

by John E. Whitley



Table of Contents

Executive Summary	
Introduction	7
Strategic Environment: The Next War Will Likely Be an All-Domain Conflict	7
Historic Context	8
NDS Funding	9
Army Forces: Central to DoD Operations in War and Peace	10
Demands on Army Forces	11
Role of Army Forces	
Army Operations and Sustainment Funding	
Army Modernization: A DoD Leader in Developing New Technologies and Concepts	
Modernization Plan	
Modernization Challenges	19
Modernization Funding	
Ukraine and Taiwan: Implications for the Necessity of Army Funding	21
Findings and Recommendations	
•	
Data Appendix	28

Executive Summary

It has been said that "it is tough to make predictions, especially about the future." It is no surprise, then, that predictions about complex issues such as national security and war are always imperfect. But, with such high stakes, the consequences of being wrong can be catastrophic, making war more likely and bloodier. Overwhelmingly, it is the Soldier and the Marine who pay this price.

Still, preparing for the future is increasingly necessary as the security environment rapidly changes. The 2018 *National Defense Strategy* (NDS) marked a fundamental shift in U.S. security priorities toward strategic competition with China and Russia. Maintaining the core tenets of its predecessor, the 2022 NDS identifies China as the "pacing challenge"—the only nation with the potential to mount a sustained threat to U.S. military superiority—with Russia posing an "acute threat" as its invasion of Ukraine undermines European and international security.

While both strategies have received broad bipartisan support, there is a growing disconnect with the defense budgets that they inform. Budgets in recent years have been guided by predictions that important advances in space, cyber and anti-access/area-denial defenses are making large-scale, all-domain combat less likely. In this view, the next war will likely consist of missile-centric combat, predominantly in the naval and air domains, with little requirement for ground forces beyond ground-based, long-range fires, force protection and logistics.

This paper evaluates this prediction by analyzing data both from U.S. wars since World War II and from current force demands. It then contrasts these data with recent defense budgets, Army force needs and Army modernization funding. Russia's war in Ukraine has served as a backdrop to this analysis, providing a glimpse (though incomplete) of modern large-scale conflict as the United States focuses on a potential contingency over Taiwan. Ultimately, this analysis identifies three key findings and links them with three recommendations.

Finding One: Historically and in the present, Army forces have been central to DoD operations in wartime and peacetime but are at risk of becoming stretched to the breaking point.

Over the past 80 years, when the United States has gone to war, the Army has played the predominant role in combat. From World War II through Korea, Vietnam and the wars in Iraq and Afghanistan, the Army averaged about 50 percent of serving forces, provided about 60 percent of deployments and averaged about 70 percent of wartime fatalities.

But the Army is also the backbone of the joint force. Former Chairman of the Joint Chiefs of Staff Joe Dunford referred to the Army as the "linchpin" for combat operations: "I use that word—linchpin—deliberately, because the Army literally has been the force that has held together the joint force with critical command-and-control capabilities, critical logistics capabilities, and other enablers," such as base defense, transportation and engineering.

What is less widely recognized is that this is also frequently true during peacetime. Consisting of less than 50 percent of the total force, the Army

 [&]quot;The perils of prediction," The Economist, 15 July 2007, https://www.economist.com/letters-to-the-editor-the-inbox/2007/07/15/the-perils-of-prediction-june-2nd.

has provided: 75 percent of the U.S. joint force support to Ukraine; 80 percent of the COVID National Guard response; 80 percent of domestic border security support; two-thirds of the Joint Staff's directed readiness requirements; and over half of the Combatant Commands' global requirements.

Despite these growing pressures, the 2023 President's Budget submission shrinks the Army to its smallest funded level since 1940, exacerbated in part by one of the most significant recruiting crises since the start of the all-volunteer force. These cuts are not sustainable, and they are unaligned with the demands of the NDS.

Finding Two: The Army has become a DoD leader in developing new technologies and concepts, but Army modernization is now at risk because of its low priority in the defense budget.

The outsized operational demands detailed in this paper's historical and contemporary data analysis have significant implications for the Army's force levels, readiness and modernization. Almost 80 percent of the Army budget is consumed by largely fixed operations and sustainment (O&S) costs, leaving significantly less flexibility to fund modernization activities, which recent inflation has only exacerbated. In comparison, the U.S. Navy and Air Force average less than 60 percent of their budgets consumed by O&S activities, allowing them to devote significantly more resources to their necessary modernization.

However, recent defense budgets have inadequately balanced this modernization funding disparity across the services. Since the 2018 NDS, annual Army modernization funding has fallen by \$4 billion, annual Navy funding increased by \$10 billion and Air Force funding has grown by almost \$20 billion between FY19 and FY23.² The benefits of investments in Navy and Air Force modernization can only be maximized if paired with sufficient investments in the Army's modernization, and vice versa, to achieve a fully capable joint force.

Despite these challenges, the Army is already beginning to demonstrate the capabilities that it can provide to the joint force if sufficiently funded. After years of self-funding its modernization by trimming lower priority capabilities, the Army is testing directed energy weapons this year, will field the first U.S. hypersonic weapon battery next year and is leading the world in advancing capabilities in vertical lift, armored vehicles, artillery and small arms. However, this self-funding approach has its limits and it requires sufficient investment.

Finding Three: Initial observations of the war in Ukraine support the historical data that the next war, even if it occurs in Taiwan, will likely be an all-domain conflict, with ground forces playing their traditional, central role.

Russia's February 2022 invasion of Ukraine—the largest conventional war in Europe since World War II—is providing actual, real-world data and experience for this debate over strategy and budget priorities. Definitive conclusions of such a rapidly changing conflict in its eleventh month are premature, but several observations underscore the validity of the findings of this paper.

First, the outbreak of such a conflict in the heart of Europe is a testament to the difficulties in predicting with certainty where the United States' next fight

Office of the Secretary of Defense (Comptroller), National Defense Budget Estimates for FY23 (Washington, DC: U.S. Government Printing Office, July 2022).

may occur. The United States, as a global power, cannot accept excessive risk in other vital regions of the world even as it paces for China.

Second, many of the critical drivers of the war for its first nine months—such as long-range fires, U.S. security force assistance, resilient communications, logistics and air and missile defense—are top priorities in the Army's modernization strategy.

Third, the war is a stark reminder of the relevance of land forces, and it offers indications that current assumptions suggesting that the Army would have a minimal role in Taiwan should a conflict arise there with China are likely incorrect. Ukraine reminds us, first, that achieving the political aim of controlling foreign territory is difficult to accomplish without the employment of ground forces and, second, that the current predictions guiding the budget, i.e., that the next war will primarily be a missile exchange, have been made before and have been wrong.

Additionally, despite the deterrent effect of Russian nuclear weapons on U.S. policy in Ukraine, current thinking assumes that the United States would attack Chinese military targets—potentially even on the mainland of a nuclear power—as an invasion begins or even *before* it begins. With a delayed U.S. response potentially allowing China to gain a hold on Taiwan, the Army may be tasked with restoring Taiwanese territorial integrity with ground forces.

Land warfare has been and continues to be paramount to conflict, but the Army's modernization funding drastically falls behind other services. These findings lead to three key recommendations for Congress as it completes the 2023 budget and begins to prepare for the 2024 authorization and appropriation cycle.

Recommendation One: Congress should prioritize Army modernization funding.

To faithfully execute the NDS and prepare for the next war, the United States must invest in forces and modernization in all domains. Continuing the investment pattern of recent defense budgets will increase the likelihood of the United States' next war and will cost American lives. The Army requires significantly increased investment from 2024 to 2030 to modernize and maintain overmatch against near-peer competitors.

Recommendation Two: Congress should ensure that Army forces return to a sustainable level as recruiting recovers.

Cutting the Army to its lowest funded level since before World War II with no decrease in demand is not sustainable. As recruiting recovers, Congress should not repeat the historical pattern of decreasing Army endstrength. Instead, Congress should direct a plan for how DoD intends to restore Army forces to the levels required to execute the NDS. Congress should also direct DoD to develop an analytic framework for force structure sizing so that Congress has a mechanism for evaluating force trade-offs.

Recommendation Three: Congress and DoD should ensure that the Army and the joint force's funding and operations adequately account for the relevancy of land forces in future contingencies.

History and current observations in Ukraine indicate that land forces will play a significant role in the next fight. Congress and DoD have many options

to leverage the Army to bolster deterrence now. They could, for example, explore opportunities for basing U.S. forces on Taiwan; promote greater engagement among Taiwanese forces, the Army's Indo-Pacific Security Force Assistance Brigade and the National Guard's State Partnership Program; and stockpile key logistics capabilities on Taiwan. Congress should direct an assessment of what would happen in a Taiwan-China conflict if the predictions driving the defense budget were wrong, what actions can be taken now to mitigate these consequences and what forces would be needed.

Congress and DoD must also keep in mind that Taiwan is just one potential contingency in one region. Thereby, Congress should direct an assessment of threats beyond a Chinese invasion of Taiwan—including North Korea, Europe and the Middle East—and how the defense budget supports preparedness to counter these other threats. Building an overly specialized force for a single scenario leaves the United States less prepared to overmatch adversaries anywhere in the world. The United States will go to the next war with the Army it has built at the time; it must be an Army that can win that war while protecting its Soldiers.

Introduction

We do not have a good track record of predicting the future, particularly for complex national security issues such as war and peace. And, getting it wrong has dire consequences, ultimately making war more likely and more destructive. The Army Soldier and Marine disproportionately pay the price for these mistakes as battlefield casualties.

One prediction we have repeatedly made over the last century is that by reducing ground forces and cutting Army modernization funding—spending the money instead on new technology for the rest of DoD—we will deter the next war and make ground combat less likely. So far, this prediction has been wrong every single time. Unfortunately, we are going down the same road again; the result, if we do not change course now, will likely mean that our next war will be sooner and bloodier. The purpose of this paper is to help policymakers to avoid making this mistake.

