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Alternative Defense Strategies in a Cost-Capped Environment

A Report of the CSIS International Security Program

PRINCIPAL AUTHORS
Mark Cancian
Clark Murdock

CONTRIBUTING AUTHOR
Ryan Crotty

RESEARCH SUPPORT
Angela Weaver
Chris Sallarulo

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Center for Strategic & International Studies
1616 Rhode Island Avenue, NW
Washington, DC 20036
202-887-0200 | www.csis.org

Rowman & Littlefield
4501 Forbes Boulevard
Lanham, MD 20706
301-459-3366 | www.rowman.com

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| Executive Summary

We hope this study is unnecessary. It examines different force structures, modernization programs, and readiness levels under the budget caps established by the Budget Control Act (BCA) of 2011. The administration, the Congress, and many outside commentators (including the authors of this study) believe that the cuts required to meet these BCA/sequestration caps[i] would increase risks in future conflicts, and require tradeoffs among national security goals. Although the recent two-year budget deal mitigates the near-term effects of BCA/sequestration caps, these caps would return in FY 2018 absent further action and continue until FY 2021. Further, cost caps are likely to continue in some form, so the Department of Defense (DoD) will need to continue making budget tradeoffs. Therefore, it is only prudent to examine, as this study does, DoD's strategic options in a cost-capped environment.

The *Alternative Defense Strategies in a Cost-Capped Environment* study identified five alternative strategies and used CSIS's Force Cost Calculator to build the cost-capped force structure, modernization, and readiness profile optimized for each strategy. In addition to assessing the strengths and weaknesses of each defense strategy, this study stress-tested each strategy against four sets of simultaneous scenarios in an unclassified tabletop exercise. The study explored potential ways that the fiscal pressure forcing strategic tradeoffs might be mitigated. The study concluded by making recommendations for the FY 2017 defense budget and the next Quadrennial Defense Review (QDR).

Study Approach

The first task was to identify the current (or baseline) strategy, which the CSIS study team called Global Engagement. This was defined as the 2014 QDR strategy, as implicitly modified by DoD to adapt to events unforeseen when the strategy was established in early 2014. These events were primarily Russian aggression in Eastern Europe, the rise of the Islamic State in Iraq and the Levant (ISIL), and the collapse of Yemen as the sectarian conflict between Sunnis and Shias worsened significantly. After several iterations, including two sessions with its working group of governmental, CSIS, and external experts, the study team settled on the roster of alternative defense strategies presented below, along with their underlying rationales.

[ii] Technically, the BCA caps set future budget levels. Sequestration is an action that would happen in the budget year if appropriations were higher than the caps. However, BCA budget levels are popularly known as "sequestration" levels, so this study uses "BCA/sequestration" levels to avoid confusion.

Global Engagement

- This is a cost-capped version of the current strategy. Like the strategies of previous administrations, particularly President Clinton's, this strategy seeks to shape the security environment and to provide order and stability by relying on U.S. global presence and engagement.

Asia-Pacific Engagement

- The rise of China is the most significant geopolitical challenge today, which U.S. strategy seeks to manage and counter through regional partnerships, robust forward presence (particularly maritime), and targeted capabilities development. At the same time, the threat from North Korea must be contained.

Europe Engagement

- Russia poses the greatest near- to medium-term threat, and its anti-American belligerence must be countered by U.S. presence, engagement, and deterrence in Europe.

Combating Islamic Extremists

- The regional threat posed by the newly established Islamic caliphate and the continuing threat of mass casualty attacks on the U.S. homeland necessitate a strategy focused on rolling back ISIL, eliminating terrorist sanctuaries in the region, and attacking terrorist leadership structures globally.

Great Power Competition

- Intensified rivalries with China and Russia are the centers of gravity for the United States. This requires the United States to pull back from its global engagement posture and rely on limited forward presence to prevent "easy wins" on these adversaries' peripheries, on rapid surge capability to counter regional adventurism, on the pursuit of high-tech capabilities to sustain the U.S. qualitative edge against peer competitors, and on nuclear deterrence forces.

Using the CSIS Force Cost Calculator, first developed for the 2013 CSIS study *Building the 2021 Affordable Military*[1], the CSIS study team converted the missions and functions of each strategy into a force structure, modernization program, and readiness level that was capped at the BCA/sequestration level.

To understand demand, the CSIS study team began by analyzing the 2023 security environment and identifying both the threats (that is, specific actors such as China and Islamic extremists) and changes in the character of warfare (from precisions munitions to game-changing technologies) that would affect the kinds of military capabilities needed to cope with 2023 challenges. Based on this analysis, the CSIS team developed a list of scenarios, some of which the national security community has considered in the past but others of which were new, reflecting the rapidly changing security environment. This is the list of scenarios:

- Korea Major Combat Operation (MCO) (North attacks)
- North Korea (nuclear crisis)
- Iran MCO (closes Strait of Hormuz)
- Iran MCO (denuclearization)

- China MCO (Taiwan Strait)
- Russia MCO (strike at Riga)
- China (seizes Spratly/other islands)
- Russia Lesser Conflict (hybrid warfare)
- Islamic Extremists (ISIL breakout)
- Stabilization campaigns, long and short
- Homeland Security: Terrorist Conventional Attack (9/11 2.0)
- Homeland Security: Extreme Natural Disaster
- Homeland Security: Terrorist Nuclear Attack

Each scenario included assumptions about warning, allies/coalitions, length of conflict, use of weapons of mass destruction (WMD), and campaign structure. The CSIS study team then estimated the forces (air, ground, maritime, space, and, where appropriate, nuclear) required to meet the scenario demands. This was done based on historical experience and prior estimates either at CSIS or in the community. The CSIS team also identified the military capabilities and capacities needed to address day-to-day operational demand (e.g., overseas presence, crisis response, peacekeeping, and counterterrorism).

These conflict scenarios and day-to-day operational requirements were then combined into different sets or stacks of simultaneous demand that could be used to test the alternative defense strategies (and their associated cost-capped militaries). After several iterations, including with the participants in the tabletop exercise (TTX), the final version of the simultaneity sets is shown in Table 1.

Table 1: Final Simultaneity Sets

Set 1	**Set 2**	**Set 3**	**Set 4**
MCO (China-Taiwan)	MCO (China-Taiwan)	MCO (Russia)	MCO (Korea)
MCO (Korea)	MCO (Russia)	MCO (Iran: Degrade nuclear capabilities)	Long stabilization
Homeland Security (HLS): one event	HLS: one event	HLS: one event	HLS: one event
Residual crisis response and long-term peacetime operations (at reduced level during major conflicts)			

The TTX on September 30, 2015, brought demand and supply together. The group—CSIS study team, CSIS scholars, project sponsors, and outside experts—considered the structure and validity of scenarios and simultaneity sets. It then assessed the draft evaluations of how well each of the alternative defense strategies met the challenges of the four simultaneity

sets. The TTX discussion was lively and produced valuable insights that shaped the study's findings and recommendations.

Findings and Recommendations

The baseline for how well the alternative defense strategies "tested" was whether they achieved the same level of accomplishment as the current strategy with the capabilities and capacities of the FY 2016 force. Among the principal findings were the following:

- Korea. All of the cost-capped strategies would have significant shortfalls in a Korean conflict. In general, this is because the Army is too small to maintain on active duty all the capabilities this conflict requires to meet established timelines. A concurrent conflict would also divert needed naval and air capabilities.

- China. All strategies fall short in a conflict with China because they lack the extensive naval and air assets needed. Even the Asia-Pacific strategy falls short because the Navy had to be reduced substantially to sustain enough land forces for the Korea contingency.

- Russia Baltics MCO/Iran Denuclearization MCO. In set 3 these MCOs compete for air assets, both total and fifth-generation. None of the strategies have enough air assets to meet demands of the set, although Great Power Competition comes closest.

- Long-term stability operation. Because of the long-term rotational demands—that is, the need to deploy successive waves of forces, not just initial surge forces—strategies need to have large ground components (Army and Marine Corps) to do well in this scenario. Reserves can help because the long timelines involved in rotating forces allows time to mobilize and train reserve units. Because of the deep post-war cuts to ground forces, no strategy, not even the current PB 2016 strategy, does well.

- Homeland security. These scenarios were not large enough to be major pre-conflict force drivers. Further, the general nature of many force requirements—security and logistics—makes meeting the demand easier since many different kinds of units can provide these capabilities. However, if domestic concerns about homeland vulnerability held significant forces back from overseas deployment, then the impact would be large.

The TTX experts were divided on the preferred strategy, since none of the alternatives was entirely satisfactory. The largest group of experts, but not a majority, focused on Asia-Pacific Engagement, in part because they believed that the rise of China was the greatest long-term challenge to the United States. There was some interest in a Europe-focused strategy, because it addressed an immediate threat, and in Global Engagement, because it hedged its bets about the future. There was also some interest in the Great Powers strategy, because it focused on the greatest challenges and avoided strategic distractions. However, this strategy's reduction in forward presence and engagement made several experts nervous, in part because it looked too much like isolationism. There was no interest in an

exclusive focus on countering Islamic extremism, because it seemed too narrow in the context of growing nation-state threats.

The TTX discussion was quite sobering. No strategy did everything well, since fewer and weaker defense dollars caused capacity shortfalls across the spectrum of conflict. Moreover, it is not just capacity shortfalls caused by a growing strategy-resources gap; changes in the nature of warfare caused significant capability gaps as well. While it might have been possible in 2014 that DoD could "do more with less," the challenges of "doing considerably more with considerably less" in 2015 are insurmountable. In a cost-capped environment, the United States simply "can't do it all" and must make tough strategic choices about what it can do and cannot do.

The next Quadrennial Defense Review (QDR, which the 2015 National Defense Authorization Act renamed the "Defense Strategy Review," or DSR) provides the best opportunity for implementing the insights of this study. For this QDR/SDR, the study makes the following recommendations:

- Assess the planned forces' ability to execute current strategy.
    - There was wide skepticism that the current strategy could accomplish all its goals, even "with some risk" as QDR 2014 states.
    - Starting a new administration with an overly optimistic strategic baseline makes it hard to muster the energy for tough choices.
- Develop a broad approach to any conflict in Korea.
    - Asymmetric threats (WMD, cyber, Special Operations Forces, etc.) will change the nature of a conflict, the concepts of operation, and, perhaps, the ends being sought.
    - Conflict with a nuclear North Korea may be unlike anything previously experienced.
- Develop a range of simultaneous sets, linked where plausible.
    - A two-war strategy is sound and necessary.
    - Linked scenario sets increase plausibility; China-North Korea and Russia-Iran were two such linked sets.
- Explore areas to ease fiscal pressure within a constrained top line.
    - In the past, strategic realignments that made deep cuts in forces also needed to look at other areas in order to be accepted. The military services and many outside commentators would not accept budget cuts that appeared to look only at forces. They insisted on looking at "tail" as well as "tooth."

    - Examples for exploration include reducing infrastructure/overhead, expanding the role of battlefield contractors, and slowing compensation growth.

    - Although attractive in theory, these are hard to implement, and what is politically achievable may not generate significant savings.

In a study of this breadth, there are inevitably loose ends, that is, important issues that the study team identified and that in the future should be pursued further:

- Develop credible means for introducing nuclear play into tabletop exercises and wargames. Although North Korea now has nuclear weapons and Russia has stated its willingness to use them tactically, the CSIS study team's efforts to get the TTX participants to "play" nuclear weapons were not successful. It was too uncertain.

- Refine policy descriptions of risk. Risk is usually described as "high/medium/low," but this is not helpful for decisionmakers needing to make tradeoffs. For each scenario it would be possible to identify the key policy judgments and how changes in those policy judgments would lead to changes in risk. Identifying these policy judgments indicates where senior officials have some decision space.

- Consider ways to improve management in DoD. Given the growing strategy-resource gap the Department faces, major reform is certainly needed. Such a reform effort should look at the functions of management headquarters, interagency processes, and workforce balance.

1 | Introduction: The Challenge of Resources

Why the Issue Is Important

This paper addresses strategic choices available to DoD leadership if resources in the future are lower than what DoD currently assumes. This approach builds on a long-standing CSIS belief that strategy (the "ends") and the programs to implement that strategy (the "ways") need to be informed by the reality of resources (the "means"). It is not enough to articulate the ends to be achieved. Ends (and ways) must be connected to means.

This study examines strategies and forces at the "sequestration" or Budget Control Act (BCA) budget level, but the study's insights apply to a wide range of alternative budget futures. When the BCA was signed into law in early August 2011, it initiated the fifth drawdown of the defense budget since the end of World War II. The BCA imposed two tranches of topline cuts: $487 billion from FY 2012 to FY 2021 and, if Congress failed (which it did) to reach an agreement on a deficit reduction package, an additional $430 billion from FY 2013 to FY 2021. In its March 2014 Quadrennial Defense Review (QDR) report, DoD stated repeatedly that "BCA levels" or "sequestration levels" of defense spending have "negative" effects on U.S. interests and its "ability to shape events globally" and would lead to "significant risk in the Department's ability to project power and to win decisively in future conflicts."

In an op-ed that appeared in the October 20, 2015, *Wall Street Journal*, Secretary of Defense Ashton Carter supported President Obama's veto of the FY 2016 defense authorization action, noting how difficult this fiscal environment had been:

> For the past four years . . . the Defense Department has done its best to manage through this prolonged period of budget uncertainty, making painful choices and trade-offs among size, capabilities and readiness of the joint force.[2]

The *Alternative Defense Strategies in a Cost-Capped Environment* study examines the strategic and programmatic effects if the Department faces another eight years (FY 2016–2023) like the past four years the secretary described. It does this by clarifying the connection between strategy and budgets as a way to help the Department prepare for an uncertain budget future. Without prior planning, the Department would have to react in an improvised manner if long-term resources were lower than planned, whether because of political stalemate or the policy of a new administration.

Current Budget Environment

After six months of political confrontation and a presidential veto, the Congress and president in October/November 2015 made a budget deal for FY 2016 and FY 2017. That deal, known formally as The Bipartisan Budget Act of 2015, sets DoD's base budget in FY 2016 at $25 billion above the BCA cap and adds $8 billion to war funding (Overseas Contingency Operations, or OCO). In FY 2017, the budget deal adds $15 billion to the BCA cap and sets OCO at the FY 2016 level. While this agreement provides less than what the president requested (by $5 billion in FY 2016 and up to $14 billion in FY 2017[ii]), it still represents about a 5 percent increase above FY 2015 spending levels.

Although the budget deal is an important step forward, the long-term budget environment is still unsettled and will likely continue to be challenging:

- The BCA/sequestration caps are still the law of the land and will apply in FY 2018 and beyond if no further action is taken.

- Both the 2013 and 2015 budget compromises set DoD spending at levels between BCA/sequestration and the president's budget. If future agreements continued this pattern, long-term defense spending would not be cut all the way to the BCA/sequestration level but would end up at a level below—perhaps substantially below—what DoD had been planning.

- As noted earlier, many observers believe that the current strategy cannot be executed at current levels of funding.

- Internal cost growth arising from increasing real costs for personnel, operations and maintenance, and acquisition reduces the spending power of defense dollars.

- The future years of the president's budget (PB) incorporate some cuts to DoD's top line. In FY 2016 the PB is $35 billion above the BCA caps. In FY 2020 it is only $25 billion above. Although DoD's future plans allow for that reduction, it may be difficult to implement when the actual budget year arrives.

- Long-term projections by the Congressional Budget Office show that entitlements ("mandatory" spending) will continue to grow, especially for health care and Social Security. Over time, when combined with rising debt and increasing interest rates, this entitlement growth will squeeze discretionary spending, of which national security is the largest piece.[3]

- The future of Overseas Contingency Operations (OCO) funding is uncertain. Although OCO is supposed to support the additional costs of U.S. military operations overseas, DoD depends on OCO for about $20–$30 billion of annual "enduring costs"; that is, costs that will continue after troops are out of Iraq and

[ii] The precise amount of the reduction in FY 2017 is difficult to calculate because it requires estimating what OCO in FY 2017 would have been, absent the agreement. A cut of $14 billion is the amount DoD is using and is not an unreasonable estimate.

Afghanistan. In the FY 2016 budget submission, the administration stated its intention to move these costs from OCO to the base budget. Pushing those costs into the base budget under the BCA caps would constitute a $20–30 billion budget cut and would disrupt many programs. Further, many "budget hawks" are dismayed at how OCO is being used, for base budget spending and for non-defense spending, so there's a risk that the Congress or next administration might take action to constrict the use of OCO.

