.pdf](https://www.armed-services.senate.gov/imo/media/doc/whiting_statement.pdf)
- Wittman, Robert J., Seth Moulton, Michael R. Turner, Jackie Speier, Doug Lamborn, Elise Stefanik, Joe Wilson, Don Bacon, Jack Bergman, Mo Brooks, Kaiiali’i Kahele, Van Taylor, Scott Desjarlais, and Blake Moore, letter to Secretary of Defense Lloyd J. Austin and Deputy Secretary of Defense Kathleen Hicks, April 5, 2021. As of April 10, 2024:  
<https://federalnewsnetwork.com/wp-content/uploads/2021/04/Wittman.Moulton-SECDEF-Demand-Signal-Ltr-Dt.pdf>

Wong, Jonathan P., Obaid Younossi, Christine Kistler LaCoste, Philip S. Anton, Alan J. Vick, Guy Weichenberg, and Thomas C. Whitmore, *Improving Defense Acquisition: Insights from Three Decades of RAND Research*, RAND Corporation, RR-A1670-1, 2022. As of April 10, 2024: [https://www.rand.org/pubs/research\\_reports/RRA1670-1.html](https://www.rand.org/pubs/research_reports/RRA1670-1.html)

Woody, Christopher, “China’s Massive Navy Is Only Getting Bigger, and the US Is Looking Overseas for Help Keeping Its Warships in Action,” *Business Insider*, October 24, 2023.

Work, Robert, Michael Brown, and Ellen Lord, “Innovation Adoption for All: Scaling Across the Department of Defense,” *War on the Rocks*, April 3, 2024.

Wu, Huizhong, and Christopher Bodeen, “China Raises Defense Budget by 7.2% as It Pushes for Global Heft and Regional Tensions Continue,” Associated Press, March 5, 2024.

Young, Shalanda D., “Letter Regarding Critical National Security Funding Needs for FY 2024,” letter to Patrick McHenry, White House, October 20, 2023. As of April 10, 2024: <https://www.whitehouse.gov/omb/briefing-room/2023/10/20/letter-regarding-critical-national-security-funding-needs-for-fy-2024/>

Zabrodskyi, Mykhaylo, Jack Watling, Oleksandr V. Danylyuk, and Nick Reynolds, *Preliminary Lessons in Conventional Warfighting from Russia’s Invasion of Ukraine: February–July 2022*, Royal United Services Institute, November 30, 2022.

Zitner, Aaron, “America Pulls Back from Values That Once Defined It, WSJ-NORC Poll Finds,” *Wall Street Journal*, March 27, 2023.