The paper begins by giving a brief overview of the current strategic environment and the *National Defense Strategy* (NDS) funding trends. After providing this context, it examines historical and contemporary data on Army force requirements, which includes the number of people and the units they are organized into, forces support posture for deterrence and warfighting, day-to-day military operations and readiness. Next, the paper analyzes Army modernization requirements, including investments being made in research, development, test and evaluation (RDT&E) along with procurement to field new technology and capability to forces. Finally, it considers some early observations from Russia's war against Ukraine that support the data presented in this paper and underscore the vital need for sufficient Army funding as DoD modernizes for future conflict.

Strategic Environment: The Next War Will Likely Be an All-Domain Conflict

After two decades of counterterrorism and counter-insurgency warfare, the 2018 NDS set a new course for U.S. national security policy.³ Revanchist powers China and Russia were not idle while the United States was focused on the terrorist fight. They studied our capabilities and methods to guide accelerated modernization investments for their forces.

As they expanded their military capabilities, they also became more aggressive. Russia's aggression in Georgia, Crimea and elsewhere led to the full invasion of Ukraine on 24 February 2022. China's crackdown on Hong Kong has been followed by increasing belligerence against Taiwan and its neighbors in the South China Sea.

Recognizing these alarming trends, the NDS called for a renewed focus on near-peer adversaries. Terrorists and regional actors such as North Korea and Iran continue to be threats that we must remain prepared for, but, for the first time since the end of the Cold War, we must seriously consider combat with large, technologically advanced peers.

This has significant implications for U.S. forces and modernization. Forces that have spent the last two decades operating in permissive environments against small, largely asymmetric threats must now relearn large-scale

James Mattis, Summary of the 2018
 National Defense Strategy of the United States of America, January 2018, https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf.

combat operations (LSCO). In the Pacific, increasing speed and range have become crucial, requiring accelerated investments in areas such as hypersonic weapons and future vertical lift. Increasingly capable anti-access and area denial (A2/AD) defenses are driving new concepts for distributed operations and contested logistics as well as investments in survivability and stealth. The United States is now playing catchup, accelerating modernization of our forces to maintain overmatch with near-peer adversaries.

This NDS imperative has received broad, bi-partisan support in Congress. The basic tenets of the 2018 NDS (from a Republican Administration) were recently ratified in the issuance of the 2022 NDS (by a Democrat Administration). But the NDS stops short of detailing exactly what this change in direction means for specific modernization priorities, force investments and posture requirements. This is where different views and disagreements arise.

The dominant view in Washington today is that the important advances in areas such as space, cyber and A2/AD defenses are making all-domain combat less likely. In this view, kinetic warfare is being transformed into missile-centric combat predominantly in the naval and air domains with little requirement for ground combat beyond ground-based, long-range fires, force protection and logistics.

Historic Context

This view is not new. For the last century, one consistent prediction by many policymakers and strategists after each war has been that technological advances are fundamentally changing the nature of war, rendering all-domain combat less likely. In this view, investing enough in this new technology will allow us to win the next war without the agony of ground combat, and it provides a simple budget strategy: cut the Army to fund technology investments for the rest of DoD. To varying degrees, this has been the policy after each war for the last century.

The end of World War II and the advent of nuclear weapons provides one of the most striking examples. Statements from newspapers and journals in the late 1940s included:⁴

- "The day of the foot soldier is gone forever. He is extinct as the dodo bird. Yet this rather elementary fact seems to have escaped the notice of the hide-bound traditionalists who still cling tenaciously to their predilection for swarming masses of foot soldiers."
- "[T]he days of the ground arms are ending. Warfare has changed. The scientists have taken over strategy and the military have got to understand this sooner or later. The days of battle, as we know them and . . . have fought them, are gone forever."

Defense policymakers acted accordingly. While all military forces faced significant drawdowns following the war, Army ground forces saw the largest reduction at over 90 percent (from about six million to just under 600,000) from 1945 to 1950.⁷ Modernization investments were even more skewed. From 1948 to 1950, Army investment accounts received about \$1.4 billion in funding while the Navy⁸ received \$4.7 billion (2.4 times the Army funding level) and the Air Force received \$6.5 billion (3.7 times the Army funding level).⁹

- These quotations are taken from John C. McManus, Grunts: Inside the American Infantry Combat Experience, World War II through Iraq, (New York, NY: NAL Caliber, 2010).
- 5. McManus, Grunts.
- 6. McManus, Grunts.
- In 1945, the Air Force was a component of the Army, but it was a separate military department in 1950. The numbers provided exclude the Army Air Force in 1945.
- 8. The Department of the Navy budget includes Marine Corps funding.
- Office of the Secretary of Defense (Comptroller), National Defense Budget Estimates for FY23.

The advent of the atomic age and the emerging Cold War justified significant Air Force and Navy investments. But we know now that the dramatic cuts to the Army and the lack of investment in ground force modernization were not grounded in an accurate assessment of the future—and the consequences were severe. At the start of the Korean War, the Army was allocated only 30 percent of the defense budget but constituted 40 percent of the active duty force. During the war, the Army provided 50 percent of the forces serving and 64 percent of the deployed forces; it suffered 82 percent of the fatalities. We will never know how the outcome in Korea might have been different—or the American lives that might have been saved—if the United States had focused on ground force modernization, capacity and readiness in the Army with the same focus that it gave to the rest of DoD during the peacetime years preceding the Korean War.

This recurring view that, despite the lessons of history, the next war will not be an all-domain conflict, has a perfect track record—it has been wrong every time. It is particularly ironic that the current focus on the Pacific is being used, in part, to justify making this prediction again—the United States has fought three wars in the Pacific in the last hundred years, and they have all been major ground wars.

History does provide some credible predictions: there will be a future war; it will likely be an all-domain conflict; and the Army will provide the majority of the forces and suffer most of the casualties. History also demonstrates that failing to prioritize readiness for ground combat does not make it less likely—if anything, it makes ground combat more likely.

NDS Funding

The bipartisan 2018 NDS Commission recommended that defense funding requires 3–5 percent real growth to implement the NDS.¹⁰ The reality is that the DoD top-line budget has declined in real spending power from 2019 to 2023, and the Fiscal Year 2023 (FY23) request is over \$200 billion below what would be required to have achieved 5 percent real growth.

But this decline in spending power has not been experienced uniformly across DoD. The Army has lost almost \$40 billion in buying power from FY19 to FY23; the rest of DoD has roughly broken even or experienced small increases. These increases are in areas such as nuclear modernization and space—essential investments for the NDS that need to occur. The challenge is that investment is required in all domains to maintain overmatch against near-peer competitors, deter their aggression, and, if deterrence fails, to win the war. As stated above, a budget strategy of taking risk against ground combat will not make ground combat less likely.

To examine the misalignment more specifically between NDS funding trends and the need for an all-domain capable joint force, the next two chapters of this paper examine forces and modernization. To understand these investment areas, the DoD budget can be broken down into core funding categories. The FY23 President's Budget request included \$177 billion for the Army. At the highest level, this compares to \$231 billion for the Department of the Navy, \$234 billion for the Department of the Air Force and \$131 billion for DoD headquarters and shared services; this is a total DoD budget submission of \$773 billion.

 Eric Edelman et al., "Providing for the Common Defense: The Assessment and Recommendations of the National Defense Strategy Commission," United States Institute of Peace, 2018, xii, https://www.usip.org/sites/default/ files/2018-11/providing-for-the-commondefense.pdf. These comparisons can be misleading, however, because the Department of the Navy includes both the Navy and the Marine Corps, the Department of the Air Force includes both the Air Force and the Space Force, and the Air Force budget includes \$40 billion in pass through funding for other national security requirements. Adjusting for these differences results in a request for the Navy (military service) of \$181 billion and a request for the Air Force (military service less pass through) of \$170 billion. 11,12 In other words, the three military services have about equal top-line budgets.

The budget of each Military Department can then be divided into major appropriation accounts of resources, including military personnel (MILPERs); operations and maintenance (O&M); procurement (PROC); RDT&E; military construction (MILCON); and a few miscellaneous accounts. In the following chapters, the largest of these accounts will be divided into two broad categories. Operations and Sustainment (O&S) is created by adding MILPERs and O&M and it represents the operational costs of the Military Department from its personnel, operations, readiness and equipment sustainment. This will be used in the next chapter on Army forces. Modernization is created by adding PROC and RDT&E, and it provides a measure of investment for the future in new and replacement equipment. This will be the focus of the modernization chapter. The rest of the appropriation accounts average about \$4 billion, or two percent, of each Military Departments' budget; they are not addressed further in this report.

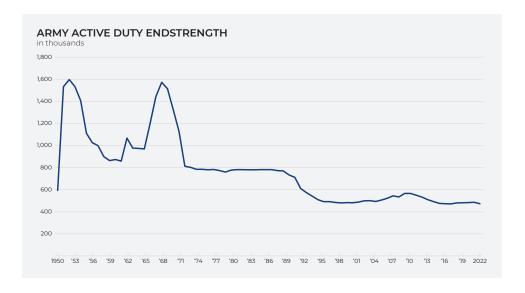
Army Forces: Central to DoD Operations in War and Peace

As the Secretary of the Army pointed out at an Atlantic Council event, "The Army is campaigning out in the world every single day." It is widely recognized that when war breaks out, the Army provides the bulk of the forces and bears the most casualties. What is less widely recognized is that this is also frequently true during peacetime.