In any case, most experts expect that future budget levels will continue to be capped; that is, there will be a statutory ceiling on how large DoD's budget can be, even if future budget agreements raise that ceiling above the current BCA/sequestration caps. Future administrations will not have the latitude to increase DoD's budget or to move money from domestic agencies to defense to fund new activities or unexpected bills. Therefore, some tradeoffs will be necessary irrespective of the budget level.

The CSIS study team is not entirely pessimistic and, indeed, there are causes for budget optimism. U.S. public opinion toward defense spending is becoming more positive. From 2005 to 2014, more Americans thought the United States spent too much on defense than too little. In 2015 that changed, as shown in Table 2, driven by concerns about Russia, ISIL, and an assertive China. Expert opinion reflects this same shift in opinion. Few observers, and no elements of government, are proposing defense budgets lower than BCA/sequestration. Many analysts expected much larger reductions when the current downturn began.

Table 2: U.S. Public Opinion on Defense Spending[4]

	2012	**2013**	**2014**	**2015**
Too little	24%	26%	28%	34%
About right	32%	36%	32%	29%
Too much	41%	35%	37%	32%

Preparing for a challenging fiscal future is not a forecast that it *will* happen or that it *should* happen. Rather, it is a recognition that it *could* happen and that DoD should hedge against this uncertainty by prior planning. It is in that hedging spirit that this study is conducted. Thus, although this study examines budgets at BCA/sequestration level, its insights apply to a broad set of budget futures:

- The study provides a framework for decisionmakers to assess and manage risk under different strategic assumptions and budget levels.
- The study shows the kinds of tradeoffs that would be needed in any cost-capped environment, even if the budget levels are not as low as BCA/sequestration levels.

- The set of strategies devised for this study are useful in thinking about future strategic choices during a time when there are many competing demands for U.S. attention.

- CSIS's Force Cost Calculator can devise levels of force structure/modernization /readiness for any budget level, and this capability is available in future work.

Prior CSIS and Other Relevant Work

The concept and analytic methodology of this project built upon previous work done by the CSIS study team and other CSIS scholars. Four studies in particular provided important foundational work.

Defense in an Age of Austerity, Clark Murdock, Kelley Sayler, and Kevin Kallmyer. To cope with the first round of defense budget cuts mandated by the Budget Control Act of 2011, CSIS convened experts from across the ideological spectrum to consider the proper alignment of the "ends, ways, and means" of U.S. defense strategy in a fiscally constrained environment. The report synthesized the areas of general agreement and the areas where the participants sharply disagreed and then summarized the recommendations about missions, force structure, and specific weapons system.

Planning for a Deep Defense Drawdown—Part 1: A Proposed Methodological Approach, Clark Murdock, Ryan Crotty, and Kelley Sayler. This interim report identified the two budgetary threats challenging the Defense Department—fewer defense dollars as a result of the BCA and a weakening of the defense dollar's purchasing power. This weaker defense dollar, driven by the internal cost inflation of personnel, operations and maintenance (O&M), and acquisition, is hollowing out the defense budget from within.

Building the 2021 Affordable Military, Clark A. Murdock, and Ryan Crotty, Angela Weaver. This study further examined the dramatic effects of both fewer and weaker defense dollars in an effort to deal with a deep budget drawdown without significantly weakening national security. It defined a set of strategy options, each with associated capabilities gleaned from other leading think tank reports as well as the study team's analysis, identified capability priorities for the 2021 and beyond security environment, and recommended an affordable force structure for a 2021 military. Finally, the study developed a methodology for planning for defense capability and capacity decisions and making strategic tradeoffs in a resource-constrained environment.

Pacific Rebalance 2025: An Independent Review of Defense Strategy in the Asia Pacific, Michael Green, Kathleen Hicks, and Mark Cancian. This study assessed U.S. strategy and force posture in the Asia-Pacific region and the capabilities of U.S. allies and partners in light of evolving regional security challenges. It examined evolving threats from China, Russia, North Korea, and terrorism. It further analyzed U.S. forces and posture in detail, including force structure in all domains—air, sea, land, cyber, and space—modernization plans and logistics. Finally, the study made a broad set of recommendations for sustaining the rebalance in a more competitive and challenging regional environment.

2 | Methodological Approach

Alternative Defense Strategies in a Cost-Capped Environment began its methodological approach by analyzing the demand for military capabilities in the 2023 security environment. The CSIS study group developed and iterated, both internally and with the Alternative Defense Strategies Working Group (ADSWG; see Appendix A for the list of participants), a taxonomy of threats and changes in the evolution of warfare, which appears below. For each component of the taxonomy, the CSIS study team prepared one-page papers that described the issue, identified indicators that the "planned future" could happen or that a more benign security environment could emerge, and then assessed the implications for the U.S. military. These papers can be found at Appendix C.

Taxonomy used for demand drivers for military capabilities

Threats (specific actors):

- China
- Russia
- North Korea
- Iran
- Islamic extremists

Changes in character of warfare (reflected in threat capabilities):

- Precision munitions (PGMs)—no longer a U.S. monopoly
- Space and cyberspace—contested environments but critical to U.S. warfighting concepts.
- Nuclear weapons—growing role as offset to U.S. conventional superiority
- Autonomous systems/robotics—like PGMs, a proliferating capability
- Potential game-changing technologies (directed energy, synthetic biology, hypersonic platforms/munitions)

Based on this analysis of the 2023 security environment, the CSIS study team built conflict scenarios, day-to-day operational requirements, and "sets" of scenarios that constituted the "demand" for forces. These were used to test the alternative defense strategies (and their associated cost-capped militaries). Chapters 3 and 4 describe this stage of the methodological approach.

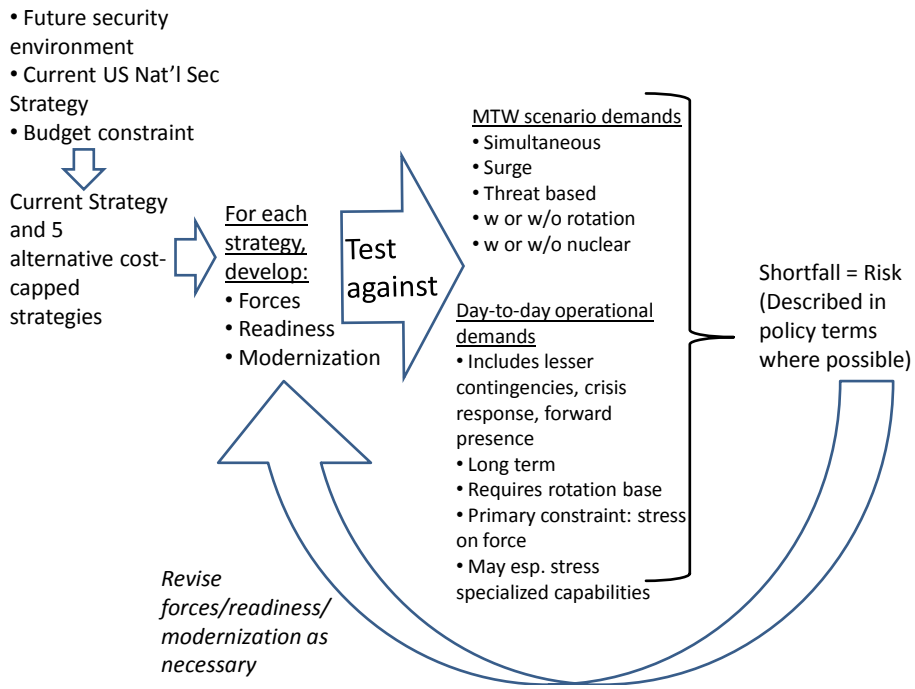
The CSIS study team started its analysis of the supply side of the equation by developing a roster of five alternative defense strategies for coping with the prospective security environment. Each of the strategies represented a different approach to *how* the United States would cope with 2023 strategic realities. As described in Chapter 5, the methodology adopted in this 2015 report differed from that used in the *Affordable*

Military study because the cost caps and cost calculators were applied *after* the roster of alternative defense strategies had been identified to help build the "military" (as defined by force structure, modernization programs, and readiness levels) associated with each strategy. This process is described in Chapter 5. The team then tested the capacity and capability of these alternative strategies in two ways:

- Against four sets of simultaneous scenarios, to test surge capability; and
- Against day-to-day operational commitments, to test steady-state capabilities.

This approach builds on approaches in past QDRs but proposes to be more explicit on the tests being made and on the resulting risks. Figure 1 shows the process.

Figure 1: Alternative Strategy Development



In the September 30, 2015, tabletop exercise (TTX), demand and supply were brought together as the CSIS study team, CSIS scholars, and outside experts were asked first to review the scenarios and the simultaneity sets to ensure their completeness and validity as "strategy testers" and then to assess the draft strategy evaluations provided by the CSIS study team. This integration process is contained in Chapter 7. The TTX provided a lively all-day discussion as the experts considered the many issues raised by the study. The TTX discussion produced valuable insights and helped shape the concluding chapters regarding recommendations for the FY 2017 budget, recommendations for the next QDR, potential ways to mitigate tradeoffs, and a few final takeaways from the study process.

3 | Scenarios for Shaping the Future Force

CSIS developed 12 separate scenarios based on taxonomy papers and past policy analysis.

Some were for major combat operations (MCOs), others for lesser operational demands. Some were longstanding (Korea, China-Taiwan, Iran Strait, homeland security) while others were new (Baltics, Iran denuclearization, Korean nuclear crisis, Spratly Islands).

Why these scenarios and how do they differ from previous lists? CSIS developed an initial set of scenarios by building on those conflict areas that the national security community has focused on in the past. The team also used publicly available DoD materials such as the final report of the Mobility Capabilities Requirements Study–2016[5] and the QDR reports. Based on this research, the CSIS team developed the following list of potential conflict scenarios[iii]:

- Korea MCO
- Iran MCO (closes Strait of Hormuz)
- China MCO (Taiwan Strait)
- Stabilization campaigns, long and short
- Homeland Security: Terrorist Conventional Attack (9/11 2.0)
- Homeland Security: Extreme Natural Disaster
- Homeland Security: Terrorist Nuclear Attack

In addition, CSIS proposed new scenarios, as shown below. These built on the insights in the taxonomies and also reflected events that have occurred since QDR 2014.

- North Korea (nuclear crisis)
- Russia MCO (strike at Riga)
- Russia Lesser Conflict (hybrid warfare)
- China (seizes Spratly/other islands)
- Iran MCO (denuclearization)

[iii] Although these scenarios focus on areas that the national security community has identified in the past as potential areas of conflict, the scenario specifics reflect solely the judgment of the CSIS study team. They are not linked to what DoD may be using for its own internal planning.

- Islamic Extremists (ISIL breakout)

Scenario construction. Each scenario included assumptions about warning, allies/coalitions, length of conflict, WMD use, and campaign structure. There is a brief assessment, showing the scenario's effects on force planning. Finally, there is an estimate of force requirements. Where possible, these force requirements were based on the actual experience of recent operations. The scenarios are attached in Appendix D, "Conflict Scenarios for Testing Strategy."

Insights from working group meetings and the TTX. The working group provided valuable insights into the scenarios and helped shape the final product. For example, its members recommended clarification about the desired end state of each scenario and the assumptions implicit in the force requirements. On the stabilization scenario, they recommended expanding the list of illustrative countries and being clear that this did not include an extremely challenging stabilization campaign such as in Pakistan.

On confrontation with China over the islands of the South China Sea, they recommended looking at the crisis-management elements carefully. The confrontation might be resolved as a relatively simple freedom-of-navigation operation or might escalate to a full-scale MCO. The concept of operations would also likely be different from a China-Taiwan conflict because both sides would be much farther from their permanent bases. As a driver of force structure, however, it was likely to be less demanding than a China-Taiwan conflict.

The tabletop exercise (TTX) also discussed the scenarios and provided important insights, which are shown in Table 3. One major change was in the Korean MCO where the needs of a postwar cleanup of WMD facilities and stockpiles were added.

The scenarios. Tables 3, 4, and 5 briefly describe each scenario and the TTX assessment of the scenario's structure and validity. Table 3 shows MCO scenarios; Table 4 shows non-MCO conflicts; and Table 5 shows homeland security events.

Table 3: MCO Scenarios

MCOs	Short Description	TTX Assessment
Korea MCO	Defense of the Korean peninsula against a full-out North Korean attack.	The canonical MCO scenario for Korea (taken from the 1993 *Report on the Bottom-up Review*, BUR) does not capture how this might actually be fought today (in a WMD environment, with strategic uncertainty about China's role, and a requirement for postwar denuclearization) and how demanding this activity would be.
Russia MCO (strike at Riga)	Russia makes quick grab for Riga after "incidents."	New and important; defensive requirements are different from reassurance and much less than the classic Cold War scenario. Premium on early forces to prevent quick defeat.
China MCO (China-Taiwan)	China tries to conquer Taiwan by force: amphibious assault, blockade, and missile attacks.	U.S. may fall behind China in military capabilities over time, unlike with other threats; this conflict drives high-end capabilities. Major uncertainties about how a conflict might unfold.
Iran MCO (denuclearization)	Forcible denuclearization of Iran through air strikes.	Requires extensive air campaign. Full denuclearization impossible, for lack of intelligence and hardening of targets.
Iran MCO (closes Strait of Hormuz)	Iran closes strait using mines, naval forces, and aircraft; coalition reopens strait; landings at Qeshm Island but not on mainland.	Important for crisis management but not a major force driver (except for mine warfare assets).

Table 4: Non-MCO Scenarios

Non-MCO Conflicts	Short Description	TTX Discussion
China (seizes Spratly/other islands)	China uses force to expel other navies like Vietnam's and Philippines', perhaps arising from an incident at sea; casualties result. (1) U.S. supports or leads freedom-of-navigation effort. (2) Escalation results in a high-intensity but localized war.	OK to treat initially as lesser-included case of Taiwan scenario, but escalation dynamics, both vertical and horizontal, could lead to a very different MCO.
Russia Lesser Conflict (hybrid warfare)	Russia continues and expands hybrid warfare campaign against neighbors.	A driver of day-to-day demands, like the European Reassurance Initiative, but not a driver for surge.
North Korea (nuclear crisis)	North Korea threatens the use of nuclear weapons; or, North Korea uses nuclear weapons as demonstration or against military forces, not involving the U.S.	Need to pay more attention to escalation dynamics, both within conflict scenarios and between them, particularly since our adversaries may escalate to domains (e.g., cyber) and realms (e.g., nuclear) where we are vulnerable.
Stabilizing a developing country (Columbia, Venezuela, Yemen, parts of Nigeria)	U.S. heads peacekeeping forces when government collapses.	Short stabilization campaign (one to two rotations) not a force driver. Long campaign is a major driver and possible future requirement, even if not now a part of DoD force sizing.
Islamic Extremists (ISIL breakout)	ISIL breaks out of currently held areas; some major Arab governments collapse (Lebanon, Jordan, Saudi Arabia, Kuwait, or Egypt).	A driver for SOF, otherwise currently mostly a driver for day-to-day force demands; however, U.S. still struggling to find an effective counter to ISIL.

Table 5: Homeland Security Events

Homeland Security Events	Short Description	TTX Assessment
Terrorist Conventional Attack ("9/11 2.0")	Major non-nuclear attack against U.S. homeland; thousands of casualties	All homeland scenarios are plausible. The CSIS team assessed that only one likely to happen during the critical time window because causes are not connected.
Extreme Natural Disaster	Hurricane or earthquake hits major city	Moderate force driver *unless* domestic concerns about homeland vulnerability hold significant forces back from overseas deployment.
Terrorist Nuclear Attack	10 KT nuclear detonation in U.S. city	WMD attack: a full national lockdown and search would be very manpower intensive. Need clear delineation between requirements for military, local emergency personnel, federal civilians.

4 | Simultaneity: Two Major Combat Operations, Homeland Security, and Day-to-Day Operational Requirements

Simultaneity sets recognize that events can happen in overlapping timeframes to put stress on the force. CSIS built its initial sets from publicly available DoD information, such as the QDR 2010 and QDR 2014 reports, and the unclassified literature from the national security community. CSIS then incorporated new scenarios, suggested by the taxonomy analysis and contemporary events. The team also endeavored to combine scenarios into sets in plausible ways. In addition to major combat operations MCOs), the simultaneous events included homeland security scenarios and day-to-day operational demands. Ultimately, the study devised four sets of simultaneous events.