With less than 50 percent of the total force, over the last two years the Army provided 75 percent of the U.S. joint force support to Ukraine, 80 percent of the COVID National Guard response, 80 percent of domestic border security support, two-thirds of the Joint Staff's directed readiness requirements; and over half of the Combatant Commands' global requirements. The Army does not control these demands; they are external requirements placed on the Army. These outsized, external requirements have significant implications for force levels, readiness, the Army budget and modernization.

The 2023 President's Budget submission funds an Army active duty endstrength of 473,000 Soldiers. This represents a 12,000 Soldier reduction from 2022 funded endstrength and the smallest funded endstrength for the Army since 1940.¹⁴ The chart on the following page traces Army active duty endstrength since 1950 (the World War II era is excluded because its large numbers compress the rest of the chart).

- 11. Until recently, the air and space domains were unified in the single Air Force service. Thus, for most comparisons, the Department of the Air Force will be considered in total. In the 2023 budget submission, the Department of the Air Force topline with pass through removed was \$194 billion.
- 12. Not all data sources allow for this more detailed breakout of the defense budget. In the sections that follow, when relevant and possible, this paper breaks out the budget to this more detailed level. Each display contains references that explain which view of resources is provided.
- "Extra US Troops Staying in Europe for Now," Association of the United States Army, 6 June 2022, https://www.ausa. org/news/extra-us-troops-stayingeurope-now.
- 14. Office of the Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY23*, 290, shows 473,000 to be the smallest Army active duty endstrength since 1940. 2022 executed endstrength was below 472,000.



Demands on Army Forces

This declining endstrength comes when demands on the Army are large and increasing. To demonstrate the role of the Army and the burden placed on the Army relative to its size, the table below illustrates various demands placed on military forces and the Army's share of those demands. It starts with the size of the Army relative to the total force. It then provides Service breakouts for three major categories: wartime operations, day-to-day operations and posture. The appendix provides a detailed description of the data sources.

	Army	Navy	Air Force/ Space Force	Marine Corps	Arn Sha
2023 President's Budget Submission					
Active Duty Endstrength	473,000	346,300	332,000	177,000	36
Total Endstrength (Active, Guard, Reserve)	998,500	404,000	510,400	210,000	47
Wartime Operations					
World War II Number Serving (Army number excludes Army Air Forces)	8,860,000	4,183,466	~2,400,000	669,100	55'
World War II Number Deployed (Navy number includes Marines)	5,949,689	3,639,615	952,974		56'
World War II Battle Deaths – Europe	141,088	6,039	36,461		77
World War II Battle Deaths - Pacific	41,592	31,485	15,694	19,733	38'
Korea Number Serving	2,834,000	1,177,000	1,285,000	424,000	50
Korea Number Deployed	1,153,000	265,000	241,000	130,000	64
Korea Total Deaths	29,856	657	1,552	4,509	82
Vietnam Number Serving	4,368,000	1,842,000	1,740,000	794,000	50
Vietnam Number Deployed	1,736,000	174,000	293,000	391,000	67
Vietnam Total Deaths	38,224	2,566	2,586	14,844	66
Deployments to Named Contingencies, Active Component (Total Troop Years, 2001–2015)	1,271,395	423,992	397,502	333,920	52
Deployments to Named Contingencies, All Components (Total Troop Years, 2001–2015)	1,800,846	464,554	483,379	359,210	58
OEF/OIF Fatalities (Hostile and Non-hostile)	4,899	234	151	1,482	72
Directed Readiness Tables (DRT)	Classified	Classified	Classified	Classified	66
Day-to-day Defense Operations					
2022 Ukraine Conflict Deployments	~11,430		~3,660		76
September 2020 COVID National Guard Support	15,000		3,000		83
2021 COVID National Guard Support	39,460		7,540		84
COVID Vaccination Support (Active Duty)					
2021 Inauguration Security	~23,000		~3,000		88
Border Security (2021)	3,326		~700		83
Response to attack on U.S. Embassy Baghdad (Dec 2019–Jan 2020)	~3,925		30	~2,500	61
Gobal Force Management Allocation Plan (GFMAP)	Classified	Classified	Classified	Classified	56
Posture					
INDOPACOM Assigned Forces (Includes AK and HI)	54,668	39,465	43,880	29,802	33
EUCOM Assigned Forces	27,428	7,573	30,523	1,477	41
CENTCOM Assigned Forces	1,371	4,634	470	1,035	18
SOUTHCOM Assigned Forces	456	573	212	274	30
AFRICOM Assigned Forces	98	63	61	880	91

The table first shows funded endstrength in the 2023 budget submission. As mentioned above, the 473,000 active duty Soldiers funded for the Army is the smallest funded endstrength since 1940. At this level, the Army is

about 36 percent of the active duty force. When Guard and Reserve forces are included, the Army is funded for an endstrength of 998,500 Soldiers, about 47 percent of the total force.

The table next shows the recent major wars in which the United States has been engaged. With a striking regularity over the last one hundred years, for each major war the Army has averaged about 50 percent of the force serving during the war years, two-thirds of deployments, and 70–80 percent of fatalities. The biggest deviation from this pattern is the Pacific theater of World War II, where fatalities across the services were more evenly distributed, but even there, where one might expect that the Navy and Air Force had taken the biggest hit, the Army still suffered a disproportionately large number of these fatalities. An empirical forecast of requirements for the next war would start with these data.

It was these statistics that motivated Secretary of Defense Mattis in 2018 to establish the Close Combat Lethality Task force. His establishment memo states: "I am committed to improving the combat preparedness, lethality, survivability, and resiliency of our Nation's ground close combat formations. These formations have historically accounted for almost 90 percent of our casualties and yet our personnel policies, advances in training methods, and equipment have not kept pace with changes in available technology, human factors science, and talent management best practices." ¹⁵

As discussed in the last chapter, despite Secretary Mattis's attempt to increase focus on ground forces, the view in Washington driving budget prioritization today is that this pattern will not repeat in the next war. The belief is that combat is migrating to the naval and air domains and we can afford risks against forces for ground combat. This is contradicted by the Department's own war plans, or Operations Plans (OPLANs).

The Directed Readiness Tables (DRT) produced by the Joint Staff provide guidance to the Services on the number of forces that must be maintained at a high degree of readiness for deployment if current OPLANs are activated. These data are classified, but the breakout of the Army's share has been provided publicly; the Army accounts for up to two-thirds of these readiness requirements.¹⁶

The table provides illustrative examples of temporary deployments in support of recent crises. As reviewed in the introduction to this chapter, the Army has provided around 70–90 percent of the forces for many of the most well-known deployments of the past few years.

This is also apparent in the Global Force Management Allocation Plan (GFMAP) data. The GFMAP provides a plan for the upcoming year of deployments, and it tracks deployments through the year as it varies because crises and other factors change the plan. The GFMAP data are classified, but the summary result of the Army's share of GFMAP deployments has been publicly released in the past at various snapshots in time. With less than half of the total force, the Army constituted over half of forces ordered to deploy at the time of the public release cited in the table. This number changes throughout the year, but it is consistently above the Army's share of forces.

The final section of the table provides data on permanently assigned posture. Not surprisingly, Europe and the Pacific have the largest assigned personnel strengths. Perhaps surprising to some, the Army is the largest presence

- Sydney J. Freedberg, Jr., "Mattis Upguns Infantry: Task Force To Invest Over \$1B," Breaking Defense, 21 February 2018, https://breakingdefense.com/2018/02/ mattis-upguns-infantry-close-combatlethality-task-force/.
- 16. Note that this statistic is based on unit counts instead of individual servicemembers, which is the basis for all of the other rows. There are important caveats for comparing this row to the other rows. First, units vary in size, so the fraction of servicemembers will be different from 66 percent. Second, the Directed Readiness Table does not include all unit types, so the fraction is sensitive to which unit types are included. The table reports the most recent publicly released share. In correspondence with DoD, the author was told that the most recent DRT guidance included additional force elements and that the Army represented about 50 percent of the units in that release.

in the U.S. Indo-Pacific Command (USINDOPACOM) area of responsibility (AoR) (note that this includes Alaska and Hawaii). The Army's assigned forces in USINDOPACOM and U.S. European Command are both roughly proportional to its share of active duty endstrength.

The other overseas combatant command AoRs do not make significant use of assigned forces. Instead, they rely more heavily on temporary deployments of forces. U.S. forces in the Middle East were predominantly comprised of Army Soldiers during the active wars. South America and Africa are also regions with high levels of Army deployments, e.g., there are 1,000 Army National Guardsmen deployed to the Horn of Africa.¹⁷

Role of Army Forces

The role of Army forces can be categorized into war fighting, day-to-day demands and support for shared services. When war breaks out, the dominant, central and coordinating role that the Army plays in conducting combat operations is evident. In peacetime, however, the focus turns to theories of new types of war, and the lessons of the past wars recede. The most recent and ongoing example of this is the current focus and arguments surrounding potential troubles on Taiwan. But, as one recent expert stated:

There is a good chance that the role U.S. decisionmakers will ask the Army to play in this conflict is not what has been presented so far: lobbing missiles or "advising" Taiwanese military units. Instead, troops may find themselves either defending the island from a Chinese invasion or even helping retake Taiwan after China (due to proximately and first-mover advantages) wins the initial high-tech struggle.¹⁸

In short, it is unlikely that the United States will engage in LSCO in the near future without the Army assuming its traditional dominant role. If the Army does not have the forces (and modernized equipment) that it requires, as we saw in Korea, the United States will be at a significant disadvantage.

If anything, the combat demands on the Army are increasing. As the Marine Corps reduces its ground capabilities in areas such as armor, the Army will be required to backfill these force reductions. Fighting will be required in urban areas and in contested environments, requiring the protection of armor both in Europe and in the Pacific—requirements that now fall solely on the Army.

During peacetime, the day-to-day role of military forces becomes focused on deterrence (trying to prevent or to delay the next war) and preparing for war. Not surprisingly, the Army plays a major part in these requirements. Experience has shown that Army presence and forces are the strongest conventional deterrent. Looking across conflicts and potential conflicts over time, RAND researchers found "the clearest evidence for the deterrent impact of heavy ground forces and little, if any evidence for the deterrent impact of air and naval forces." Interestingly, the strongest effect was found for heavy forces. RAND found "consistent evidence for the deterrent effects of heavy ground forces and air defense capabilities, especially when deployed in the general theater of interest but not necessarily on the front lines of a potential conflict."

The USINDOPACOM commander has testified that this applies in the Pacific with respect to China. In 2022 testimony, Admiral Aquilino stated:

- 17. Steve Beynon, "1,000 National Guard Soldiers to Deploy to Africa as Mid East Wars Wind Down," *Military.com*, 29 November 2021, https://www.military.com/daily-news/2021/11/29/1000-national-guard-soldiers-deploy-africa-mid-eastwars-wind-down.html.
- Jacquelyn Schneider, "The Uncomfortable Reality of the U.S. Army's Role in a War Over Taiwan," War on the Rocks, 30 November 2021.
- Bryan Frederick et al., Understanding the Deterrent Impact of U.S. Overseas Forces (Santa Monica, CA: RAND, 2020), xv, https://www.rand.org/pubs/research_ reports/RR2533.html.

U.S. force posture is a warfighting advantage in USINDOPACOM's operational design. A force posture west of the International Date Line provides defense in-depth that enables the Joint Force to decisively respond to contingencies across the region. More distributed combat power increases survivability, reduces risk, and enables the transition from defense to offense quickly should deterrence fail. Forward-based and rotational Joint forces armed with the right capabilities are the most credible way to demonstrate resolve, assure allies and partners, and provide the President and Secretary with multiple options.²⁰

Army forces provide the president and the secretary of defense with operating flexibility. These options, particularly when combined with Naval and Air Forces, can be tailored to particular situations, creating responses that can be more or less escalatory. The 12,000 reduction in Army active duty endstrength limits choices available to senior leadership.

Moreover, many Pacific nation military leaders are soldiers from their own home army forces; the U.S. Army is most able to build enduring relationships with these allies and partners. These leaders tend to view the Army as the most reliable, enduring partner—a partner that brings resources and commitment to the table. On Taiwan itself, for example, the Army conducts 50 percent of Operations, Activities and Investment for DoD.²¹ Building robust and credible deterrence in the Pacific requires a ready, modernized U.S. Army that can develop these relationships and partner with these nations to build the capabilities required to maintain regional stability.

Another major factor driving Army force requirements, related to the dominant role in coordinating combat operations described above, is that the Army is the primary shared-service provider on the battlefield. Former Chairman of the Joint Chiefs of Staff Joe Dunford called the Army the linchpin for combat operations, stating: "I use that word—linchpin—deliberately, because the Army literally has been the force that has held together the joint force with critical command-and-control capabilities, critical logistics capabilities, and other enablers."²²

Some examples of Army executive agent requirements include:

- land-based air and missile defense;
- fire support;
- base defense;
- transportation;
- · fuel distribution;
- general engineering;
- intra-theater medical evacuation;
- logistics management;
- communications;
- · chemical, biological, radiological, and nuclear defense; and
- explosive ordnance disposal.²³

Other shared services (combat and non-combat) are centralized in defense agencies and field activities that report to the Office of the Secretary of

- Statement of Admiral John Aquilino, U.S. Navy, Commander, U.S. Indo-Pacific Command before the House Armed Services Committee on U.S. Indo-Pacific Command Posture, 9 March 2022, 14.
- 21. Email correspondence with DoD officials on 10 July 2022.
- 22. Joseph Dunford, "Remarks to the Association of the U.S. Army (AUSA)" (remarks, AUSA Annual Meeting, Washington, DC, 5 October 2016), quoted in Jim Garamone, "Change Coming to Strategic Levels in Military, Dunford Promises," DOD News, 5 October 2016, https://www.defense.gov/Explore/News/Article/Article/965661/change-coming-to-strategic-levels-in-military-dunford-promises/.
- Department of the Army, Army Technical Publication (ATP) 3-93, Theater Army Operations (Washington, DC: U.S. Government Printing Office, August 2021), 4-3, https://armypubs.army.mil/epubs/ DR_pubs/DR_a/ARN33322-ATP_3-93-000-WEB-1.pdf.

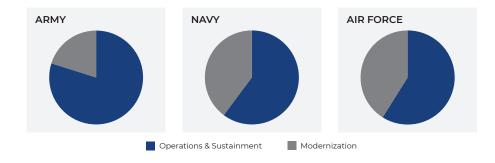
Defense (OSD). Examples include the Defense Logistics Agency, the Chemical and Biological Defense Program and the Defense Health Program. But even these shared services are frequently primarily supported by the Army behind the scenes. For example, the Chemical and Biological Defense program conducts research and acquisition activities on vaccines, protective equipment and other defensive measures. The program was central to Operation Warp Speed and the development of the COVID vaccine. It reports to OSD (the Under Secretary of Defense for Acquisition and Sustainment) and has an oversight office of OSD employees, but the majority of the program is executed through an Army executive agent relationship.

These requirements constitute a fixed cost of Army forces. The Army is required to provide these shared services, regardless of its endstrength; thus, when its forces are cut, it must take the cuts from its direct warfighting capability.

Army Operations and Sustainment Funding

This disproportionate burden on Army forces has a significant impact on the budget. O&S funding supports forces, their sustainment and operations. In the FY23 President's Budget submission, these requirements created an O&S funding demand of about \$139 billion, or almost 80 percent of the Army's budget. In other words, operational and readiness demands that are mostly generated externally to the Army consume 80 percent of the Army's budget and leave little room for discretionary activities, such as modernization.

To illustrate the disproportionate burden that O&S requirements place on the Army and the crowding out effect that this has on modernization, the charts below provide the O&S versus modernization breakout for each Military Department.²⁴



In the FY23 budget submission, the Army is allocated about 28 percent of the Military Departments' budget, but it bears 35 percent of the operational burden. This excess burden of O&S compared to budget share is the highest the Army has experienced since 1964, before the start of the Vietnam war.²⁵

And the challenge is worse than these data suggest. In addition to O&S consuming a historically large share of the Army budget, the buying power of this O&S expenditure is declining while demands are increasing. One example is the 12,000 reduction in endstrength in the 2023 budget submission. The proximate cause of this endstrength reduction is the current recruiting crisis, but it continues a trend of increasing operational burden with largely

- 24. These charts include the entire Department of Navy (i.e., Marine Corps is included) for simplicity. Excluding the Marine Corps would not change the chart appreciably. The Air Force chart excludes the pass through for other national security requirements.
- 25. These figures are computed from Office of the Secretary of Defense (Comptroller), National Defense Budget Estimates for FY23 and include all funding for Departments of the Army, Navy and Air Force. Numbers will change slightly depending on adjustments, e.g., exclusion of Air Force pass through, but the overall finding remains the same.

fixed (although now declining) force levels. During budget rollout, DoD leadership stated that they were committed to restoring this endstrength over the next few years. Historic regret from cutting Army forces and not having the forces needed at the start of a war is a recurring theme in U.S. military history. Fixing recruiting shortfalls and restoring the 2023 cuts quickly in the coming years is an important first step in not repeating these past mistakes.

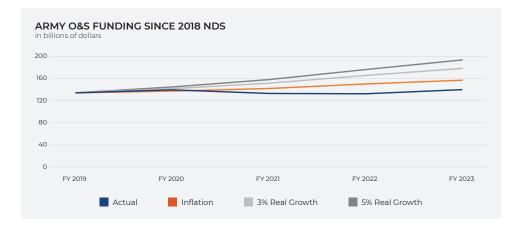
These decisions create a destructive cycle of challenges. The heavy operational burden placed on the Army with declining endstrength comes at the expense of readiness (through competition for forces) and modernization (through competition for resources). Reduced readiness and modernization embolden our adversaries, making war more likely. Lack of preparedness for war increases U.S. casualties and prolongs the duration of wars when they come.

More broadly, DoD does not have an analytic framework for sizing military forces. The Army has one of the highest day-to-day operational demands placed on it, provides a majority of GFMAP requirements and is assigned the largest readiness requirement from the Combatant Command OPLANs as captured in the DRT tables, which provide guidance to the Services on the number of forces that must be maintained at a high degree of readiness for deployment if current OPLANs are activated. It seems unlikely that an analytically based force structure sizing process would recommend that the largest cuts to forces come from the Army, but that is the recommendation in the President's Budget submission. DoD should have an analytically based process for considering force requirements and tradeoffs.

Within DoD, this imbalance is representative of a major disconnect in current DoD management processes between operational planning and budget formulation. Readiness requirements are set by the Joint Staff in the DRT and deployment plans are set in the GFMAP. These processes are disconnected from the budget process. This leads to DRT and GFMAP decisions increasing demands on the Army while the budget process simultaneously cuts Army funding for these activities.

Although the DoD Comptroller makes valiant attempts at corrections late in the budget cycle each year, this effort is ad hoc and is not able to overcome the harm from these disconnected processes. With increasing operational demands and the lowest funded endstrength since WWII, the Army is being stretched to the breaking point. Congress needs a detailed understanding of the operational demands on the Army, the funding requirement to meet these demands, and the risks to readiness and NDS implementation incurred by DoD not funding Army operations to their requirements.

The chart on the following page illustrates the magnitude of these challenges. It provides actual O&S funding along with what the requirement would be to keep up with inflation. It also provides what would be required to support the NDS Commission's recommended 3–5 percent real growth to support the NDS focus on near-peer competitors with forces, posture and training.



Army O&S funding has lost over \$15 billion in buying power from inflation. It is \$35 billion to \$50 billion below what it would have been if the investments recommended by the NDS Commission had been adopted.