The Theory

U.S. forces, even under BCA/sequestration budget caps, can meet the demands of any individual scenario the study team developed, even the most demanding. However, the world is such that some scenarios could happen at the same time. Therefore, the study team assembled the individual, discrete scenarios into sets that happen simultaneously, or "near-simultaneously." ("Near-simultaneously" is defined as events happening close enough together that forces used for one cannot immediately be used for the other, with the exception of mobility assets that can switch between or be shared across conflicts.)

This approach has a sound strategic basis. Since the end of the Cold War, the United States has maintained some variation of a two-war force-sizing construct, which postulates that even as it fights one war, it has to be prepared to fight another to avoid being strategically vulnerable. The second conflict might not be directly connected to the first but could be launched by an "opportunistic aggressor," that is, an adversary taking advantage of the U.S. preoccupation with the first conflict.

Development of Simultaneity Sets

CSIS followed this long-standing strategic approach of devising simultaneity sets. These sets of simultaneous events drove the "surge" requirement, that is, what DoD needs to do above the normal level of day-to-day operations. Day-to-day operations, a separate requirement, are described later in this chapter.

Each "simultaneity set" included the following:

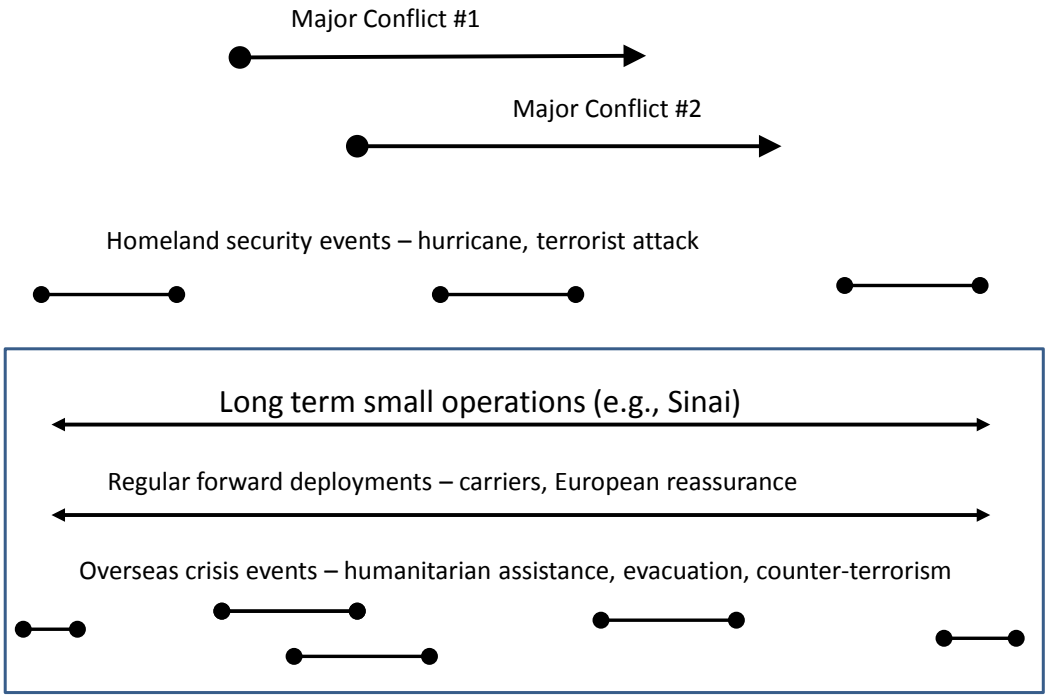
- Two major operations, called "major combat operations" (MCOs) in this study,[iv] that require a large deployment of U.S. forces.

- Homeland security. For that, CSIS constructed three possible events: (1) a major natural disaster; (2) a large terrorist attack on the scale of 9/11 (called "9/11 2.0"); (3) a nuclear explosion,[v] notionally 10 KT, in a major city (consequence management element only, a full nuclear/radiological national search could be an MCO in its own right if the military used were extensively).

- Continuing crisis response and long-term commitments. When an MCO occurs, these operations would not continue at the peacetime level. The assumption is that most forward-deployed forces would be sent to the MCO(s) and that U.S. forces would withdraw from exercises, peacekeeping, and other customary day-to-day operations. Therefore, this category would include only those operations that must continue during major conflicts, such as some counterterrorism, crisis response, disaster relief, and long-term commitments from which the United States could not easily withdraw.

Figure 2 illustrates how these demands come together.

Figure 2: Simultaneity



[iv] At different times, DoD has also called these major operations "major theater wars" (MTWs) and "major regional conflicts" (MRCs). "Major combat operations" is closest to current usage and is therefore used here.
[v] Not a "dirty bomb" but an actual nuclear explosion. A dirty bomb would be a serious event but would not have the military impact and casualties of a nuclear explosion.

Based on the scenarios that the CSIS study team had developed (described earlier), and on past practice in the national security community, the study team built four simultaneity sets, shown in Table 6.

Table 6: Initial Simultaneity Sets

Set 1	Set 2	Set 3	Set 4
MCO (China-Taiwan)	MCO (Iran: reopen strait)	MCO (Russia)	MCO (Korea)
MCO (Korea)	One large short-term asymmetric	MCO (Iran: Degrade nuclear capabilities)	Long stabilization
Homeland Security (HLS): three events	HLS: three events	HLS: three events	HLS: three events
Residual crisis response and long-term peacetime operations (at reduced level during major conflicts)			

- Set 1, Korea plus Taiwan, is very demanding but most plausible for two linked MCOs. If China were in a conflict with the United States, it might encourage—or even facilitate—North Korea to make an aggressive move.
- Sets 2 and 3 might also plausibly happen together as the countries involved have—or might have—contacts and common interests. Set 3 stresses air capabilities.
- Set 4 stresses ground capabilities. Long stabilization operations require multiple force rotations. DoD stated in the 2014 QDR report that it would no longer size its forces for this contingency. The study team included it to show the ability of different strategies to handle such contingency if it should occur.

TTX Discussion

Several insights emerged from the TTX discussion. The first was that some of the new scenarios were important for crisis management and alliance solidarity but were not major drivers of force size or capability. For example, reopening the Strait of Hormuz was extremely important for stability in the Persian Gulf region and for ensuring global access to oil, but the forces required were not particularly large under the stated scenario goals. Broader goals, such as regime change, would require much larger forces but go beyond what the scenario envisioned. (The scenario does drive one element of force structure: mine warfare. Either the United States provides that capability itself or assumes that allies and partners provide it, with the risk associated in making such an assumption.) Therefore, the scenario was retained to illuminate the kinds of situations the United States might face in the future but was dropped from the simultaneity sets.

Similarly, a short-term stabilization intervention was not a major force driver. Because of its relatively small size and short duration (which does not require force rotation), the

scenario does not stress force size or capabilities. Therefore, it was also dropped from the simultaneity sets. (In contrast, the long-term stabilization scenario was retained because it would be a major force structure driver. It requires force rotation and that demands a rotation base.)

After the TTX, the CSIS team reviewed the full set of scenarios and judged that having three separate major homeland security events at the same time was unlikely. The main reason was that such large events are rare, and the "simultaneity" time window is relatively narrow—just a few months. Natural disasters on a scale that would require major military involvement occur rarely and on their own schedule—there have been two in the last 10 years, Hurricane Katrina (2005) and Hurricane Sandy (2012). They are not linked to human events like MCOs. Terrorists seem able to launch one major attack at a time—nuclear or conventional on a scale causing hundreds or thousands of casualties—because of the difficulty and risk in trying to organize and coordinate more. That has been the historical pattern—one attack, followed by a police clampdown that prevents follow-up attacks. Smaller attacks, though important, would not divert significant military forces.[vi] Therefore, only one homeland security event was assumed to happen during major conflicts. Homeland security events—even very large ones—might happen at other times, and would be very serious, but existing forces could handle them when not distracted by simultaneous crises.

As a result of these insights, the CSIS study team revised the simultaneity sets, as shown in Table 7. There were two changes:

- Set 2 was restructured as a China-Taiwan conflict plus Russia conflict. The combination had some plausibility and replaced two scenarios, a short-term stabilization operation and Iran reopens strait, that were not large enough to be major force drivers. As restructured, Case 2 stresses high end, A2/AD capabilities.

- The Homeland security demands were changed from three events to one.

Table 7: Final Simultaneity Sets

Set 1	Set 2	Set 3	Set 4
MCO (China-Taiwan)	MCO (China-Taiwan)	MCO (Russia)	MCO (Korea)
MCO (Korea)	MCO (Russia)	MCO (Iran: Degrade nuclear capabilities)	Long stabilization
Homeland Security (HLS): one event	HLS: one event	HLS: one event	HLS: one event
Residual crisis response and long-term peacetime operations (at reduced level during major conflicts)			

[vi] For example, the recent Paris attacks (November 2015), although extremely serious, did not rise to the level of the homeland security scenarios described by this study. The Paris attacks were handled by civilian emergency organizations and did not require a major commitment of military forces.

Testing against Day-to-day Operational Demands for Forward Deployments/Crisis Response/Lesser Contingencies.

The scenarios described above covered force requirements for wartime surges: major conflicts, homeland security, and residual day-to-day operations. Forces must also meet the non-surge demands of day-to-day operational demands. This dual set of requirements—wartime surge and day-to-day operations—has been recognized for decades, and in the 2006 QDR the two demands were explicitly recognized for force planning. The size of some force elements—naval forces particularly, but others as well—have been set by day-to-day operational requirements. In general, however, most kinds of forces have been sized by their wartime requirements, although with a recognition of the need to meet day-to-day operational demands.

Day-to-day operational demands have three elements:

- Routine forward deployments, provided primarily by naval forces but also by ground and air forces. Routine forward deployments occur on a regular schedule and would include exercises and engagements with partner militaries.

- Crisis response, for short, unexpected events like humanitarian assistance and disaster relief, non-combatant evacuations, and counterterrorism strikes. Flexible deterrent options, which aim to head off a crisis before it expands into actual conflict, also fall into this category.

- Smaller combat operations such as Bosnia, Kosovo, no-fly zones, and Sinai peacekeeping. These might have some of the characteristics of a major combat operation but are smaller.

Collectively, these put a large demand on U.S. forces day-to-day. The limit on the ability of forces to meet these day-to-day demands is personnel tempo, that is, the ability of military personnel to endure time away from their families. The typical cycle is for units to deploy, then return, rebuild, retrain, and deploy again. The services aim to keep this deployed/home ratio at a sustainable level—between 1:3 and 1:5, depending on the community—with a middle level of 1:4; that is, deployed one period of time out of four, for example, deployed six months every two years). Ratios vary because even when units are “home” there are exercises and short deployments that take service members away from their families. If the tempo gets too high, the services will experience retention shortfalls. These shortfalls can take a long time to fix since it takes many years to replace an experienced mid-level officer or enlisted noncommissioned officer who has left the force. Therefore, the services try to keep their personnel tempo below critical levels.[vii]

[vii] Readiness funding is generally not a limit on deployments because the services prioritize deploying units at the expense of home units. So units deploy at high readiness, but at the expense of the readiness of the home units. This is a problem for wartime surge but not for day-to-day operations. Low-readiness funding can affect some lower-priority exercises, which might be canceled or scaled back if funds are tight.

By their nature, these demands are very difficult to forecast. The services can predict routine forward deployments, for example, Navy carrier deployments, but many of the other demands are episodic.

That said, history suggests three levels of demand. These levels are not predictions but illustrations of how day-to-day operational demands can be connected to policy judgments and expectations about the future.

- Cold War level. During the Cold War, day-to-day operational demands for the Army and Air Force—excluding wartime demands for Korea and Vietnam—were relatively low, with many forces forward stationed in Europe and Japan. Because forces were stationed with their families, forward stationing did not add to personnel tempo. Only the Navy and Marine Corps had high levels of day-to-day operations, caused by their forward deployments. This was particularly true of carriers, submarines, and amphibious ships. Arguably the superpower competition, for all its dangers, served to suppress local conflicts and as a result reduce the need for deployments.

- 1990s. During the 1990s, day-to-day activity increased from the level of the Cold War even as the size of the force fell. Operations in Bosnia, Kosovo, and Kuwait, and no-fly zones over Iraq, put heavy demands on the force. By the end of the 1990s, all services were feeling stress from meeting these day-to-day demands. The Army and Air Force felt particularly stressed by the end of the decade, since they had not experienced this high level of day-to-day operations before.

- Post–9/11. Wars in Afghanistan and Iraq and global counterterrorism operations dominated the post–9/11 period, creating very high levels of deployment. Demands declined as forces came out of Iraq and later Afghanistan, but it is not yet clear what the final level of deployments will be. Total demands could continue to be higher than the 1990s for an extended period.

The CSIS study team chose the middle level, that is, the 1990s, pre-Iraq/Afghanistan level, to test the forces of the different strategies. However, there is great uncertainty. If demands are higher than expected, these demands can be met for a while by increasing stress on personnel. Ultimately, however, either the force must get larger or the deployments must get smaller.

It is also true that, even if forces in aggregate can meet demands, particular elements of the force might be stressed. Detailed analysis, beyond the scope of this study, is needed to identify whether any such shortfalls exist, and under what circumstances.

A Note of Humility about Scenarios and Forecasting the Future

We must end this discussion of future scenarios on a note of humility. Our national track record of predicting where and how future conflicts might occur is abysmal. Former

Secretary of Defense Robert Gates frequently makes this point: “In the 40 years since Vietnam, our record in predicting where we would be militarily engaged next, even six months out, is perfect: we have never once gotten it right.”[6] Richard Danzig, former Secretary of the Navy, made this point at length in his monograph, *Driving in the Dark*: “Strategic judgments about future environments are often, one might say predictably, wrong.”[7]

This may be a bit pessimistic. Arguably we at least partially predicted Iraq in 2003; it was a central element of “Two MCO” planning in the 1990s. Further, fighting in unexpected places may be a result of some success in national security planning. It has been said that the United States deters the wars it expects and fights the wars that it doesn’t expect. Deterring wars that we expect, if that is what has happened, is an achievement.

However, we must recognize the overall poor record. Iraq in 1991, Afghanistan, Bosnia, Kosovo, Libya, Grenada, Panama—they were all unexpected. For that reason, these sets of scenarios should be regarded as broadly illustrative of the range of requirements for U.S. military capabilities and not precise predictions of future events.

We must also recognize our overconfidence in our ability to predict the future. Philip Tetlock, who has done extensive quantitative research on prediction ability, showed that experts, despite their deep knowledge and self-confidence, do little better in predicting the future than dart-throwing monkeys.[8]

The solution is planning that is adaptable and flexible so plans can change as circumstances change. As uncertainty increases and deepens, so does the need for adaptability and flexibility.

5 | Building a Roster of Alternative Defense Strategies

Structuring the Problem: "Strategy-driven" or "Cost-capped"

The debate in the defense policy community over "how much is enough" is often characterized as one between those who believe the process should be "strategy-driven" and those who believe it should be "budget-driven."[viii] The *Affordable Military* authors fell squarely into the second camp:

> The "cost-capped" approach accepts this harsh fiscal reality [the "double whammy" effect of budgetary caps imposed by the Budget Control Act of 2011 and the aggregate impact of cost growth above inflation] as a given and attempts to maximize the military utility of a force that is affordable with … fewer resources. The cost-capped approach is not very satisfying for strategists, who prefer to define a strategy that fits the strategic context and then ask "how much is enough?" In contrast, the cost-capped approach asks first "how much is affordable" and develops alternative "strategies" for spending capped resources. Whether that is "enough" or sufficient for the strategic realities of 2020 and beyond is neither known nor assumed.[9]

In the 2014 study, the CSIS study team applied the BCA caps and the Force Cost calculators to the 2012 pre-drawdown force and defined a "2021 Sequester Force" that applied the BCA/sequester-level cuts in the "meat axe," "mindless" manner proscribed by the Budget Control Act. The study team then adapted the 2021 Sequester Force to 2020 and beyond strategic realities (defined largely as threats and changes in the conduct of warfare) and built the 2021 Baseline Force. As the final step in this earlier strategic choice exercise, the team varied the capacities in the 2021 Baseline Force to reflect different strategic priorities (e.g., rebalancing to the Asia-Pacific and a whole-of-government strategy that cuts defense spending to pay for non-military capabilities) and provided a set of alternative "militaries" or force structures (with different modernization profiles) as the basis for decisionmaking.