Army Modernization: A DoD Leader in Developing New Technologies and Concepts

The 2018 NDS mandate to accelerate modernization to maintain overmatch against rapidly investing near-peer competitors has been the guiding framework across DoD in recent years. While deadly, the terrorist threat was largely asymmetric. The United States was generally operating in a permissive environment against small-scale, technologically limited adversaries. Large, technically advanced states pose a much bigger threat and a requirement for fielding new technology across the force.

The increasing focus on the Pacific drives another layer of modernization requirements. The extreme distances of the Pacific require speed and range from new platforms. The anti-access/area denial (A2/AD) systems that China has heavily invested in require new investments in survivability, communications and logistics. A2/AD also drives changes to concepts and doctrine, including plans for more distributed operations and operating in a degraded environment with limited communications and logistics.

The Army has aggressively responded to this NDS mandate, establishing Army Futures Command in 2018, identifying six modernization priorities, eight cross-functional teams and 35 signature modernization programs. It has also developed new concepts such as Multi-Domain Operations (MDO) and is experimenting with new units such as the Multi-Domain Task Force (MDTF).²⁶ With an ambitious plan to have 24 key systems in the hands of warfighters by 2023, the Army has become a DoD leader in developing and fielding new technologies and concepts.

Modernization Plan

The 2019 Army Modernization Strategy 27 sets the direction for Army investments. The six priorities and some of their key programs are: 28

Long-Range Precision Fires (LRPF), including the Long-Range Hypersonic Weapon (LRHW), Extended-Range Cannon Artillery (ERCA) and Precision-Strike Missile (PrSM).

- Charles McEnany, Multi-Domain Task Forces: A Glimpse at the Army of 2035, Association of the United States Army, Spotlight 22-2, March 2022.
- Department of the Army, 2019 Army Modernization Strategy: Investing in the Future (Washington, DC: HQDA, 2019), https://www.army.mil/e2/downloads/ rv7/2019_army_modernization_ strategy_final.pdf.
- Army Futures Command, "2021 Year in Review," https://armyfuturescommand. com/year-in-review/.

- Air and Missile Defense (AMD), including Maneuver Short-Range Air Defense (M-SHORAD) and Indirect Fire Protection Capability (IFPC).
- Networks, including Unified Network and Common Operating Environment.
- Next-Generation Combat Vehicles (NGCV), including Optionally Manned Fighting Vehicle (OMFV), Robotic Combat Vehicle (RCV), Armored Multi-Purpose Vehicle AMPV) and Mobile Protected Firepower (MPF).
- Future Vertical Lift (FVL), including Future Long-Range Assault Aircraft (FLRAA) and Future Attack and Reconnaissance Aircraft (FARA).
- Soldier Lethality, including Next-Generation Squad Weapon (NGSW), Integrated Visual Augmentation System (IVAS) and the Synthetic Training Environment (STE).

These priorities were developed from the new requirements discussed above. LRPF extends range and penetrates the A2/AD umbrella. AMD defends against the Chinese and Russian advances in missile and air attack. Network investments are about maintaining communication and the flow of data in a degraded environment. These priorities are broadly understood and supported within DoD.

Equally as important for the NDS, in both the Pacific and Europe, are NGCV, FVL and Soldier Lethality. Although the dominant Washington view focuses on achieving its objectives through standoff missile-centric combat, the reality, as currently being demonstrated in Ukraine, is that military victory still requires the ability to close with and finish the enemy.

NGCV programs will allow the Army to deliver increased firepower from more survivable platforms. From OMFV to RCV, they include substantial investment in autonomy and the ability to make first contact with the enemy unmanned to protect the force. FVL is revolutionizing vertical lift, increasing speed, range and survivability to effectively operate against technologically advanced adversaries in the Pacific and Europe.²⁹ Soldier Lethality similarly invests in increasing the effectiveness and survivability of ground forces.

Using these technological advancements in combat requires changes to concepts and operations. The Army has developed the MDO operating concept³⁰ and is experimenting with new units such as MDTF.³¹ MDTFs combine electronic warfare, cyber, space and kinetic weapons to enable operations in A2/AD environments: detecting enemy operations, opening pathways within the A2/AD umbrella for our forces and delivering precision fires. The Army also leads a series of joint force test and experimentation events through its Project Convergence.

Although many challenges remain to fielding all 35 of the Army's signature modernization systems³² (not all of which are discussed in this paper), the progress to date has been remarkable. The Army is testing directed energy weapons on the M-SHORAD platform this year and will field the first hypersonics battery in 2023. Overall, the Army will have 24 of its programs in the hands of warfighters in some manner in 2023, e.g., testing, experimenting or fielding. The Army has established three MDTFs—two in the Indo-Pacific and one in Europe—with plans to create two more.³³

- Congressional Research Service, "Army Future Vertical Lift (FVL) Program,"
 July 2021, https://crsreports.congress. gov/product/pdf/IF/IF11367.
- Congressional Research Service, "Defense Primer: Army Multi-Domain Operations (MDO)," 21 November 2021, https://crsreports.congress.gov/product/ pdf/IF/IF11409.
- 31. McEnany, Multi-Domain Task Forces.
- 32. Jen Judson, "No system under modernization push depends on another, US Army says," *Defense News*, 10 October 2022, https://www.defensenews.com/digital-show-dailies/ausa/2022/10/10/no-system-under-modernization-push-depends-on-another-us-army-claims/.
- Russell K. Shimooka, "Third Multi-Domain Task Force activated for Indo-Pacific duty, U.S. Army, 23 September 2022, https://www.army.mil/ article/260505/third_multi_domain_ task_force_activated_for_indo_ pacific_duty.

Modernization Challenges

One reason for the Army's progress to date has been the consistency of its priorities. Another has been the focus and dedication of senior leaders. However, even with the high level of success thus far, Army modernization faces significant challenges. Loss of momentum on modernization would be a significant blow to maintaining overmatch against China and Russia and would significantly degrade our ability to deter further hostile actions by them.

One major challenge is the "stair step" nature of the required change. All of the Military Departments have challenges with aging legacy equipment, but the rest of DoD engages in more continuous modernization than the Army can. For example, while many of the signature fourth generation aircraft platforms of the 1980s remain in inventory, there has been significant fielding of generation 4.5 and generation 5 aircraft, as well as development of generation 6 aircraft technology.

But as a Center for Strategic and International Studies report described it, "A lost procurement decade and recent, significant modernization funding declines have resulted in an Army inventory that remains heavily leveraged on the "Big Five" programs, originally procured in the 1970s and 1980s." The Army experiences significantly more episodic modernization, something that has historically averaged an occurrence of about every 40 years. There was significant investment in the lead up to World War II (1940), in the Reagan build up (1980) and in the current NDS-driven realignment to near-peer competitors (2020). As with the need for generation 5 and 6 aircraft, the Army has reached the limit of how much new technology can be incorporated into 1980s platforms.

The biggest challenge to Army modernization now is funding. Since the 2018 NDS call for accelerating modernization, Army annual modernization funding has fallen \$4 billion while annual Navy funding increased \$10 billion and Air Force funding grew almost \$20 billion.

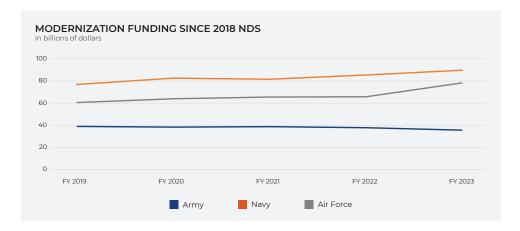
The Army has been able to fund modernization in this declining budget environment to date through its "night court" process. Starting in the FY20 budget cycle, the Army senior leadership engaged in an aggressive realignment of the budget to the NDS. In that cycle, the Army realigned about \$5 billion per year (FY20 to FY24) from lower priority programs to NDS modernization needs. The Army repeated this process in the FY21 and FY22 budget cycles, realigning another \$5 billion per year in total.

But the Army's ability to self-fund modernization from a declining budget is diminishing. As programs begin to transition from their research and development stage to procurement, their costs will increase significantly. And there are few low-priority programs remaining within the Army budget that can be used as offsets for modernization procurement requirements. The next few appropriation cycles will be key decision points impacting Army modernization momentum.

Modernization Funding

With O&S demands consuming 80 percent of the Army budget, funding available for modernization is significantly constrained. And, with increasing

O&S demands and a declining top-line, the crowding out of modernization spending for the Army is getting worse. The chart below provides the trend in modernization funding for the Military Departments.³⁴



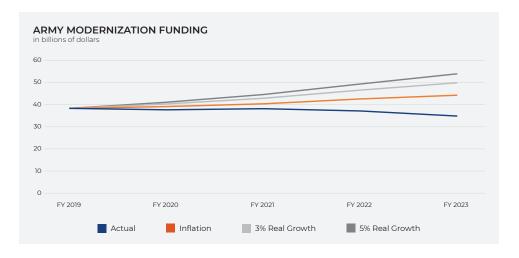
Although Navy modernization funding has grown about \$13 billion and the Air Force has grown almost \$20 billion since the 2018 NDS, no Military Department has achieved 3–5 percent real growth.³⁵ Overall, the Navy and Air Force have each been allocated almost twice as much modernization funding as the Army since the release of the NDS.³⁶

This is not meant to diminish Navy and Air Force funding. As stated above, many of the programs supported with the increased funding—such as nuclear modernization and space investments—are important NDS investments. But it does illustrate the highly skewed interpretation of the NDS currently prevailing in Washington.