The Alternative Defense Strategies approach, like that of the earlier *Affordable Military* effort, is still "budget-driven" but includes more consideration of strategy than its predecessor. The study identified a roster of alternative defense strategies (see Appendix E) and, using the Force Cost Calculator, developed cost-capped "militaries" (defined as force structure, modernization, and readiness) for each of the defense strategies. These strategies were then tested against the conflict scenarios and discussed in a daylong tabletop exercise on September 30, 2015. In this variant of the cost-capped methodology,

[viii] QDRs attempt to straddle these two camps. The first sentence in the Introduction to the 2014 QDR report stated: "The 2014 QDR was a strategy-driven and resource-informed process focused on preparing the Department of Defense for the future and prioritizing our efforts in a period of fiscal austerity."

more attention was given up front to discussions of strategy—defining the current defense strategy and developing a set of alternatives that both differed significantly from each other and represented reasonable courses of action for coping with the 2023 security environment. This provided a richer set of strategies, each with its own military of associated capabilities and capacities.

Defining Current Strategy

The first task was to identify the current (or baseline) strategy. The 2014 Quadrennial Defense Review report noted that it "embodies the 21st century defense priorities outlined in the 2012 Defense Strategic Guidance."[10] In its FY 2016 budgetary documents, DoD characterized the 2014 QDR strategy as consisting of three pillars and five priorities:

Three Pillars:

1. Protect the homeland
2. Build security globally
3. Project power and win decisively

Five Priorities:

1. Rebalance to Asia-Pacific
2. Strong commitment to security and stability in Europe and the Middle East
3. Global approach to countering violent extremists
4. Key investments in technology
5. Strengthening alliances and partnerships around the world

The force-planning approach taken in the 2010 QDR, the 2012 Defense Strategic Guidance (DSG), and 2014 QDR was to maintain a broad portfolio of military capabilities that could help underwrite U.S. global leadership. As former Secretary of Defense Robert Gates wrote in the preface to the 2010 QDR, "The United States needs a broad portfolio of military capabilities with maximum versatility across the widest possible spectrum of conflict."[11] Even in 2014, after taking almost $500 billion in budget cuts during FY 2013–FY 2021 and facing another $400 billion or so in cuts, the QDR strategy envisioned a rebalance to the Asia-Pacific while maintaining a strong commitment to Europe and the Middle East. From a strategy-resource perspective, this was "doing more with less."

Unforeseen events, and associated increases in demand for forces, required the Department to adapt to a rapidly changing security environment:

- Russia seized Crimea in February 2014 and started destabilizing eastern Ukraine in March;
- The Islamic State in Iraq and Syria (ISIL) overran Mosul in June 2014 and proclaimed its new caliphate three weeks later; and
- Iranian-backed Shiite rebels occupied the capital of Yemen and drove the Saudi-backed government into exile.

This growing demand for forces beyond what the 2014 QDR envisioned added urgency to the *Alternative Strategies in a Cost-Capped Environment* study effort of "assess[ing] the impact on the Department's ability to manage future geostrategic issues."[12]

Identifying Alternative Strategies

The CSIS study team iterated several versions of the roster of alternative defense strategies, both internally and with the ADSWG at its August 12, 2015, meeting. Among the most important (and interesting) insights were the following:

- "New Isolationism (Fortress America 2.0)"—described as the United States turns inward, "weary of trying to provide stability and order in an increasingly chaotic and unmanageable world"—was viewed as a "throwaway option" that lacked realism and would not be advocated by a future administration. It was dropped as a strategy.
    - Although the study team does not support such a strategy, the team nevertheless believes that this strategy should be monitored over time. Rejection by the working group reflects, at least in part, the internationalist bias of national security professionals and may be a blind spot in the community. Recent Pew Foundation polling has shown the public to be skeptical about engagement, with 52 percent saying that "the U.S. should mind its own business internationally," a number that has risen steadily since 2002.[13]
- "Asia-Pacific Rebalance" was renamed "Asia-Pacific Engagement" to reflect a parallel to the Global Engagement strategy but focused on the Asia-Pacific. The strategy lets others take the lead in coping with Russia and ISIS.
- "Double-Down on Europe and the Middle East" was divided into separate strategies, largely because the military approach for each region would be different:
    - In Europe, the United States would pursue an engagement and forward-stationing approach like the one used during the Cold War. A Europe strategy would also pursue high-end capabilities to deal with Russia, a peer-competitor.
    - The Middle East strategy was renamed "Combating Islamic Extremists" to clarify its purpose. The United States would pursue more of a "warfighting strategy" to counter the terrorist and regional threat posed by ISIS, with emphasis on special operations and light infantry.
- "Real-Politik Balancer (Nixon-Kissinger 2.0)" was renamed "Great Power Competition" to avoid a controversial historical allusion. The strategy included high-end modernization, robust funding of S&T for potentially game-changing

technologies, limited forward deployments, rapid surge capability to counter regional adventurism, and maintenance of robust nuclear deterrence forces.

Since the objective of the September 30 TTX was to "test" the alternative defense strategies against the conflict scenarios, the CSIS study team in preparation finalized the roster of five alternatives, each with its own "strategy statement":

Global Engagement

- This is a cost-capped version of the current strategy. Like the strategies of previous administrations, particularly President Clinton's, this strategy seeks to shape the security environment and to provide order and stability by relying on U.S. global presence and engagement.

Asia-Pacific Engagement

- The rise of China is the most significant geopolitical challenge today, which U.S. strategy seeks to manage and counter through regional partnerships, robust forward presence (particularly maritime), and targeted capabilities development. At the same time, the threat from North Korea must be contained.

Europe Engagement

- Russia poses the greatest near- to medium-term threat, and its anti-American belligerence must be countered by U.S. presence, engagement, and deterrence in Europe.

Combating Islamic Extremists

- The regional threat posed by the newly established Islamic caliphate and the continuing threat of mass casualty attacks on the U.S. homeland necessitate a strategy focused on rolling back ISIL, eliminating terrorist sanctuaries in the region, and attacking terrorist leadership structures globally.

Great Power Competition

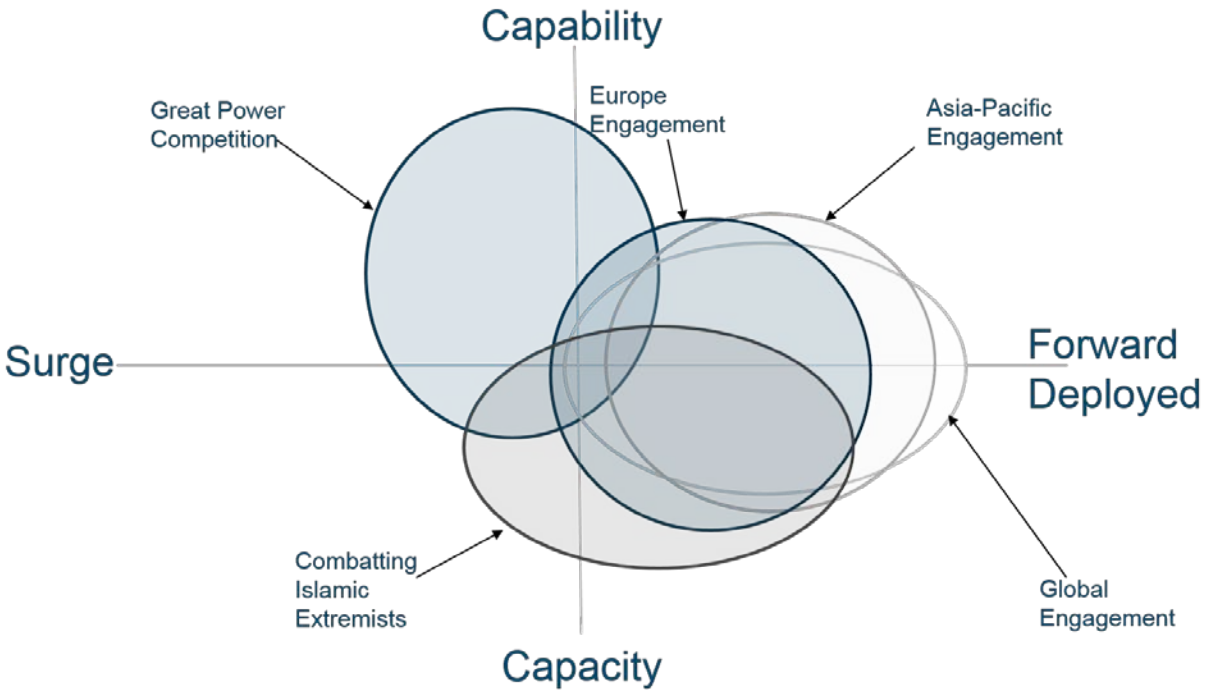
- Intensified rivalries with China and Russia are the centers of gravity for the United States. This requires the United States to pull back from its global engagement posture and rely on limited forward presence to prevent "easy wins" by these adversaries on their peripheries, on rapid surge capability to counter regional adventurism, on the pursuit of high-tech capabilities to sustain its qualitative edge against peer competitors, and on nuclear deterrence forces.

Comparing the Alternative Strategies

Appendix E presents the alternative defense strategies in more detail. In addition to summarizing each strategy and its connection to U.S. grand strategy (including the role of the United States), the appendix shows how the strategies give weight to each of the 2012 DSG's set of "priority missions" (e.g., nuclear deterrence, homeland defense, and counterterrorism) and to key capability areas (e.g., ground and naval forces; special operations forces, SOF; and intelligence, surveillance, and reconnaissance, ISR). Finally, each strategy is graphically depicted along two axes: Surge/Forward Deployed and Capability/Capacity (the "quad chart").

Figure 3 shows all these defense strategies together to give a sense of how they compare.

Figure 3: Comparison of Strategies, Surge/Forward Deployed, and Capability/Capacity



In this comparison, the differences between the three engagement strategies (Global, Asia-Pacific, and Europe) are relatively minor compared with their differences with the alternatives of Great Power Competition and Combating Islamic Extremists. The three engagement strategies share similar capability/capacity tradeoffs, differing in how the forces are postured. The Great Power Competition relies much less on forward-deployed forces while Combating Islamic Extremists relies much more on current capacity. Translating these alternative defense strategies into 2023 militaries is the subject of the next chapter.

6 | Constructing the 2023 Force

The CSIS study team took the strategies described in the previous chapter and assessed how each would affect different mission and capability areas. The team then used the Force Cost Calculator to create a force structure, modernization program and readiness level appropriate to the missions and functions of each strategy at the BCA/sequestration budget level.

Connecting Strategy to Mission and Function Priorities

This assessment estimated whether the priority of each mission and capability area was increasing, decreasing, or unchanged compared with the baseline Global Engagement strategy. (The Global Engagement strategy was used as a baseline because it was funded at the same level as the other strategies, unlike the current strategy, and tried to take a balanced approach.) Table 8 shows one example, in this case, the European strategy.

Table 8: European Strategy

DSG Priority Mission	Prioritization
Maintain a safe, secure, and effective nuclear deterrent	↑
Defend the homeland and provide support to civil authorities	↔
Deter and defeat aggression	↑
Provide a stabilizing presence	↔
Counter terrorism and irregular warfare	↓
Counter weapons of mass destruction	↔
Project power despite anti-access/area-denial challenges	↑
Operate effective in cyberspace and space	↑
Conduct stability and counterinsurgency operations	↓
Conduct humanitarian, disaster relief, and other operations	↓

Capability	Force Priority	Read. Priority	Mod. Priority	Posture/Focus
Ground forces	↑	↔	↔	Increased presence in Europe
Naval forces	↓	↔	↔	Focus on high-end, undersea, but harder to bring forces to bear in Baltics
Marine/amphib. forces	↓	↔	↓	
Special operations	↔	↔	↔	Countering hybrid threats in Eastern Europe but less focus on global counterterrorism

Table 8. (cont'd.)

Integrated air and missile defense	↑	↔	↑	Forward missile defense, continued spending on national ballistic missile defense (BMD)
Air superiority	↔	↔	↑	Modernization needed for countering Russian integrated air defense system (IADS) and air force; force size less important
Global strike	↑	↔	↑	
Air mobility	↓	↔	↔	Forward basing in Europe reduces need
Intelligence, surveillance, reconnaissance (ISR)	↔	↔	↔	ISR important but smaller theater concentrates focus
Space	↔	NA	↔	
Cyber	↑	NA	↔	Counter Russian cyber incursions
Nuclear	↑	↔	↑	Stay ahead of Russia's nuclear modernization
Science and technology (S&T)	NA	NA	↔	

These assessments then informed the numerical quantities that the team input into the Force Cost Calculator.

CSIS's Force Cost Calculator

CSIS developed the Force Cost Calculator in 2013 for its study *Building the 2021 Affordable Military*. The calculator enables analysts to make decisions about strategic-level inputs on force structure and capabilities and then connect those inputs to a topline budget level. Using the calculator, the study team took the mission and capability priorities for each different strategy and translated them into numerical inputs that produced for each strategy a force structure, modernization program, and readiness level, constrained by the budget caps enumerated in the BCA.

The core concept of the Force Cost Calculator is to provide a tool that links strategy, program choices, and budget levels. It encompasses the entire defense budget and provide users with enough capability options to clearly distinguish between different strategies. Thus, the Force Cost Calculator provides the user with 125 options for how to size, shape, prepare, and structure the force: 82 options for force structure, 30 for modernization programs, 8 for readiness levels, and additional decisions for infrastructure, military construction, and science and technology. The user is presented with a target budget level and required to construct an affordable force that hits that target. Each put and take either increases or decreases the budget level.

- Force Structure. Force structure units are focused on the primary providers of combat power for each service, including Navy ships, Air Force aircraft, and Army brigades. Unit costs include the individuals in each unit (unit military personnel,

"MilPers"), their operations (in O&M), and minor procurement. (Major procurement is captured in modernization, below.) The costs also include the supporting combat units, maintainers, and combat service support that enable the operation of the combat unit, thus producing a "fully burdened" cost. The calculator covers all four services' active duty forces and National Guard and Reserve forces.

- Modernization. Modernization encompasses the technology that DoD is developing, procuring, and fielding to equip the warfighter. The calculator has options for each of the Major Defense Acquisition Programs (MDAPs), which are the largest acquisition programs. To maximize decision impact without overwhelming the user, the team included options only for programs spending $5 billion or more, with some similar programs rolled together (e.g., "air-to-air munitions" combines the AIM-9X and AMRAAM programs). The resulting 30 programs and program groups (like air-to-air munitions) were each assigned a unit cost based on the planned spending on those units in 2015–2023. The user can change the number of units purchased or cancel whole programs. These modernization decisions are synchronized (where applicable) with the force structure available in 2023—for example, F-35 fighter jets can't be part of the force structure if they weren't acquired first. Modernization costs cover both procurement and RDT&E (excluding science and technology, which is input separately.) They also cover only future costs. Sunk costs are excluded because they have already been paid.

- Readiness. The calculator allows several different levels of readiness—defined as "The capability of a unit/formation, ship, weapon system, or equipment to perform the missions or functions for which it is organized or designed"[14]—that affects the amount of O&M spent in each service.

- Institutional Support. Under the calculator, institutional support constitutes 30 percent[ix] of the DoD budget. It covers funding that is not allocated to units, and comes from the following areas: central training, central personnel, central logistics, acquisition management headquarters, force management headquarters, medical support, and installation support. The calculator inputs institutional support as a single entity for each service. It provides three options: fixed institutional support (no change with budget level), partly variable with total budget, and fully variable.

- Military Construction and Science and Technology. The calculator provides options for each, based on historical experience.

A key assumption is that cost growth in acquisition, O&M, and compensation will continue at historical rates. These cost-growth assumptions are applied to all costs in the

[ix] The amount of funding considered to be infrastructure depends on how much support is allocated to forces. Different allocation methodologies produce different percentages. CAPE, for example, has an approach that allocates less to forces and more to infrastructure.

budget in order to capture the decline in DoD purchasing power over time, even as the topline shrinks—creating the "double whammy" effect described in *Building the 2021 Affordable Military*.

Once the target budget level has been reached (making enough reductions to get to the topline available in 2023 based on the extended Budget Control Act caps), the final output from the Force Cost Calculator shows the key metrics in each service. Table 9 provides an illustration, using the cost-capped Global Management strategy as an example.

Table 9: Force Cost Calculator Output Illustration

Army		Navy		Air Force	
Active end strength	420,814	Active end strength	299,041	Active end strength	294,410
Reserve end strength	498,096	Reserve end strength	46,643	Reserve end strength	152,031
Total BCTs (AC+RC)	52.7	Carriers	10	Bombers	86
		Amphibious ships	31	4th-gen. fighter/attack	668
Marine Corps		Large surface combatants	89	5th-gen. fighter/attack	347
Active end strength	174,777	Undersea combatants	65	ICBM	400
Reserve end strength	39,039	Small surface ships	19	Mobility	529
Infantry regiments	11	Total ship count	274	Air refueling	330
Marine air groups	11			ISR/SOF	539
				Satellite constellations	6
Joint Force					
Special operations units	31				

Summary Outputs

Table 10 shows the outputs for each strategy from the Force Cost Calculator. As the methodology chapter noted, connecting forces, modernization, and readiness with the specified budget level was an iterative process to ensure a cost-capped balance appropriate to each strategy. (Additional details on inputs and outputs are shown in Appendix F, "Militaries Associated with Each Alternative Defense Strategy.")

- The first column shows forces for the current strategy. That is defined here as the plan expressed by the administration in the FY 2016 budget extended into the future at the FY 2016 funding level. It is shown in italics because it is built to a higher fiscal level than the other strategies.

- The second column shows forces under BCA/sequestration caps for a Global Engagement strategy. Because that strategy attempts to cover global requirements, the forces are reduced in a balanced way. In effect, it is an attempt to continue the current strategy at the lower budget levels.

- The third column shows forces for the Asia-Pacific strategy.[x] Because this strategy attempts to deal with both a China-Taiwan scenario and a Korean scenario, it requires strong land, air, and naval forces. Thus it looks a lot like the Global Engagement strategy except that it has a few more high-end capabilities like fifth-generation fighters and somewhat smaller forces since it reduces deployments outside the Pacific. It has fewer ships than the Global Engagement strategy but would compensate by stationing a larger proportion in the Pacific.

- The fourth column shows forces for a European strategy. In order to increase forces stationed in Europe and sustain a high level of engagement, it maintains a large army and a relatively large Air Force at the cost of naval capabilities. Army reserve personnel increase because the Army keeps much of its support in the reserve components, so as active duty forces increase (or decrease), so do the reserves.

- The fifth column shows forces for Combating Islamic Extremists. It emphasizes special operations capabilities and maintains a relatively high level of ground capabilities that focuses on infantry and cuts armor. It has a large number of Navy ships but focuses on less expensive ships for global presence and counterterrorism operations. It sacrifices carriers and high-end capabilities.

- The final column shows forces for a Great Power Competition strategy. It maintains high-end capabilities needed to deal with a peer competitor but does so at the cost of forward deployments, although it retains sufficient forward presence to prevent “quick wins” by other great powers.

[x] This reflects the “revised” Asia-Pacific strategy, as discussed in the next chapter.

Table 10: Force Cost Calculator Outputs for Each Strategy

Post-TTX Matrix	*Current Strategy (2016 plan projected)*	Global Engage-ment	Asia-Pacific (as revised)	Europe	Combating Islamic Extremists	Great Power Competitor
Army manpower (active/reserve)	*450,000/ 530,000*	421,000/ 498,000	421,000/ 499,000	452,000/ 597,000	421,000/ 498,000	373,000/ 560,000
Army brigade combat teams (active/ reserve)	*58 (30/28)*	53 (27/26)	53 (27/26)	63 (30/33)	52 (26/26)	54 (22/32)
Navy carriers	*11*	10	10	8	9	8
Navy ships	*294*	274	264	261	283	265
Air Force TacAir – total (4th/5th generation)	*1,050 (670/380)*	1,015 (668/347)	967 (512/363)	803 (440/363)	801 (520/281)	842 (440/402)
Air Force bombers/ICBMs	*86/ 400*	86/ 400	96/ 400	86/ 400	86/ 0	116/ 450
USMC manpower	*183,000*	175,000	168,000	168,000	178,000	154,000

In addition to forces, the Force Cost Calculator had inputs for infrastructure, readiness, science and technology, and construction. Table 11 shows the values used for each of the strategies. The rationales, as indicated on the table, were as follows:

- Infrastructure. Infrastructure could be fixed (unchanging with changes in overall budget), half fixed/half variable with the overall budget, or all variable. The "all variable" option was used for all strategies for three reasons: First, over the time period of the study (through 2023) there would be enough time to make changes even in "sticky" infrastructure items that were hard to change. Second, infrastructure should change with the total size of the budget. The CSIS study team did not accept the idea that some elements must be fixed as foundations for any national security effort. Looking globally, different-sized militaries were able to have different-sized infrastructures. Third, as explained later, the strategies could not afford to maintain a larger infrastructure.

- Readiness. Readiness could be set at the FY 2015 level, at a higher level to rebuild after the sequestration cuts of 2013, or at a lower level. These decisions about readiness represented an important strategic tradeoff, as described later.

    - Global Engagement, European Engagement, and Asia-Pacific Engagement. CSIS chose the FY 2015 level for three reasons: First, historically, the services have chosen to cut readiness as part of a balanced approach when their total budget is cut. Second, as with infrastructure, readiness is expensive and the tradeoffs involved in buying more were severe. The CSIS team did not want to further cut modernization and force structure to buy more readiness. Finally, the FY 2015 level of readiness had worked successfully during 2015, even though there were real shortfalls, especially in non-deployed forces that would constitute reinforcements in a crisis. These are reflected in the risk section.

    - Great Powers Competition. Reserve force readiness was set at a higher level than 2015 in recognition of their important power-projection role during surge operations. Because active forces are so small, particularly in the Army and Air Force, reserve forces are needed quickly and form the bulk of forces. Active force readiness was set at the 2015 level. There is less need to prepare units for routine forward deployments, because there is less emphasis on engagement and more units are held at home, but some units need to be ready for immediate deployment to prevent "quick wins" by China and Russia.

    - Combating Islamic Extremists. The strategy emphasizes crisis response and day-to-day operations. Because these require a high level of readiness, active duty readiness was set higher than the 2015 level. Reserve readiness was set lower, because their surge capabilities are less needed, and less immediately needed, in this strategy.

- Science and Technology (S&T). S&T drives innovation. DoD has made a relatively stable commitment to S&T, and this is continued for the Global Engagement, Asia-Pacific, Europe, and Combating Islamic Extremists strategies on the theory that all would need innovative technologies for maintaining parity with peer competitors or global terrorists. The Great Power Competition strategy increased S&T to 25 percent because of its exclusive focus on peer competitors.

- Construction. Military construction is a relatively small but continuous and necessary activity. In recent years the services have cut construction budgets greatly, living off the relatively high construction budgets of the 2000s and the construction spike from the massive ($30 billion) 2005 BRAC round. Recent construction budgets have been about $9 billion DoD-wide, half the peak in the 2000s. However, that budget holiday cannot go on indefinitely. Eventually, the need to upgrade buildings, meet stricter safety and environmental standards, and build new facilities for new missions will drive the military construction budget

back up. Therefore, for all of these strategies, construction was assumed to return to the long-term average of about $12.4 billion per year (in constant dollars).

Table 11: Strategy Inputs for Infrastructure, Readiness, Science &Technology, and Construction

	Current Strategy (2016 plan projected)	**Global Engage-ment**	**Asia-Pacific (revised)**	**Europe**	**Combating Islamic Extremists**	**Great Power Competitor**
Infra-structure (variable or fixed)	*Working to reduce—results unclear*	All variable—i.e., no fixed costs but all vary with budget size *(requires aggressive management action to achieve)*				
Readiness	*Recover from shortfalls*	FY 2015 level			Active higher, reserve lower	FY 2015 level (reserve higher)
S&T	FY 2015 level (21% of RDT&E)					Increase to 25% of RDT&E
Military Construction	Return to long-term average level *(not possible to sustain force at 2015 "construction holiday" levels)*					

Cross-strategy Insights

As the study team developed forces for each of the five strategies, some cross-cutting insights emerged.

Need to constrain infrastructure—but aggressive management action required. To avoid deeper cuts in forces, modernization, and readiness, infrastructure needs to be cut proportionally with cuts to overall funding. The forces developed for all the strategies assumed that DoD would make such proportional cuts to infrastructure. This requires a conscious management effort; it will not happen automatically. If it does not, it would have to make additional cuts to forces.

For example, the CSIS team looked at what would happen if half of the infrastructure were fixed and half variable, instead of all being variable. In that case, the strategies would need to find $13 billion in additional savings. Table 12 shows the additional cuts that would be needed for the Global Engagement strategy. Such cuts would further reduce the strategy's ability to meet the demands of scenarios and day-to-day operational

demands. The recommendations at the end of this report describe in more detail what needs to be done in order to achieve this proportional infrastructure reduction.

Table 12: Impact of Higher Infrastructure Costs

	Global Engagement (infrastructure all variable)	Global Engagement (infrastructure half fixed)
Army manpower (active/reserve)	421,000/498,000	409,000/487,000
Army brigade combat teams (active/reserve)	53 (27/26)	49 (24/25)
Navy carriers	10	9
Navy ships	274	261
Air Force TacAir – total (4th/5th generation)	1,015 (668/347)	807 (520/287)
Air Force bombers	86	76
USMC manpower	175,000	171,000

High cost of readiness—buy only what you need. Readiness is a good thing for military forces. It means that they have the ability to handle requirements that arise quickly and unexpectedly. It builds long-term expertise in personnel. It helps maintain a high level of morale and commitment since troops are busy doing the things for which they joined the military. Therefore, there is a well-founded belief that some readiness is good, and more readiness is better.

However, the operations, maintenance, and munitions expenditures required to produce high readiness are expensive. Further, readiness is very perishable. Readiness bought this year fades away in the future and must be continually renewed. Therefore, in a resource-capped environment, the department can only buy the readiness that it absolutely needs. Buying more, although attractive, requires further force structure and modernization reductions.

Setting the readiness level was an important strategic decision for the study. Readiness was cut severely in the FY 2013 sequestration. The president's budget would rebuild

readiness over the five-year period, hitting target levels in FY 2020, 2023 for the Air Force.[15] Although it would have been attractive to buy back readiness that had been lost in previous years, that would have come at the cost of further force structure and modernization reductions. Raising readiness to the target level would have cost about $12.5 billion per year. The cuts in force structure and modernization needed to pay for that would have been about the level of the infrastructure cuts illustrated earlier. Those cuts would have further reduced the ability of the strategies to meet the capacity demands of the scenarios.

This choice comes with risk. The services have rightly chosen to deploy forces at high levels of readiness, at the cost of reducing readiness in non-deployed units. In effect, they have instituted "tiered readiness," the practice of keeping units at different readiness levels based on their missions and deployment timelines. Tiered readiness was departmental policy in the 1990s but was set aside during the 2000s as units needed to deploy frequently, and war funding was freely available. The risk of tiered readiness is that in major conflicts reinforcing forces would take longer to arrive or be less effective if they were rushed forward. The department accepted this risk in 2015, but that does not make the risk less real.

Need to separate military tasks from those performed by contractors, allies, civilians. Several of the scenarios had very demanding tasks that needed to be executed by some workforce. The default assumption is often that that workforce would be military. However, that does not always need to be the case. In some cases, coalition forces, contractors, or government civilians could perform those tasks and therefore reduce demands on U.S. military forces.

One example was WMD cleanup after a Korean war. If the campaign ended in regime change, as is often the assumption, then coalition forces would occupy North Korean territory. There would be a massive project to deal with North Korea's extensive nuclear, chemical, and, possibly, biological facilities and inventories. Conducting deactivation and removal activities according to international standards would be a multiyear, industrial-scale effort to locate, verify, and destroy not only high-threat weapons, materials, and munitions, but also research and development, production, and manufacturing facilities in a manner consistent with international standards and obligations. While ensuring sufficient counter-WMD capabilities and capacities in our military inventory to prevail in conflict and prevent widespread proliferation is essential, those long-term, industrial disposition efforts need not be performed by military forces and should not be one of the factors driving military force size. Instead, after an initial stabilization period, the effort could be turned over to civilians and contractors with South Koreans providing security.

Scenario timelines are different—some have flexibility (Iran); others have flexibility in parts (Korean "dominance" or counteroffensive phase); others have none (China, Russia, initial phases for Korea). This important insight is not always captured in the scenario descriptions. Sometimes the assumption is made, at least implicitly, that meeting all scenario timelines has the same level of urgency. However, that's not the case. In

general, timelines that are driven by adversaries have little flexibility, but timelines that are driven by U.S. and coalition forces do have flexibility.

For example, halting a North Korean invasion has no flexibility. The North Koreans drive the timeline, and coalition forces must meet it so they do not fail in a key policy goal, like the defense of Seoul. However, coalition forces drive the timeline for Phase 3 "dominance" or counteroffensive operations and can adjust that timeline. That is, some counteroffensive actions can be launched later than desired if additional time is needed to build up forces. There is risk to such a decision, but the risk is less that failing to halt an initial attack.

Similarly, the initial phases of a conflict with China and Russia would have very little flexibility. In both cases the United States and coalition partners must prevent the adversary from achieving his objectives quickly. Once that is achieved, there would be a buildup of forces, which generally favors the United States since it can bring forces to bear from global locations.

In evaluating risks in scenarios, these nuances in timeline assumptions should be considered where they can provide latitude for decisionmakers.

7 | Testing Strategies against Scenario Sets

The next step was to test the five strategies (with their force structure/modernization/readiness levels) against the four scenario/simultaneity sets plus day-to-day operational demands and to develop an evaluation for each strategy/scenario cell.

Evaluating the Strategies

To evaluate the strategies, the team compared the forces available with the forces required (as assessed for each scenario). For example, for Korea, DoD assesses that the Army's target endstrength of 450,000 active and 530,000 Guard/reserve would be adequate to handle a Korean conflict, though with some risk. Thus, strategies with Army endstrengths at this level were considered "green" (that is, equivalent to what the current force can accomplish). At an endstrength of 420,000 active, there would be substantial risk. Thus, this level was labeled "yellow." Endstrength levels below 420,000 would likely cause the loss of a major U.S. policy goal and were labeled "red."

Having done this assessment for each cell, the study team produced a strategy/scenario evaluation chart for the TTX (Figure 13).

Figure 13: Initial Strategy/Scenario Evaluation

All strategies resourced at sequestration levels	Case 1: China Taiwan then Korea, plus HLS and residual peacetime ops	Case 2: Iran – reopen straits, then short stabilization] [plus HLS and residual peacetime ops	Case 3: Russia, then Iran [De-nuclearize] plus HLS and residual peacetime ops	Case 4: Korea plus long stabilization, plus HLS and residual peacetime ops	Day-to-day forward deployments and crisis response [when not involved in major conflicts]
Global Engagement	Y/R Korea Y China	G Iran Y Stab	Y Russia Y Iran	Y/R Korea Y/R Long Stab	Y Historical demands
Asia/Pacific Engagement	R Korea G China	G Iran Y/R Stab	R Russia Y/R Iran	R Korea R Long Stab	Y Historical demands G Asia Pacific
Europe Engagement	Y Korea R China	G Iran G/Y Stab	G Russia Y/R Iran	Y Korea Y Long Stab	Y Historical demands G Europe
Combating Islamic Extremists	Y/R Korea R China	G Iran G/Y Stab	Y/R Russia R Iran	Y/R Korea Y/R Long Stab	G/Y Historical demands G Counter ISIS
Great Power Competition	R Korea G China	G Iran Y/R Stab	G Russia Y Iran	R Korea Y/R Long Stab	R

The TTX discussion brought out several points:

- The summary matrix was very useful for comparing strategies, but several participants expressed reservations about using "green" as a metric. It seemed to imply that the strategy and forces evaluated as green could actually meet the demands of the scenario. What green actually meant was that the alternative strategy could meet the requirements of the scenario *as well as the current strategy* and did not make a judgment about what the current strategy could actually do. For example, the Department believes that it can defend Korea "with some risk" under the current strategy, which has the Army shrinking to 450,000 soldiers. Therefore, alternative cost-capped strategies that maintained the Army at 450,000 soldiers were rated "green" because they could defend Korea as well as the current strategy. A rating of "green" did not make a judgment whether the current strategy could actually defend South Korea. The CSIS team agreed to change the way the results were displayed.