As discussed above in "Army Forces: Central to DoD Operations in War and Peace," this skewed interpretation of the NDS is the most extreme it has been since World War II. From FY48 to FY23, the Army averaged 31 percent of the budget allocated to the Military Departments, shouldered 38 percent of the O&S burden, and received 19 percent of modernization funding.³⁷ It also provided over 50 percent of servicemembers during the major wars in this time period, provided over 60 percent of deployed forces and suffered about 70 percent of all servicemember fatalities. In the FY23 budget submission, the Army is allocated 28 percent of the budget, but is tasked with 35 percent of the operational burden and is given only 15 percent of Military Department modernization funding. These are the largest disconnects since the late 1950s.

Delaying the next war and, when it does occur, minimizing its scope and casualties, requires a ready, modernized Army with ready forces. The chart on the following page provides the actual trend since the 2018 NDS of Army modernization funding, along with what funding would have been if it had kept pace with inflation or received the 3–5 percent real growth called for by the NDS Commission.

- 34. Navy funding is provided for the Department of the Navy (i.e., it includes the Marine Corps). Air Funding is provided for the Department of the Air Force excluding pass through funding for other requirements.
- 35. These changes are for the Department of the Navy and Department of the Air Force (excluding the pass through amount). In particular, the Air Force change includes both the Air Force service and Space Force. The Space Force had not yet been established when the National Defense Strategy (NDS) was released. Space modernization funding was predominantly included in the Air Force budget. Most of the growth for Department of the Air Force modernization funding since the release of the NDS has been for the Space Force.
- 36. Office of the Secretary of Defense (Comptroller), National Defense Budget Estimates for FY23. From 2019 to the 2023 President's Budget submission, Army modernization has been allocated about \$200 billion compared to \$350 billion each for the Navy and the Air Force. Removes Marine Corps from Department of the Navy and removes pass through from Air Force.
- 37. This chart includes both Navy and Marine Corps in the Department of the Navy and includes the pass through funding in the Air Force budget. It excludes Defense-Wide funding.



The table below provides the FY23 budget increase that would be required to fully fund modernization and O&S for inflation, three percent real growth and five percent real growth.

	eal Growth 5% 14.9B	Real Growth \$18.9B
.4B \$	14.9B	\$18.9B
		Ψ.υ.υΔ
.4B \$3	34.7B	\$48.6B
.7B \$4	49.6B	\$67.5B
	·	• •

The Army has absorbed this buying power loss in modernization funding to date by taking risks within its budget. Its ability to continue doing so is diminishing. The Army will require significant and sustained increases in funding to complete its modernization plan.

Ukraine and Taiwan: Implications for the Necessity of Army Funding

Russia's large-scale war in Ukraine, beginning in February 2022, has provided a real-world backdrop to this debate over strategy and budget priorities. Army Chief of Staff General James McConville has emphasized the need for the Army to draw the right lessons from the war, comparing it to the Army's careful study of the 1973 Yom Kippur War to inform its modernization throughout the 1980s. This paper does not aim to draw definitive conclusions from the war in Ukraine, whose end date and outcome are still undetermined. However, it is essential to recognize that broad initial observations from the war align with the data presented in this paper and underscore the risk of underfunding the Army—most acutely for Taiwan, DoD's pacing threat.

When the current dominant view among defense planners that technological advances are making all-domain conflict less likely is applied to Taiwan, the focus becomes denying an amphibious landing through a missile exchange over the Taiwan Strait while discounting follow-on activities such as countering a landing in Taiwan, restoring Taiwanese sovereignty and forcing war termination. To deny a successful amphibious invasion, this view assumes mobilization of our forces and potential military attacks on Chinese forces before a full invasion of Taiwan would even begin. It even

considers, if necessary, attacking military targets on the Chinese mainland. There are few constraints on what military targets U.S. forces could strike and little consideration for what timelines it would take the political process to approve such military action against a nuclear power.

Though not identical contingencies, what we see today in Ukraine raises significant concerns over this planning for Taiwan. The breakout of a ground war in Europe is a reminder that all-domain combat remains the norm and provides evidence that combat-credible land forces remain vital to deterring and defeating aggression. Moreover, the weapons driving the outcomes in Ukraine—artillery,³⁸ infantry, armor and antitank and air missiles—are some of the Pentagon's lowest modernization priorities. Despite predictions to the contrary, military victory still requires closing with and finishing the enemy.

But the lessons run much deeper. U.S. intelligence indicated a Russian invasion was likely long before they actually launched their February 2022 attack, but there was little domestic or allied support for directly involving U.S. or NATO troops in Ukraine. In the lead-up to and after the invasion occurred, Washington explicitly ruled out sending troops to defend Ukraine—in large part due to Russia's nuclear arsenal—and instead chose to respond with economic sanctions and military aid. Though the United States has historically held a strong commitment to Taiwan's defense, it is essential to note the similar deterrent effect that China's nuclear arsenal may have on U.S. policymakers in a crisis scenario that would require Washington to decide whether to intervene militarily on Taiwan's behalf, particularly in the early stages of conflict escalation, when allies may disagree on intelligence warnings and China's ultimate intentions.

As a result, galvanizing American and international support for the defense of Taiwan may take time once a conflict starts.³⁹ We are unlikely to conduct a military attack against the forces and the homeland of a nuclear power before an invasion has occurred, and a quick U.S. response could be further complicated by the absence of an existing Authorization for the Use of Military Force.⁴⁰ If the United States does engage militarily,⁴¹ it will likely be an all-domain conflict, and the Army may be tasked with restoring Taiwanese territorial integrity with ground forces to prevent a *fait accompli*. Discounting these constraints and taking risks against the forces and capabilities required to engage in the combat more likely to occur makes the loss of Taiwan more likely, not less likely.

Taking risk against all-domain conflict also increases our risk beyond Taiwan. Taiwan is only one of China's expansionist objectives and China is only one U.S. potential adversary. China is engaging throughout Asia, attempting to divide countries and coerce them into China's sphere of influence. Reducing the Army's capacity to engage in the region signals that we are not committed and that we are unwilling to meet our allies and potential allies on their own ground.

Threats to U.S. national security are not limited to China in the Pacific. The outbreak of a war in the heart of Europe—unthinkable less than two years ago—is a stark testament to the volatility of the current strategic environment. A military force unable to sustain operations in Europe would reward Russian aggression while a diminished military deterrent against regional threats reduces our ability to contain countries such as Iran and North Korea. Despite a war going on in Europe in which the key assets are modernized

- 38. Jack Watling and Nick Reynolds, "Operation Z: The death Throes of an Imperial Delusion," Royal United Services Institute for Defence and Security Studies (RUSI), 22 April 2022, https://static.rusi.org/special-report-202204-operation-zweb.pdf.
- Carol E. Lee, "U.S. should prepare for drawn-out conflict if China invades Taiwan, war game suggests," NBC News, 12 May 2022, https://www-nbcnews-com. cdn.ampproject.org/c/s/www.nbcnews. com/news/amp/rcna28580.
- Elaine Luria, "Congress must untie Biden's hands on Taiwan," Washington Post, 11 October 2021, https://www.washingtonpost.com/opinions/2021/10/11/ elaine-luria-congress-biden-taiwan/.
- 41. Brett Samuels, Morgan Chalfant and Amie Parnes, "Biden showing little strategic ambiguity when it comes to Taiwan," *The Hill*, 23 May 2022, https://thehill.com/news/administration/3498532-biden-showing-little-strategic-ambiguity-when-it-comes-to-taiwan.

weapons of ground combat, the United States is making this its lowest funding priority.

Another lesson from history is that when we think we know exactly where the next war will be and how it will play out, we usually find out we were mistaken. As former Chairman of the Joint Chiefs of Staff Joe Dunford said, "I like to remind people who have a high level of confidence in assumptions on when, where, and how we will fight the next fight . . . that the Korean War took place right after some of the best strategists that we've ever produced as a nation decided to rebalance to Europe."

Many of the analyses currently being performed have inadequately considered the range of possibilities of how a fight with China over Taiwan may play out—and how the U.S. military may be tasked with responding if current conventional thinking on where and how the United States' next war will occur is incorrect. Two key questions that the analytic community should examine are:

- If China does invade Taiwan and the assumptions underlying the budget are wrong, how would we mitigate the consequences, and what forces would be needed? For example, how would the United States help protect Taiwan if we assume politically realistic and historically normal mobilization timelines, if we are unwilling to aggressively strike the homeland of a nuclear power and if our response requires working with partners and allies to dispel forces on Taiwan?
- How robust are the prioritization decisions in the defense budget if the
 next war is not a Chinese invasion of Taiwan? The 2018 and 2022 NDS
 documents recognized that the re-emergence of large, technologically
 advanced near-peer competitors is making the national security environment more dangerous. How well does the defense budget support
 preparedness to counter threats beyond a Chinese invasion of Taiwan—
 including North Korea, Europe and the Middle East?

Findings and Recommendations

Three key findings emerge from this review of the strategic environment, budget, Army forces and modernization:

Finding One: Historically and in the present, Army forces have been central to DoD operations in wartime and peacetime. However, they may become stretched to the breaking point as the Army is being cut to its smallest funded level since before World War II.

Above all, an analysis of major U.S. conflicts over the past 80 years makes it abundantly clear that, when the United States goes to war, the Army plays the predominant role in combat. From World War II through Korea, Vietnam and the wars in Iraq and Afghanistan, the Army averaged about 50 percent of serving forces, provided about 60 percent of deployments and averaged about 70 percent of wartime fatalities. This trend has held across Europe, the Middle East and even the Pacific, which is often characterized as an air and maritime-centric domain.

But the Army does much more than fight; it is the backbone of the joint force, enabling military operations through its multitude of executive agent

Dunford, "Remarks to the Association of the U.S. Army (AUSA)."

functions that often go unnoticed. Former Chairman of the Joint Chiefs of Staff Joe Dunford referred to the Army as the "linchpin" for combat operations, stating, "I use that word—linchpin—deliberately, because the Army literally has been the force that has held together the joint force with critical command-and-control capabilities, critical logistics capabilities, and other enablers," such as base defense, transportation and engineering.