  There was interest in using the strategy's actual capability to succeed in a scenario as the metric, rather than comparing it to the current strategy. That was very attractive in theory. Practically, however, that would require an entire study of its own (described in Chapter 8, under "Recommendations for Preparing for the Next QDR").

- The original Asia-Pacific strategy did well against China because it emphasized air and naval capabilities but did poorly against Korea because it had cut the Army substantially.[xi] There was concern that an Asia-Pacific strategy should deal with all conflicts in Asia, and that meant handling a conflict in Korea. So the strategy was redesigned to put more emphasis on land forces. Inevitably, that meant the strategy did less well against China, as shown in the final results displayed later.

- Cost caps and changes in the nature of conflict cause significant capability gaps in other areas as well, for example, space and cyber. However, these were much more difficult to measure and not adequately captured in the evaluations.

- Even with "green" as the baseline evaluation, all strategies had significant shortfalls across the simultaneity sets and day-to-day operational demands. If the current strategy was not, in fact, "green," then the evaluations would be even worse.

- The overall judgment was clear from the amount of red and yellow in Figure 13: No cost-capped strategy can do everything well. Tradeoffs must be accepted.

[xi] The original Asia-Pacific strategy had the following forces: Navy ships: 284 (10 carriers); Army endstrength: 387,000; Marine Corps endstrength: 179,000; Air Force fourth/fifth-generation aircraft: 440/359. Against China it rated "1" or "green."

Final Strategy/Scenario Case Matrix with Evaluations

The study team revised the summary evaluation chart based on the TTX discussion. It devised a numerical ranking system to use instead of the color system to better indicate that it is showing relative, not absolute, evaluations. Thus "1" means a strategy can accomplish U.S. policy goals as well as the current (FY 2016) strategy and planned forces for those areas where the strategy claims to be adequate; that is, the strategy claims it can cover MCOs such as might occur in China-Taiwan, Russia, and Iran, though with risk. A rating of "1" does not therefore mean that a strategy can accomplish a particular scenario, only that it can accomplish that scenario as well as the current strategy. (The current strategy does not claim that it can cover a long-term stability operation and has not assessed its ability to cover a high level of day-to-day operations. These elements are therefore measured against historical experience.)

As described earlier, the TTX discussion also recommended changes to scenarios, simultaneity sets, and strategies. Table 14 shows how all of these changes came together.

Table 14: Final Strategy/Scenario Evaluation

All strategies resourced at BCA/sequestration levels	**Case 1: China-Taiwan then Korea, + HLS and residual day-to-day ops**	**Case 2: China-Taiwan, then Russia, + HLS and residual day-to-day ops**	**Case 3: Russia, then Iran/De-nuc, + HLS and residual day-to-day ops**	**Case 4: Korea plus long stabilization, + HLS and residual day-to-day ops**	**Day-to-day Operational Requirements at 1990s level**
Global Engagement	Korea: 3 China: 3	China: 2 Russia: 2	Russia: 2 Iran: 1	Korea: 3 Long-term stability: 3/4	3
Asia-Pacific Engagement	Korea: 3 China: 2	China: 2 Russia: 3	Russia: 2 Iran: 2	Korea: 3 Long-term stability: 4	3 Asia-Pacific: 1
Europe Engagement	Korea: 2 China: 5	China: 5 Russia: 1	Russia: 1 Iran: 4	Korea: 2 Long-term stability: 3	3 Europe: 1
Countering Islamic Extremists	Korea: 3 China: 5	China: 5 Russia: 3/4	Russia: 4 Iran: 5	Korea: 3 Long-term stability: 4	2 Counter ISIS: 1
Global Power Competition	Korea: 5 China: 1	China: 2 Russia: 3	Russia: 1 Iran: 2	Korea: 5 Long-term stability: 4	5

1=Same level of accomplishment as the FY 2016 strategy and planned force (success but with some risk).
2–4=Increasing levels of risk
5=Fails in major policy objective.

Although space does not allow a description of the evaluation of each of the 25 cells in the table, some overall themes do emerge. The discussion below lays out these general themes and the risks in having lower scores.

- Korea. All the strategies have significant shortfalls in a Korean conflict. In general, this is because the Army is too small to maintain on active duty all the capabilities that this conflict requires. A concurrent conflict with China would also divert needed naval and air capabilities.

    - Risk: The risk is not in the early phase to stop the North Korean invasion. Those capabilities are limited by time-space challenges, not force size, readiness, or modernization.[xii] Rather, the risk is in the flow of follow-on forces once the invasion has begun. Smaller active duty forces require more reserve forces, particularly National Guard combat units, and these take time, perhaps many months, to mobilize, train, and deploy. Delay in moving to phase 3 ("Establish Dominant Force Capabilities") and extending the length of the war risks horizontal escalation, possibly including the U.S. homeland, problems with neighboring states such as Russia and China (if not already involved), and vertical escalation to WMD. The risk from maintaining a 2015 level of readiness is similar: a longer campaign as units take more time to get ready.

- China. Several strategies fall short in a conflict with China because they lack the naval and air assets needed. The Asia-Pacific strategy rates only "2" because the Navy is smaller than today's. (Some naval forces were given up in the "revised China strategy" to maintain the size of the Army.) Although ships would be prioritized to the Pacific under this strategy, later-arriving reinforcements from the Atlantic would be fewer. Any conflict with China also requires very high-end modernization. Thus, Great Power Competition does well against China (1) but at the cost of doing very poorly against Korea (5). Strategies with fewer fifth-generation aircraft (Combating Islamic Extremists) have a harder time penetrating China's anti-access/area-denial zone. Strategies with less missile defense have a hard time defending forward bases.

    - Risk: The initial risk is that there are too few early-arriving air and especially naval forces to stop a Chinese amphibious invasion of Taiwan. Thus, the European Engagement strategy does poorly against China because its forces are in the wrong place.

      The later risk is that reinforcing forces will not be strong enough to continue attrition of Chinese amphibious capabilities, to blockade China's maritime commerce, and to ease China's air/missile blockade of Taiwan.

[xii] CSIS's study *Asia Pacific Rebalance 2025* has recommendations for improving the initial response in a Korean conflict. The key recommendation is to position more air-to-ground munitions forward. The study will be published publicly in January 2016.

Here, readiness levels are important because these reinforcements will be delayed if readiness is low.

- Russia/Iran. These MCOs compete for air assets, both total and fifth-generation, to penetrate sophisticated air defense zones. None of the strategies have enough, although Great Power Competition comes closest.

    - Risk: The Russia scenario requires immediate action to prevent complete overrunning of the Baltic states, so that campaign would receive priority for the most ready, active duty air forces. The Iran campaign could begin immediately but would take longer as it waited for reserve units to mobilize, train, and deploy and for lower-readiness active duty units to get ready and deploy. The delay would allow Iran to hide and better defend its nuclear capabilities. That would cause the campaign to take even longer and cause higher casualties, both friendly and adversary.

      Air campaigns also have a finite life as the attacker's resolution wears down as a result of its own casualties, civilian casualties inflicted, and the need for forces elsewhere. Thus, the "clock" on the Iranian campaign might run out before all the U.S. objectives were accomplished.

- Long-term stability. Because of the rotational demands, that is, the need to deploy successive waves of forces, not just surge forces, strategies need to have large ground components (Army and Marine Corps) to do well in this scenario. Reserves can help because the long timelines involved in rotating forces allow time to mobilize and train reserve units. A benchmark is that the Army struggled to execute the Iraq stabilization campaign (about 120,000 troops in theater, pre-surge, while supporting operations in Afghanistan) with an endstrength of 482,000 (plus "temporary" additions of up to 30,000).

    - Risk: Strategies with smaller ground components would need to expand them sooner or subject personnel to high stress with all the ill effects that entails. However, the experience in Iraq showed how politically difficult it was to decide to expand forces. Doing so is an acknowledgment that the conflict will be long, even as an administration is trying to argue that the conflict is under control and will eventually end. For example, in the Iraq War, the ground forces should have been expanded in 2005 as a third rotation was shaping up. Instead, the administration waited until late 2006 and put military personnel under great pressure as a result.

      Modernization levels are less important because of the low-technology level of most insurgents. Readiness is also not a key driver of risk because the long timelines for deployments allow time to fund and build readiness in deploying units.

- Homeland security. These scenarios (50,000–100,000 military personnel) were not large enough to be major pre-conflict force drivers. The general nature of many

force requirements—security and logistics—makes meeting the demand easier since many different kinds of units can provide these capabilities. First responders need to be either active duty or local Guard/reserve. The timelines are long enough, however, that Guard and reserve units drawn regionally, even nationally, could participate.

- Risk: If domestic pressures push successfully to hold some units back in order to protect the homeland, then the forces available for overseas conflicts could be severely constrained. This might especially be the case in situations where a domestic attack has occurred.

  The pressures to hold back any forces, active or reserve, could arise through many channels. It is likely, however, that the focus would be the National Guard since it has an explicit mission of homeland security, and governors control it in peacetime. In theory, under the Constitution, the president and Congress can call the National Guard to federal service without the governor's consent.[16] In practice, the custom arose during the wars in Iraq and Afghanistan that only a portion of a state's National Guard personnel would be deployed at a time, thus leaving the state with some protection in case of a domestic emergency. This practice was informal—an understanding, not an official policy—but was considered real by many governors. Regional agreements, whereby neighboring states would help each other, did ease concerns. Nevertheless, some states, impelled by an anxious populace and working through their congressional delegations, might be able to apply this informal understanding to a national crisis with multiple, simultaneous conflicts as described in the simultaneity sets.

Expert Assessment of Strategies

The experts at the TTX wrestled with the different strategies. None of the strategies was entirely satisfactory. Table 15 summarizes their discussions.

Table 15: TTX Strategy Assessment

Strategy	TTX Discussion	
	Strength	But…
Global Engagement	Balanced; hedges against an uncertain future.	But not strong in any single area.
Asia-Pacific Engagement	China the rising power and long-term challenge; Asia-Pacific is the future.	But leaves Europe and Middle East exposed.
Europe Engagement	Need the larger Army that this strategy produces; focuses on an immediate challenge.	But Russia may lack long-term staying power as a threat.
Counter Islamic Extremists	Focuses on a clear, bipartisan, near-term threat.	But not an existential threat. Not clear how effective U.S. can be, given reluctance to put large forces on ground.
Global Power Conflict	Great powers constitute the major challenge; avoids strategic distractions.	But disengagement from allies and forward deployments is worrying.

When pushed to make a recommendation, the largest group wanted to focus on Asia-Pacific. In part this reflected a belief that the rise of China was the greatest long-term challenge to the United States. In part this reflected support for the naval character of the forces associated with that theater. (The earlier version of the Asia-Pacific strategy was much more naval oriented than the final version.)

There was some interest in the Great Powers strategy. It was attractive because it focused on the greatest challenges and avoided strategic distractions. However, the reduction in forward presence and engagement concerned some experts. It looked too much like isolationism, even though that was not its intention.

There was some interest in the Global Engagement strategy because it hedged its bets about the future. If you cannot forecast the future with some confidence, then you want to prepare a broad set of tools to deal with that uncertain future.

Similarly there was some interest in a Europe-focused strategy. It focused on an immediate threat that had been highlighted by senior officials, including the Chairman of the Joint Chiefs. Its large army was also useful in a Korean scenario. However, to others it seemed too backward looking. Further, Russia does not appear to have the economic and social strength to constitute a long-term threat. Its economy is relatively

small, and its demographics are in decline. The challenge appears to be a near-term one that requires near-term responses, not a long-term strategic change.

There was no interest in a counter-ISIS strategy. It seemed too narrow. The strategy did have some attractive secondary aspects in that its large army and special operations forces could do well in conflicts other than counterterrorism.

Overall: “You can’t do it all.”

The TTX discussion of the strategy/scenario evaluation matrix was quite sobering. No strategy did everything well, since fewer and weaker defense dollars caused capacity shortfalls across the spectrum of conflict. Moreover, it’s not just capacity shortfalls caused by a growing strategy-resources gap; changes in the nature of warfare (see the discussion above on the canonical Korean MCO) cause significant capability gaps as well. While DoD could argue in 2014 that it could “do more with less,” the challenges of “doing considerably more with considerably less” in 2015 are insurmountable. In a cost-capped environment, the United States simply “can't do it all.”

8 | Recommendations for the FY 2017 Budget, the Next Quadrennial Defense Review, and Potential Ways to Mitigate Tradeoffs

Recommendations for Preparation of the FY 2017 Budget

With a budget agreement for FY 2016 and FY 2017 concluded, the department is operating under less uncertainty than most analysts had feared. Although long-term uncertainty persists, about both budget levels and a strategy-resources gap, the near-term resources are close enough to the department's plan that there is no immediate crisis that requires a strategic review. Going forward, however, this study can help in two ways.

- First, this study demonstrates the need for further strategic analysis prior to the next QDR/DSR (described below). These QDR studies need to begin soon if they are to be ready when a new administration takes office in January 2017. Although the fiscal future may not be as severe as BCA/sequestration, the nature of the last two budget agreements and the fact of internal cost growth indicate that resources will not rise above the president's budget (PB) level and may be considerably below. That requires strategic choices.

- Second, the study shows the harsh tradeoffs needed to get to the BCA/sequestration funding level. The study results can therefore reinforce the department's argument that such tradeoffs would be unacceptable—a view widely held not just in the administration but in the Congress and in the broader national security community as well. The tradeoffs would require unacceptable curtailment of long-standing policies and commitments that the United States has made to its partners and allies. The study's analysis might add impetus for a long-term budget deal.

Recommendations for Preparing for the Next QDR

The next QDR[xiii] provides the best opportunity for implementing the insights from this study because (1) the fiscal environment will be clearer, and (2) the broad tradeoffs involved require considerable assessment and consideration beyond what the annual budget review can provide. The following recommendations, therefore, would be particularly suitable for consideration in the next QDR/DSR. They might be prepared as

[xiii] The 2015 National Defense Authorization Act changed the name of the QDR to "Defense Strategy Review," though this study uses the more familiar name.

topics for planning phase studies in next year's (FY 2018) Programming, Planning, Budgeting, and Execution System (PPBES) cycle. To do this, DoD would need to issue study guidance soon.

Assess the planned forces' ability to execute current strategy. One clear theme that came out of the discussions at the working group sessions and at the tabletop exercise was uncertainty about how well the FY 2016 planned forces (that is, the forces planned in the president's FY 2016 budget and Future Years Defense Program—FYDP) could execute the current strategy. The evaluation system adopted for this study accepted the administration's position that the currently planned forces (modernization and level of readiness) could execute the current strategy with some risk because that's the official position of DoD, as expressed in the 2014 QDR and the chairman's risk assessment. However, there was considerable skepticism about whether that was actually true in all cases. The broader national security community shares this concern. The National Defense Panel recommended large increases in funding and force structure. A RAND report recently noted that "U.S. defense strategy is out of alignment with the resources that the nation has been devoting to the defense program."[17]

The first set of simultaneous scenarios, China and Korea, is particularly demanding. It requires a lot of strength in the Pacific in all domains—air, land, sea, as well as in supporting capabilities like cyber, space, and special operations. Several participants questioned whether the planned FY 2016 force could handle the Korean MCO the way it would likely be fought, with North Koreans making extensive use of SOF, chemical weapons, and nuclear weapons (see the next chapter for further discussion). For a conflict with China, there is no unclassified assessment about whether the United States can be successful in achieving its policy goals. Recent work by RAND raises questions about whether the United States can successfully defend Taiwan, especially over time as China modernizes its forces faster that the United States does.[18] TTX participants further questioned whether the planned FY 2016 force could handle the four simultaneity sets constructed by the CSIS study team.

It would be worthwhile, therefore, to assess the ability of the planned FY 2016 force to meet the goals of the key scenarios designated by the secretary. This assessment should be done as an input to the QDR process, preferably by an independent group to give it credibility outside the Department and flexibility in adopting it inside the Department. Such an assessment is, of course, extremely sensitive. The current administration is firm in its belief that the current strategy can be executed. It would be difficult to change this assessment and, in any case, unnecessary this late in the administration's time in office. However, a new administration will want to start with a clean slate, in part because starting with an overly optimistic strategic assessment makes it more difficult to muster the energy and will to make tough choices. Overcoming denial and resistance to change is always hard; it's even harder when one doesn't know how deep the hole is. However, it needs to be done. The new administration will not want to get a year into its term and then find out that its strategy is unexecutable. The QDR/DSR would be the opportunity to find this out. Further, the 2017–2018 QDR/DSR, unlike previous QDRs, will be required to

explicitly assess the connection between strategy and resources. Thus, it will be easier to argue for changes in strategy based on expected resource levels.

Develop tools to assess whether planned forces can meet future day-to-day operational demands. As the department has recognized, one of the drivers of force structure is the need to meet day-to-day operational demands for routine forward deployments, crisis response, and small-scale operations. This justification for force structure has been growing over time as wartime requirements have become less certain but day-to-day operational demands have become more pressing. During the Cold War, only some naval forces had their structure size set explicitly by these day-to-day operational demands. In the 1990s this was expanded to high-demand/low-density units. More recently, other force elements have been stressed by day-to-day operational demands and had these demands considered with wartime requirements in shaping their structure. DoD may be entering an era when most force elements will be stressed by reduced numbers and high levels of deployments. As this happens, there will be requests to increase their size or, at the least, to put a floor on their size. The Marine Corps argues that its minimum structure is set now by day-to-day operational demands.[19] The Army and its advocates are also making such an argument based on increased tensions in Europe.

OSD should develop the tools now to handle such requests. The temptation will be to address these requests on a case-by-case basis. However, using ad hoc tools to set the size of relatively narrow force structure elements like civil affairs or even Navy carriers might have worked in the past, but using such an approach to set the size of an entire service will be inadequate. There will be too much money involved, requiring major tradeoffs in a cost-capped environment. Further, waiting until some force elements become critically stressed might damage those force elements through recruiting and retention shortfalls. Conversely, case-by-case approaches using ad hoc tools might produce decisions to increase force elements for the long term—either by the department or by the Congress—when, in fact, only short-term relief is needed.

The approach might be threefold. First, assess what the breaking points are for unit operational tempo and what the warning signs are, and thus determine when action is necessary. This is difficult because the interaction of human needs, leadership desires, and endstrength constraints makes establishing objective standards hard, but it is necessary in making comparisons across different services and force elements. Second, develop standards for time home and time away so that all force elements are treated the same. Again, this is difficult because, while “time away” during deployments is easy to measure, there is a lot of “time away” when units are at home station. All of this needs to be captured to develop a fair, cross-service standard. Third, look into the future to determine where stress might occur. Although forecasting future demands is extremely difficult, it might be possible to determine key indicators for whether demands are going up, down, or remaining constant for an extended period. This would help the department decide whether long-term or short-term measures are needed to relieve current stress on particular force elements.

Develop a flexible approach to any conflict in Korea. North Korea has long had chemical weapons and has now acquired nuclear weapons. The conventional wisdom is that the possession of nuclear weapons will deter a power with overwhelming conventional power. That was the U.S. concept during the 1950s (the "New Look"), the Russian concept today ("escalate to deescalate"), and a common perception in the international security community regarding how countries would handle U.S. conventional superiority. The United States has no experience fighting an adversary with nuclear weapons, and there is no example of a country with nuclear weapons being invaded and its regime overthrown.

North Korea might use its nuclear weapons early to change the shape of the initial phases of the conflict by inflicting damage on coalition military forces or even by attacking civilians. It might use these weapons later to prevent overthrow of the regime. Such a nuclear battlefield would look fundamentally different from what the United States has experienced and what it has planned for in the recent past.

This raises some hard questions. Does the United States need to change its concept of operations, which in Operations Desert Storm and Iraqi Freedom relied on logistic bases and mobility hubs operating in sanctuary? Is "regime change" even possible against a nuclear-armed opponent? The answers to these questions are not fully knowable in advance, but strategists can, and should, prepare for the possibilities.

Develop sets of connected simultaneous events. Force planning has been driven by some version of the two-major-conflicts methodology since the end of the Cold War. As noted earlier, this has a sound strategic basis and has been adopted in one variation or another by the Clinton, Bush, and Obama administrations and will likely be adopted by future administrations as well. However, the connection between the two conflicts has been vague in the past. The notion has been that one conflict might erupt, as has been seen from time to time arising from many different causes. Then a second aggressor might take the opportunity to attack while the United States was distracted. This has been the "opportunistic aggressor" assumption.

The conceptual problem is that the United States has already run this experiment. During the 2000s, when the United States was deeply involved in wars in Iraq and Afghanistan, no other country—North Korea, Venezuela, Russia, Iran—took advantage of this deep engagement to launch an opportunistic attack. Similarly, in 1991 when the United States was involved in Desert Storm, no other country took strategic advantage of the opportunity. Although past performance may not predict future results, it's arguable that an opportunistic aggressor is very unlikely in the future. If so, that weakens the argument for a robust second MCO capability.

However, it's possible to hypothesize two conflicts that are in fact linked. The first set of simultaneous major conflicts in this study was China and Korea. If the United States were involved in a conflict with China, it is conceivable that China might encourage or even facilitate a North Korean attack on the South. The two Communist regimes have a long history of collaboration, with North Korea being a client of China. In 1950 the Chinese facilitated the North Korean attack and later supported it with their own troops. If China

were in a conflict with the United States, it would be looking for ways to distract the United States and spread its forces.

Similarly, it's possible to hypothesize a linkage between a Russian conflict and an Iranian conflict. The two countries have developed close linkages recently because of their activities in the Middle East. If Russia were involved in a conflict in the Baltics, it might encourage or facilitate Iran to take action in the Persian Gulf region. That could be closing the strait or some other activity, perhaps a nuclear breakout, where the United States believes it has to take action.

The study team understands that the department has begun to consider such linkages in its planning. Looking for these linkages strengthens the strategic planning process by building a more credible foundation.

Explore areas to ease fiscal pressure within a constrained top line. The harsh tradeoffs caused by the severely constrained top line under BCA/sequestration caps has pushed many commentators to look for ways to break out of the "fiscal box." Further, to maintain credibility, strategic realignments that make deep cuts in forces also needed to look at other areas in order to be accepted. This was the experience in the 1990s during the post–Cold War drawdown and in the late 2000s during the Iraq/Afghanistan drawdown. The military services and many commentators would not accept budget cuts that appeared to focus only at forces. They wanted to look at "tail" as well as "tooth."

Three examples grew out of other CSIS analyses, although this does not exhaust the list of possibilities: reducing infrastructure, substituting battlefield contractors for military personnel, and slowing the growth of military compensation. All are theoretically attractive but very hard to implement. There may be no way out of the "fiscal box."

Reduce infrastructure. Many commentators have suggested reducing infrastructure (sometimes referred to as "overhead"). That looks attractive because it seems to offer free money, that is, savings without giving up some important activity. However, cutting infrastructure requires the same kind of difficult tradeoffs involved in reducing forces. Nevertheless, there are some approaches that might be worth exploring. As Robert Gates, former secretary of defense, noted in recent testimony: "There is no line item in the defense budget called 'waste.' So getting at unnecessary overhead spending without harming important functions is extremely hard work—like a huge Easter egg hunt—but it can and must be done."[20]

As noted in Chapter 6, "Constructing the 2023 Force," the CSIS analysis assumed considerable success from current infrastructure savings efforts. Achieving even these assumed savings will take a lot of work, and failure to move aggressively here will cause even deeper cuts to forces, modernization, and readiness. Finding additional reductions might be possible, but they require even more aggressive managerial action. In the mid-1990s, when DoD was going through the post–Cold War drawdown, the Cost Analysis and Program Evaluation (CAPE) office—then-Program Analysis & Evaluation—conducted an analysis of infrastructure to ensure that infrastructure decreased at the same rate. This analysis found that about 40 percent of infrastructure came down automatically as

forces came down. Reducing the rest required managerial decisions and sometimes policy changes.[21]

Internal reviews have limits on how far they can reduce infrastructure because these reviews are conducted by the same organizations that would be reduced. Thus, some sort of external review is warranted. In the 1990s DoD used a panel of outside experts. The base realignment and closure process can also be a powerful mechanism for reducing infrastructure. Although it is theoretically focused on just facilities, changes in organization are often needed to allow changes in facilities and base structure.

Substitute battlefield contractors for military personnel. Another possibility would be to reduce the number of military personnel by expanding the use of battlefield contractors (technically called "operational contractors" to distinguish them from contractors supporting peacetime activities at home). The great advantage of battlefield contractors is that in peacetime they cost essentially nothing while military personnel must be maintained in either an active or reserve status. Further, at the end of a conflict, contractors can be released quickly and easily whereas rapid reductions in military personnel are difficult.

However, there is a continuing uneasiness in some areas about the extensive use of contractors, partly as a residual reaction to the many contracting scandals in the 2000s. Thus, much of the public narrative is very critical. For example, Rachel Maddow, the liberal commentator, deplored "relying on a pop-up army . . . of greasy, lawless contractors" while others accuse contractors of eroding citizenship and undermining military professionalism.[22] Yet even the harshest critics acknowledge that contractors, particularly logistics contractors, have been effective in their roles. As the otherwise-critical Commission on Wartime Contracting in Iraq and Afghanistan noted: "In general, contractors have performed well in support of defense, diplomatic, and development objectives in Iraq and Afghanistan."[23]

In the next QDR, DoD might build on the excellent work it has done so far and consider battlefield contractors as a part of total force structure, with active duty military, reservists, and government civilians, so that explicit tradeoffs can be made.

Slow compensation growth. As has been widely analyzed, compensation for military personnel has increased greatly since the establishment of the All Volunteer Force. More recently, since 2001, pay per active duty service member has grown about 50 percent in constant dollars.[24] Military pay has increased 40 percent more than civilian pay since 2000 and enlisted service members now have higher compensation than 90 percent of civilians with comparable education and experience (83 percent for officers).[25] Curbing compensation growth is attractive because it may be possible to save money without endangering military recruiting and retention, given that military compensation is so much higher than comparable civilian compensation. Indeed, DoD has made a number of proposals to do this, from increasing healthcare co-pays to capping the size of military pay increases. These proposals have been only partly successful with the Congress.

However, DoD itself may have, in effect, given up on slowing compensation growth. In November 2015, DoD proposed a package of personnel reforms designed to restructure military and civilian personnel administration for the twenty-first century and make military service more attractive to the millennial generation. While such an effort is commendable, some of the initiatives will cost money either directly or indirectly, thus making DoD's military personnel more expensive. None of the initiatives save money, and some extremely expensive benefits are reportedly being considered. It will be hard to simultaneously propose both increases and decreases in compensation.

9 | Loose Ends: Unresolved Issues Needing Further Research

In a study of this breadth, there are inevitably loose ends—important issues that the study team identified but could not fully pursue. The most important issues that merit further research are discussed below.

Develop Credible Means for Introducing Nuclear Play into Tabletop Exercises and Wargames

The CSIS study team's efforts to get the TTX participants to "play" nuclear weapons were not successful. Russian military doctrine explicitly states that nuclear escalation should be considered as a means of deescalating a conflict with a conventionally superior adversary. RAND has conducted several "nuclear games" that envisioned early employment of nuclear weapons by the North Korean regime to get the United States to "back off" and stop prosecuting a conventional conflict that North Korea has no chance of surviving, much less winning. Notwithstanding the plausibility of nuclear play in these scenarios, the CSIS study team was unable to generate a serious discussion of the nuclear element in the TTX discussion of the Korean and Russian MCOs. Nuclear capabilities in future adversaries are what Frank Hoffman (a working group member) called "pink flamingoes"—that is, "a predictable event that is ignored due to cognitive biases of a senior leader or a group of leaders trapped by powerful institutional forces. These are the cases which are 'known knowns,' often brightly lit, but remaining studiously ignored by policymakers."[26]

The United States has never been very good about planning for a nuclear battlefield. It made some efforts in the 1950s with the New Look and the Army's "Pentomic" divisions, but the Army abandoned that structure in the early 1960s when it moved toward flexible response. During the Cold War the superpowers maintained thousands of tactical nuclear weapons, but the United States assumed that wars would have a conventional phase, even if eventually the war went nuclear. Thus, Cold War exercises were typically conducted as conventional conflicts up until the very end when nuclear release procedures were practiced. (These procedures were very precise and needed considerable attention to get right.) At that point exercises ended because no one really knew what would happen next.

We are again at a point when we need to think about what happens next, even if it is uncomfortable. There were experts then, as there are now, who will "think about the unthinkable." That expertise should be recaptured.

Refine Policy Descriptions of Risk

Identifying policy-based risk judgments is useful because they indicate where senior officials have some decision space. Customarily, risk has been described qualitatively—that is, high, medium, low, or with regard to a baseline, for example, higher or lower. These descriptions do not help policymakers identify the exact nature of the risk and obscure where their choices are.

For example, one classic risk is that a conflict on the Korean Peninsula might take longer than currently desired. In particular, if active duty forces are too small and reserve combat forces need to be used, that will delay phase 3 ("dominance") and conclusion of the conflict. There are risks associated with such a delay, but decisionmakers might judge that those risks are acceptable when compared to other risks. Simply describing the situation as high risk, however, does not capture the nature of the tradeoff for decisionmakers. Similarly, describing the risk in conducting a long-term stabilization campaign as "high" is not helpful for decisionmakers. The risk is in excessive stress on personnel—and with all the bad effects that entails—and in having to make an early decision to increase the size of the force, especially the Army.

It is possible to develop policy-based risk descriptions across all the scenarios. Such a study would involve analysis of the interaction between military requirements, conflict dynamics, and policy goals for each scenario. The analysis could then identify where key policy tradeoffs occurred. This current study began such assessments, but much more could be done.

Consider Ways to Improve Management in the Department of Defense

Given the growing strategy-resource gap the Department faces, major reform is certainly needed. However, since enactment of the landmark Goldwater-Nichols defense reform legislation and the subsequent enactment of the Packard Commission reforms on the acquisition process, the track record of defense reform efforts has been mixed. Administrations and Congresses launch management reform efforts, but little seems to change. By the time Secretary Robert M. Gates, widely believed to be one of the most effective defense secretaries, left office in July 2011, he claimed to have identified $230 billion projected savings.[27] Although he was able to make some real changes, no Pentagon-watcher believes the Department fully achieved that target. Indeed, when Gates returned to Washington in October 2015 to testify before the Senate Armed Services Committee, he said, "It is completely legitimate to ask whether our defense structures and processes are giving us the best possible return on taxpayer dollars.... In too many cases, the answer is 'No.'" He went on to identify four key issues: a slow acquisition process, an overly centralized management structure, a broken interagency process, and a stalemated Congress that undermines long-term planning.

Recently, the Congress has expressed great interest in management reform, especially the Senate Armed Services Committee. It has held extensive hearings on the subject and

required headquarters reductions in the FY 2016 National Defense Authorization Act. DoD should get in front of such efforts lest it end up reacting to initiatives, perhaps well intentioned but poorly constructed, proposed by others.

Notions about what a management reform effort might do go beyond the scope of this single study. However, CSIS has done past work in this area, and its scholars have participated broadly in discussions about what reforms might be useful. Based on this work, the CSIS study team suggests that a reform effort might do four things:

- Assess the relationships among senior management headquarters, including the National Security Council and other agencies of government, with the goal of identifying ways for them to work together more effectively.

- Analyze the size of these headquarters to identify where increases have occurred and to recommend ways to meet congressionally mandated reduction targets.

- In particular, examine the growth of the regional combatant commands as their role has changed from operational headquarters to political-military ambassadors.

- Assess the best way to delineate between military personnel, government personnel, and contractors, given the rising cost and shrinking numbers of military personnel.

| Appendix A. CSIS Alternative Defense Strategies Working Group Participants

CSIS Study Team

Clark Murdock, Senior Adviser
Center for Strategic and International Studies

Mark Cancian, Senior Adviser
Center for Strategic and International Studies

Kathleen Hicks, Senior Vice President
Center for Strategic and International Studies

Ryan Crotty, Fellow
Center for Strategic and International Studies

Todd Harrison, Senior Fellow
Center for Strategic and International Studies

Angela Weaver, Research Assistant
Center for Strategic and International Studies

Chris Sallarulo, Research Intern
Center for Strategic and International Studies

DoD Participants

Mara Karlin
OSD Strategy and Force Development

Stephanie Ahern
OSD Strategy and Force Development

James Mitre
OSD Strategy and Force Development

James Truran
OSD Strategy and Force Development

Joint Staff Participants

Norman Edwards
Joint Staff, J8

Outside Experts

Shawn Brimley
Center for a New American Security

Rebecca Grant
IRIS Independent Research

Andrew Hoehn
RAND

Frank Hoffman
National Defense University

Steve Stanley
Northrop Grumman

| Appendix B. CSIS Alternative Defense Strategies Working Group Schedule

Session 1: Overview of CSIS Analytic Approach & Review of Project Framework

July 1, 2015, 1300–1500, CSIS

Session 2: The Future Security Environment and Demand Function for Military Capability

July 21, 2015, 1100–1300, CSIS

Session 3: Initial Iteration of Alternative Strategies and Capabilities

August 12, 2015, 1000–1200, CSIS

Session 4: Tabletop Exercise

September 30, 2015, 0830–1530, CSIS

Session 5: Review of Draft Results and Study Findings

October 30, 2015, 0900–1100, CSIS

| Appendix C. Assessing the 2023 Security Environment

The United States finds itself facing an ever more complex international security environment that will challenge America's global reach and strategic flexibility. While large regional themes, such as the future of U.S. relations with Russia, China, and the Middle East, will likely dominate the threat environment, other threat areas such as North Korea and Iran were included to create a more complete picture of the future security environment. In addition, the study team examined changes in the character of warfare, such as cyberspace, precision munitions, and chemical and biological weapons, to understand better both the threat and the need for innovative approaches and specialized force structures and weapons systems.