What is less widely recognized is that this is also frequently true during peacetime. As the Secretary of the Army recently stated, "The Army is campaigning out in the world every single day." Although constituted by less than 50 percent of the total force, in the face of the key events of the past two years, the Army has provided: 75 percent of the U.S. joint force support to Ukraine; 80 percent of the COVID National Guard response; 80 percent of domestic border security support; two-thirds of the Joint Staff's directed readiness requirements; and over half of the Combatant Commands' global requirements. These demands are occurring and being met in an environment of declining Army endstrength.

Despite these growing pressures, the 2023 President's Budget submission shrinks the Army to its smallest funded level since 1940, exacerbated in part by one of the most significant recruiting crises since the start of the all-volunteer force. The historical data of the Army's central role in combat operations, paired with the service's increasing share of contributions to peacetime demands, make it clear that these cuts are not sustainable and that they are not aligned with the NDS.

Finding Two: The Army has become a DoD leader in developing new technologies and concepts and, to date, has self-funded these advances from a shrinking budget. Army modernization is now at risk because of its low priority in the defense budget.

The outsized operational demands detailed in this paper's historical and contemporary data analyses have significant implications for the Army's force levels, readiness and modernization. Almost 80 percent of the Army budget is consumed by these largely fixed operations and sustainment (O&S) costs, leaving significantly less flexibility to fund modernization activities, which recent record inflation has only exacerbated. In comparison, the U.S. Navy and Air Force average less than 60 percent of their budgets consumed by O&S activities, allowing them to devote significantly more resources to their necessary modernization.

However, recent defense budgets have inadequately balanced this modernization funding disparity across the services. Since the 2018 NDS's call for accelerated modernization to maintain overmatch, annual Army modernization funding has fallen by \$4 billion, annual Navy funding increased by \$10 billion and Air Force funding grew by almost \$20 billion between FY19 and FY23. These Navy and Air Force investments are undoubtedly vital to the joint force's ability to prevail in a future conflict. But the benefits of investments in Navy and Air Force modernization can only be maximized if paired with sufficient investments in the Army's modernization, and vice versa, to achieve the synergistic effects of the joint force. Much of future warfare is unclear, but it is a safe bet that there are not solely land solutions, maritime solutions, or air solutions to overmatch an adversary like China; there are only *joint* solutions.

^{43. &}quot;Extra US Troops Staying in Europe for Now," https://www.ausa.org/news/extra-us-troops-staying-europe-now.

Despite these challenges, the Army is already beginning to demonstrate the capabilities that it can provide to the joint force if sufficiently funded. The Army has maintained an extremely consistent and disciplined modernization plan. After years of self-funding its modernization by trimming lower priority capabilities, the Army is testing directed energy weapons this year, will field the first U.S. hypersonic weapon battery next year and is leading the world in advancing capabilities in vertical lift, armored vehicles, artillery and small arms. While these are promising initial successes, this self-funding approach has limits and requires sufficient investment.

Finding Three: Initial observations of the war in Ukraine support the historical data that the next war, even if it occurs in Taiwan, will likely be an all-domain conflict, with ground forces playing their traditional central role.

Russia's February 2022 invasion of Ukraine—the largest conventional war in Europe since World War II—is providing actual, real-world, data and experience for this debate over strategy and budget priorities. Definitive conclusions of such a rapidly changing conflict in its eleventh month are premature, as the outcome and end date are undetermined. However, several observations underscore the validity of the historical data presented in this paper and the risk of underfunding Army modernization.

First, the outbreak of such a conflict in the heart of Europe is a testament to the difficulties in predicting with certainty where the United States' next fight may occur. The United States, as a global power, cannot accept excessive risk in other vital regions of the world even as it paces for China.

Second, many of the critical drivers of the war for its first nine months—such as long-range fires, U.S. security force assistance, resilient communications, logistics and air and missile defense—are top priorities in the Army's modernization strategy.

Third, the war is a stark reminder of the relevance of land forces, and it offers indications that current assumptions suggesting that the Army would have a minimal role in Taiwan should a conflict arise there with China are likely incorrect. Ukraine reminds us, first, that achieving the political aim of controlling foreign territory is difficult to accomplish without the employment of ground forces and, second, that the current predictions guiding the budget, i.e., that the next war will primarily be a missile exchange, have been made before and have been wrong. This observation partly explains why Russia decided to undertake such a risky operation and applies to potential Chinese aggression against Taiwan.

Additionally, despite the deterrent effect of Russian nuclear weapons on U.S. policy in Ukraine, current thinking assumes that the United States would attack Chinese military targets—potentially even on the mainland of a nuclear power—as an invasion begins, or even *before* it begins. This would be further complicated by the absence of an existing Authorization for the Use of Military Force. With a delayed U.S. response potentially allowing China to gain a hold on Taiwan, the Army may subsequently be tasked with restoring Taiwanese territorial integrity with ground forces to prevent a *fait accompli*.

Land warfare has been and continues to be paramount to conflict, but the Army's modernization funding drastically falls behind other services. These

findings lead to three key recommendations for Congress as it completes the 2023 budget and begins to prepare for the 2024 authorization and appropriation cycle.

Recommendation One: Congress should prioritize Army modernization funding.

To faithfully execute the NDS and prepare for the next war, the United States must invest in forces and modernization in all domains. Historical data and current observations from Ukraine indicate that continuing the investment pattern of recent defense budgets will increase the likelihood of the United States' next war and will cost American lives. The Army requires significantly increased investment from 2024 to 2030 to modernize and maintain overmatch against near-peer competitors. These resources cannot continue to come from realignment within the Army's existing budget; the Army's ability to continue self-funding modernization is diminishing.

Recommendation Two: Congress should ensure that Army forces return to a sustainable level as recruiting recovers.

Cutting the Army to its lowest funded level since before World War II with no decrease in demand is not sustainable. The direct cause of this reduction has been the current recruiting crisis. As recruiting recovers, Congress should not repeat the mistake of drastically cutting Army endstrength; this has been the historical pattern between U.S. wars. Instead, Congress should direct a plan for how DoD intends to restore Army forces to the levels required to execute the NDS as quickly as possible. Congress should also direct DoD to develop an analytic framework for force structure sizing so that Congress has a mechanism for evaluating force trade-offs. Given current and projected mission demands, it is unlikely that an analytically based approach to force structure sizing would lead to significant Army force cuts.

Recommendation Three: Congress and DoD should ensure that its funding and operations adequately account for the relevancy of land forces in future contingencies, including Taiwan, as demonstrated in the historical data of U.S. wars.

Although the prediction guiding recent budgets is that all-domain conflict is becoming less likely, history and current observations in Ukraine indicate that land forces will play a significant role in this potential fight. Congress and DoD have many options to leverage the Army to bolster deterrence now, for example, by exploring opportunities for basing U.S. forces on Taiwan; promoting greater engagement among Taiwanese forces, the Army's Indo-Pacific Security Force Assistance Brigade and the National Guard's State Partnership Program; and stockpiling key logistics capabilities on Taiwan before a conflict. Congress should direct an assessment of what would happen in a Taiwan-China conflict if the predictions driving the defense budget were wrong, what actions can be taken now to mitigate these consequences, and what forces would be needed.

Congress and DoD must also keep in mind that Taiwan is just one potential contingency in one region. Thereby, Congress should direct an assessment of threats beyond a Chinese invasion of Taiwan—including North Korea, Europe and the Middle East—and how the defense budget supports

preparedness to counter these other threats. Congress needs a detailed understanding of the risks being incurred by recent defense budgets. No matter where the United States' next fight occurs, history shows that it is likely to be an all-domain conflict where the Army plays a central role. Building an overly specialized force for a single scenario leaves the United States less prepared to overmatch adversaries anywhere in the world. The United States will go to the next war with the Army it has built at the time; it must be an Army that can win that war while protecting its Soldiers.



John E. Whitley served as the acting Secretary of the Army. Prior to that, he was the Assistant Secretary of the Army for Financial Management and Comptroller and the acting Director of Cost Assessment and Program Evaluation. In prior government service, John worked in the Departments of Defense and Homeland Security and in the U.S. Senate. Outside of government, he has worked at federally funded research institutions and in academia. He has a PhD and an MA in economics from the University of Chicago and he has undergraduate degrees from Virginia Tech. He lives in Alexandria, Virginia, with his wife and children.

Data Appendix

2023 President's Budget Submission

Active Duty End Strength: Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, "United States Department of Defense Fiscal Year 2023 Budget Request," March 2022, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY2023_Budget_Request.pdf, 6.

Total End Strength (Active, Guard, Reserve): Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, "United States Department of Defense Fiscal Year 2023 Budget Request," March 2022, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY2023_Budget_Request.pdf, 6.

Wartime Operations

World War II Number Serving (Army Number Excludes Army Air Forces): Defense Manpower Data Center (DMDC) Defense Casualty Analysis System, "U.S. Military Casualties: Principal Wars 1775 – 1991," https://dcas.dmdc.osd.mil/dcas/app/summaryData/casualties/principalWars.

World War II Number Deployed (Navy Number Includes Marines)

- Army contribution excludes Air Corps and is from Army Service Forces, "Statistical Review, World War II," 1946, 121–124.
- Navy and Marine Corps contribution from "US Navy Personnel in World War II," Naval History and Heritage Command, 27 July 2020, https://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/u/us-navy-personnel-in-world-war-ii-service-and-casualty-statistics.html#:^:text=Total%20of%203%2C546%2C179%20persons%20entered%20the%20Naval%20Service%20during%20World%20War%20II.&text=6.,probability%20were%20exposed%20to%20combat.
- Air Force contribution (Air Corps was part of Army during World War II) is from Army Service Forces, "Statistical Review, World War II," 1946, 121–124.

World War II Battle Deaths - Europe:

- Army and Air Force (Army Air Corps) number is from Department of the Army, "Army Battle Casualties and Nonbattle Deaths in World War II," 31 December 1946, 76–78, https://www.ibiblio.org/hyperwar/USA/ref/ Casualties/Casualties-1.html.
- Navy and Marine Corps number is from "US Navy Personnel in World War II," Naval History and Heritage Command, 27 July 2020, https://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/u/us-navy-personnel-in-world-war-ii-service-and-casualty-statistics.html#:":text=Total%20of%203%2C546%2C179%20persons%20entered%20the%20Naval%20Service%20during%20World%20War%20II.&text=6.,probability%20were%20exposed%20to%20combat.

World War II Battle Deaths - Pacific:

- Army and Air Force (Army Air Corps) number is from Department of the Army, "Army Battle Casualties and Nonbattle Deaths in World War II," 31 December 1946, https://www.ibiblio.org/hyperwar/USA/ref/Casualties/ Casualties-1.html, 76–78.
- Navy and Marine Corps number is from "US Navy Personnel in World War II," *Naval History and Heritage Command*, 27 July 2020, https://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/u/us-navy-personnel-in-world-war-ii-service-and-casualty-statistics.html#:":text=Total%20of%203%2C546%2C179%20persons%20 entered%20the%20Naval%20Service%20during%20World%20War%20 II.&text=6.,probability%20were%20exposed%20to%20combat.

Korea Number Serving: Defense Manpower Data Center (DMDC) Defense Casualty Analysis System, "U.S. Military Casualties: Principal Wars 1775—1991," https://dcas.dmdc.osd.mil/dcas/app/summaryData/casualties/principalWars.

Korea Number Deployed: Defense Manpower Data Center (DMDC), "Korean War – Casualty Summary," 16 May 2008, http://www.koreanwar-educator.org/topics/casualties/pdfs/korea.pdf.

Korea Total Deaths: Defense Manpower Data Center (DMDC) Defense Casualty Analysis System, "U.S. Military Casualties: Principal Wars 1775—1991," https://dcas.dmdc.osd.mil/dcas/app/summaryData/casualties/principalWars.

Vietnam Number Serving: Defense Manpower Data Center (DMDC) Defense Casualty Analysis System, "U.S. Military Casualties: Principal Wars 1775–1991," https://dcas.dmdc.osd.mil/dcas/app/summaryData/casualties/principalWars.

Vietnam Number Deployed: "Vietnam War Statistics," *Vietnam Veterans of America*, https://www.vva310.org/vietnam-war-statistics.

Vietnam Total Deaths: Defense Manpower Data Center (DMDC) Defense Casualty Analysis System, "U.S. Military Casualties: Principal Wars 1775–1991," https://dcas.dmdc.osd.mil/dcas/app/summaryData/casualties/principalWars.

Deployments to Named Contingencies, Active Component (Total Troop Years, 2001–2015): Jennie W. Wegner, Caolionn O'Connell, and Linda Cottrell, "Examination of Recent Deployment Experience Across the Services and Components," *RAND*, 2018, https://www.rand.org/pubs/research_reports/RR1928.html, 9.

Deployments to Named Contingencies, All Components (Total Troop Years, 2001–2015): Jennie W. Wegner, Caolionn O'Connell and Linda Cottrell, "Examination of Recent Deployment Experience Across the Services and Components," *RAND*, 2018, https://www.rand.org/pubs/research_reports/RR1928.html, 10.

Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) Fatalities (Hostile and Non-Hostile):

OEF: Defense Manpower Data Center (DMDC) Defense Casualty Analysis System, "U.S. Military Casualties: Operation Enduring Freedom (OEF)

- Casualty Summary by Casualty Category," 24 June 2022, https://dcas.dmdc.osd.mil/dcas/app/conflictCasualties/oef/byCategory. .
- OIF: Defense Manpower Data Center (DMDC) Defense Casualty Analysis System, "U.S. Military Casualties: Operation Iraqi Freedom (OIF) Casualty Summary by Casualty Category," 24 June 2022, https://dcas.dmdc.osd. mil/dcas/app/conflictCasualties/oif/byCategory.

Day-to-Day Defense Operations

2022 Ukraine Conflict Deployments: Number calculated from Meghann Myers, "Navy electronic attack aircraft heading to Germany amid Ukraine war," *Army Times*, 28 March 2022, https://www.armytimes.com/news/pentagon-congress/2022/03/28/navy-electronic-attack-aircraft-heading-togermany-amid-ukraine-war/.

September 2020 COVID National Guard Support: Jim Garamone, "Guardsmen Serve Throughout Nation, World," *DOD News*, 14 September 2020, https://www.defense.gov/News/News-Stories/Article/Article/2347443/guardsmen-serve-throughout-nation-world/.

2021 COVID National Guard Support:

- Army National Guard contribution from Todd South, "Natural disasters, deployments, COVID-19 and modernization: An update from the Guard," *Defense News*, 12 October 2021, https://www.defensenews.com/news/2021/10/12/natural-disasters-deployments-covid-19-and-modernization-an-update-from-the-guard/.
- Total National Guard contribution from Master Sgt. Amber Monio, "National Guard winds down COVID-19 support, remains ready," *National Guard Bureau*, 8 April 2022, https://www.nationalguard.mil/News/ Article/2994874/national-guard-winds-down-covid-19-support-remains-ready/.

US Northern Command COVID Support (August 2021–March 2022): U.S. Army North, "Fact Sheet: U.S. Army North COVID-19 Hospital Support from August 2021 to March 2022," 29 March 2022.

2021 Inauguration Security:

- Army National Guard contribution from Todd South, "Natural disasters, deployments, COVID-19 and modernization: An update from the Guard," *Defense News*, 12 October 2021, https://www.defensenews.com/news/2021/10/12/natural-disasters-deployments-covid-19-and-modernization-an-update-from-the-guard/.
- Total National Guard contribution from Howard Altman, "26,000 National Guard troops came to DC and protected the inauguration without incident. Now the drawdown begins," *Military Times*, 21 January 2021, https://www.militarytimes.com/news/your-military/2021/01/21/26000national-guard-troops-came-to-dc-to-protect-the-inauguration-now-thedrawdown-begins/.

Border Security (2021):

 Army National Guard contribution from Todd South, "Natural disasters, deployments, COVID-19 and modernization: An update from the Guard," *Defense News*, 12 October 2021, https://www.defensenews.com/news/2021/10/12/natural-disasters-deployments-covid-19-and-modernization-an-update-from-the-guard/.

 Total National Guard contribution from Rose L. Thayer, "Deployment of US troops along US-Mexico border will stretch into a fourth year, Pentagon announces," Stars and Stripes, 6 July 2021, https://www.stripes.com/ theaters/us/2021-07-06/us-mexico-border-troops-immigration-crisis-2071343.html.

Response to attack on U.S. Embassy Baghdad (December 2019–January 2020):

- Army contribution calculated by summing data from Kathleen J. McInnis, "The 2019–2020 Iran Crisis and U.S. Military Deployments," Congressional Research Service, 9 January 2020, https://sgp.fas.org/crs/natsec/IF11403.pdf and Kyle Rempfer, "Ranger contingent deploys to Mideast," Army Times, 5 January 2020, https://www.armytimes.com/news/your-army/2020/01/05/ranger-contingent-deploys-to-mideast/, which provided approximate number of Army Rangers deployed.
- Air Force contribution from Kathleen J. McInnis, "The 2019–2020 Iran Crisis and U.S. Military Deployments," *Congressional Research Service*, 9 January 2020, https://sgp.fas.org/crs/natsec/IF11403.pdf.
- Marine Corps contribution from Sam LaGrone, "Bataan ARG, 26 MEU Now Operating in the Middle East," *USNI News*, 13 January 2020, https://news.usni.org/2020/01/13/bataan-arg-26-meu-now-operating-in-the-middle-east.

Posture

All posture data from Defense Manpower Data Center (DMDC), "Military and Civilian Personnel by Service/Agency by State/Country, December 2021, https://dwp.dmdc.osd.mil/dwp/app/dod-data-reports/workforce-reports.

Note: Data does not reflect temporary deployments to each Area of Responsibility. As most U.S. military deployments to U.S. Africa Command (AFRICOM) are not permanent changes of station, the figure provided by DMDC significantly undercounts U.S. Army deployments to Africa. Examples of the Army's significant contributions to AFRICOM deployments include:

- Steve Beynon, "1,000 National Guard Soldiers to Deploy to Africa as Mid East Wars Wind Down," *Military.com*, 29 November 2021, https://www.military.com/daily-news/2021/11/29/1000-national-guard-soldiers-deployafrica-mid-east-wars-wind-down.html#:":text=Day%20Restaurant%20 Discounts-,1%2C000%20National%20Guard%20Soldiers%20to%20 Deploy%20to,Mid%20East%20Wars%20Wind%20Down&text=The%20 Virginia%20and%20Kentucky%20National,away%20from%20the%20 Middle%20East.
- Christopher Keating, "Nearly 600 Connecticut National Guard troops headed to Africa in global war on terrorism; largest deployment since 2009," Hartford Courant, 10 March 2021, https://www.courant.com/

- politics/hc-br-national-guard-deployment-bradley-20210311-yv7 zoiullvhg5ibknczjw7s4wa-story.html.
- Sgt. 1st Class Whitney Hughes, "National Guard Soldiers provide security, partnerships in Horn of Africa," *National Guard Bureau*, 29 December 2021, https://www.nationalguard.mil/News/Article/2885279/nationalguard-soldiers-provide-security-partnerships-in-horn-of-africa/.