Consequently, assessing the 2023 security environment was the initial step in this study of alternative strategies. To do this assessment, the CSIS research team constructed the following taxonomy:

Threats (specific actors):

- China
- Russia
- North Korea
- Iran
- Islamic Extremists

Changes in character of warfare (reflected in threat capabilities):

- Precision munitions (PGMs)—no longer a U.S. monopoly
- Space and cyberspace—increasingly contested environments and critical to U.S. warfighting
- Nuclear weapons—growing role as offset to U.S. conventional superiority
- Autonomous systems/robotics—like PGMs, a proliferating capability
- Potential game-changing technologies—for example, directed energy, synthetic biology, hypersonic platforms/munitions

The CSIS research team aimed to answer four key questions in each topic area:

1. What are the planning contexts and assumptions?

2. What are today's indicators that this planned future could happen?

3. What are the indicators that a more benign security environment could emerge?

4. What are the implications for the U.S. military?

This appendix provides the one-page assessments for each topic area. The taxonomy and research methodology for this appendix were briefed to the working group in the summer of 2015. The working group provided critical feedback on an initially threat-centric model and indicated a need to assess specific capabilities that will challenge U.S. technical superiority. This resulted in creation of the "Changes in the Character of Warfare" group. In doing so, this appendix became a more comprehensive overview of the future risks to U.S. strategy and global security.

The CSIS study team used these assessments of the future security environment to construct the scenarios that constituted the demand side of the study analysis.

Threat: China

Planning context and assumptions

- The trajectory of China's military posture and capability represents the most significant driver of long-term U.S. military capability needs (with the exception of nuclear capabilities).
- China's pursuit of advanced military capabilities and its political pursuit of parallel institutions to counter the U.S.-supported international order make China a serious competitor to the United States.
- While China will remain less *globally* militarily competitive than the United States, it will continue to make *regional* gains that threaten U.S. freedom of maneuver in the region, and, over time, will develop its forces for a more global role.
- China will continue to pursue asymmetric capabilities that challenge U.S. conventional superiority, including information operations, counter-space and offensive cyber.
- China will continue to develop advanced anti-access/area-denial (A2/AD) capabilities including an integrated air defense system (IADS), ballistic and cruise missiles, and anti-ship munitions. Their conventional capabilities will continue to grow in maritime and undersea platforms, and in the air through the fielding of a fifth-generation fighter in the 2020–2030 timeframe.

Today's indicators that this planned future could happen

- China's increasingly aggressive actions in the Asia-Pacific region, including island-building in the South China Sea, declaration of an Air Defense Identification Zone (ADIZ) over contested territory in the East China Sea, and harassment of commercial vessels, have established a pattern of activities that generate friction with U.S. allies and partners in the region and assert Chinese regional authority.
- These actions have already generated lower-level confrontations, including ramming of fishing vessels, energy vessel harassment, and aggressive intercepts of reconnaissance aircraft. These actions suggest a continued commitment to expansive regional claims, which will require military muscle to support it.

Indicators that a more benign security environment could emerge

- China's economy benefits significantly from the existing international order and thus destabilizing military actions may be self-defeating due to the importance of continued economic growth for maintaining domestic political stability.
- Structural weakness in the Chinese economy, highlighted by recent volatility in Chinese markets (including the loss of nearly $3.4 trillion in value in one month),

suggests that the last decade of double-digit increases in military spending may not remain sustainable in the 2020–2030 timeframe.

Implications for U.S. military

- In order continue to contend with China in the region and maintain a favorable order in the Pacific, the United States needs to maintain the capabilities and forces that allow the military to project power and maintain forward presence.

- Destabilizing actions by China in the region also put a premium on the reassurance of allies, both to maintain U.S. credibility and to prevent escalation of conflicts.

- China presents the most significant A2/AD and asymmetric warfare challenges, driving U.S. demand for high-tech investments to operate in this environment. This demand includes nearly every domain of warfare: electronic warfare, missile defense, cyber, space, undersea, maritime, long-range strike, and intelligence, surveillance, and reconnaissance (ISR). Long-range missiles will be particularly important because they allow launching platforms to stay out of the A2/AD zone.

Threat: Russia

Planning context and assumptions

- General Dunford identified Russia as the greatest threat to U.S. national security.
- Russian assertiveness, which began to grow in 1999 when President Putin first took power and accelerated in 2014 with the seizure of the Crimea, greatly impacts U.S. bilateral relations with Europe and creates points of tension for U.S.-NATO interaction, including NATO nuclear burden sharing and security guarantees.
- Russia has recently (October 2015) moved back into the Middle East with its support for the Assad regime in Syria. It has forged a de facto alliance with Iran.
- Tensions with Russia have also brought nuclear issues to the forefront in Europe in ways not seen since the days of the Cold War.

Today's indicators that this planned future could happen

- Putin's animosity toward the West, particularly the United States, is deeply felt and highly personal, reflecting bitterness, resentment, and anger over the collapse of the Soviet Union. Moreover, it reflects centuries of Russian suspicion and mistrust of the West. It is immensely popular domestically and a principal source of legitimacy for the Russian autocrat.
- As demonstrated in the just-concluded Iran nuclear deal, Russia will cooperate when it serves its interests, but only up to point (e.g., Russia's support for the Iranian effort to get the conventional arms embargo lifted as part of the deal).
- Russian anti-Western belligerence can be countered and contained but is unlikely to change. Russia's modernization of its nuclear arsenal, violations of the Intermediate-Range Nuclear Forces (INF) treaty, President Putin's public nuclear sabre rattling, increased Russian bomber patrols and fly-bys, expanded military exercises near the Baltics and Poland, and Russian military operations within Ukraine, all indicate that Russia is willing to push the envelope in order to maintain and expand its sphere of influence and challenge the United States in Europe.

Indicators that a more benign security environment could emerge

- Russia's weak economic and demographic base may not support a long-term policy of territorial aggression. If so, Putin may be forced to look inward and concentrate on Russian domestic well-being, perhaps abandoning destabilizing actions in Ukraine and the Baltic States. U.S. sanctions against Russia may aid in creating this environment. However, the United States and NATO would need to cooperate in a more effective manner to sustain European regional stability.

- If Vladimir Putin were to experience an untimely departure from office or a large decline in popularity, relations between the two powers could potentially become more benign than present.

Implications for U.S. military

- Tensions with Russia will affect both nuclear and conventional U.S. forces. U.S. nuclear forces will continue to be a relevant and important aspect of U.S. security and Allied security in Europe.

- Ballistic missile defense will remain a sticking point for the Russians but will be essential to defend the U.S. homeland.

- The United States will need to stay engaged in Europe. The Baltic states—NATO members all—are particularly exposed. The United States will rotationally forward-deploy forces in Central and Eastern Europe as a concrete representation of the U.S. commitment to European security.

- Russian aggressive actions will put a floor on U.S. presence in Europe and make it difficult to shift forces to other theaters, such as the Pacific.

Threat: North Korea

Planning context and assumptions

- Nuclear weapons represent the core of North Korea's national security strategy and constitute the internal image of the regime as a legitimate global power, making it unlikely that the program will be eliminated willingly.
- North Korea's conventional forces are relatively lower capability, but high capacity (particularly ground forces). The threat posed to South Korea remains a significant challenge for U.S. extended conventional deterrence. Protecting Seoul and stopping the North Korean offensive are critical.
- North Korea maintains strong asymmetric capabilities, focused on nuclear and cyber and will likely continue to expand them.
- As a result, the North Korean regime will continue to be a destabilizing force in the Northeast Asian region and a global nuclear-proliferation risk.

Today's indicators that this planned future could happen

- North Korea has established a long pattern of provocation and threatening its neighbors and the West, which has continued under Kim Jong-un.
- Ballistic missile tests continued into 2015, demonstrating the continuation of this cycle.
- Prior to the massive cyber-attack on the Office of Personnel Management (OPM), North Korea's hacking of Sony was the highest profile cyber-attack on the U.S. to date.

Indicators that a more benign security environment could emerge

- The regime's economic weakness has caused severe humanitarian crises in the past and could undermine the regime in the future.
- Issues of succession (if Kim should die) or stability (if the current wave of purges sparks a response) could also undermine the regime or weaken its external aggression.

Implications for U.S. Military

- There are three scenarios that will continue to drive U.S. planning vis-à-vis North Korea. The first is regime collapse, the second is a conventional attack on South Korea, and the third is a nuclear attack on a U.S. ally.
- The 2014 QDR identified the North Korean nuclear program as a "growing, direct threat to the United States." At some point in the future its nuclear forces will be able to threaten the US homeland.

- Conflict with North Korea presents the most stressing challenge for the U.S. land forces, combining temporal challenges of getting troops in place in a distant theater with large-scale ground combat and CBRN/WMD threats.
- China could plausibly induce a conflict in Korea it were involved in a conflict with the US.
- Like China, Russia, and Iran, North Korea is building advanced cyber and communications-jamming capabilities.
- A potential North Korean denuclearization mission presents a unique challenge due to the North Korea's extensive and largely underground WMD sites.
- In addition to a large conventional army, North Korea also maintains a large, relatively sophisticated special operations force capability that is complemented by a sizable fleet of diesel-electric submarines.

Threat: Islamic Extremists

Planning context and assumptions

- Islamic extremists pose an array of threats to the U.S. and allied homelands, as well as to regional stability in the Maghreb, the Middle East, and South Asia.
    - Globally oriented groups, including al-Qaeda and the Islamic State, will seek to deliver attacks against Western countries, including the U.S. homeland.
    - Regionally oriented groups will continue to increase insecurity and instability, inciting violence, spreading radical ideology, seeking to control territory, engaging with transnational criminal organizations, and undermining state structures.
- Islamic extremism will remain attractive to disenfranchised and disenchanted individuals found predominantly in fragile and failing states, particularly in the Middle East and North Africa, but also around the world.
    - Islamic extremist organizations continue to inspire lone-wolf attacks in Western countries, as well as increase capabilities through training of foreign fighters.
- The expansion of Islamic extremism has self-perpetuating effects including decreasing state control of territory and therefore creating safe havens for extremist activity (Yemen), displacing populations and reducing economic opportunity that then increase risk of radicalization, and expanding propaganda to encourage self-radicalization and spread information about terrorist technology and tactics.

Today's indicators that this planned future could happen

- The success of the Islamic State in undermining governance in Iraq, claiming territory in Iraq and Syria, establishing basic governance structures in captured territory, and demonstrating rudimentary combined arms capabilities, demonstrates the potential for the combination of weak state structures and Islamic extremism to escalate into regional, cross-border conflict.
- The unprecedented flows of foreign fighters to the Islamic State show the continued draw of extremist ideology.
- Attacks by Islamist-linked violence in 2015 include Afghanistan, France, Iraq, Lebanon, Libya, Kenya, Nigeria, Pakistan, Saudi Arabia, Somalia, Syria, Tunisia, Turkey, Yemen, and others.

Indicators that a more benign security environment could emerge

- ISIS expansion has stalemated in Syria and Iraq. Air attacks are inflicting significant attrition.

- No government has supported ISIS. Governments as diverse as Saudi Arabia and Iran have opposed it, often with military force.

Implications for U.S. military

- The U.S. military must maintain the capabilities required for direct action against terrorists seeking to attack the U.S. homeland, including strike and special operations capabilities.

- As stated in the 2015 National Military Strategy (NMS), "Credible regional partners are vital to sustaining counter-VEO [violent extremist organization] campaigns"; therefore, building partnership capacity for foreign internal defense and counterterrorism will likely remain a key element in the battle against Islamic extremists across myriad fronts.

- The 2015 NMS further states that the key U.S. role in combating terrorism will be augmenting local forces through "specialized U.S.…strengths such as ISR, precision strike, training, and logistical support."

Threat: Iran

Planning context and assumptions

- Despite the recent agreement (Joint Comprehensive Plan of Action, JCPOA) between the "P5 +1" and Iran, regional competition will continue, as will tensions between the United States and Iran.
- Iran will continue to use asymmetric strategies for competing with the United States, including cyber tactics and support for opposition groups and terrorist networks across the Middle East. Therefore, the United States will continue to confront Iranian proxies.
- U.S. initiatives in the broader Middle East are viewed as a major threat by Iranian security services and have led to priority intelligence and counterintelligence operations against the United States.
- A nuclear-armed Iran will remain a planning possibility in the 2020–2030 timeframe, no matter the outcome of the JCPOA.

Today's indicators that this planned future could happen

- The regime in Tehran continues to publicly express detestation for the "West" and the United States.
- Iran remains the largest state sponsor of terrorism in the world by funding its affiliate networks of Hezbollah, Hamas, Yemeni Houthi rebels, and the Islamic jihad movement in Palestine.
- Supreme Leader Ali Khamenei remains largely inflexible and unwilling to warm relations with the West.
- Iran remains sworn enemies of the United States' most important allies in the region, Israel and Saudi Arabia.

Indicators that a more benign security environment could emerge

- In July 2015 the Islamic Republic, five world powers, and the European Union were able to agree on the JCPOA that would constrain the possibility of an Iranian nuclear weapons program for many years.
- The lingering impact of sanctions could induce Iran to focus more on internal development. Iran's young demographic could also push policy in this direction. The fight against the Islamic State in Iraq and Syria (ISIS) is a common cause for the United States and Iran.

Implications for U.S. military

- Despite the warming of relations, Iran remains a significant adversary for the United States and its allies in the region. U.S. military forces and allies are likely to continue to face Iran and its proxies in protracted, though low-level, conflicts in the region.

- Iran's A2/AD capabilities will continue to grow at both the high and low end, including ballistic, cruise, and SAM missile systems.[xiv] These capabilities are particularly threatening to U.S. allies in the region, who have requested both arms sales and U.S. missile defense forces to protect them.

- Iran is developing a sophisticated space launch capability to deter its adversaries. If weaponized, these launch systems would provide an ICBM capability to complement Iran's known medium-range ballistic missiles.

- Iran's ability to block the Strait of Hormuz, a critical maritime passage, remains a concern.

- There will be a heightened need for nuclear deterrence in the region in the event that Iran attains nuclear weapons.

[xiv] Shahryar Pasandideh, "Iran Boosts Its A2/AD Capabilities," *The Diplomat*, May 23, 2014, http://thediplomat.com/2014/05/iran-boosts-its-a2ad-capabilities/.

Changes in the Character of Warfare: Precision Munitions

Planning context and assumptions

- U.S. monopoly on precision-guided technology is over. The proliferation of precision munitions is ongoing, with China, Iran, and Russia leading the way. Nonstate actors are also acquiring them and developing defenses against them, complicating U.S. and allied efforts in counterterrorism.

- Precision munitions offer the ability to strike high-value assets that require high-cost and complicated defenses, making these munitions an attractive asset for less technologically advanced and less wealthy potential adversaries.

- As technology advances, the differences between precision-guided munitions and unmanned aerial vehicles (UAVs) will become less clear, and the delivery systems of precision munitions will become increasingly multipurpose.

Today's indicators that this planned future could happen

- The precision-guided munitions complex requires several supporting capabilities: guidance systems (GPS or otherwise), targeting sensors, and command and control elements. While the United States has led the way in these areas, other countries are closing the once-wide gap.

- China's military buildup includes the DF-21D anti-ship ballistic missile—a precision strike weapon system designed to supplement their growing A2/AD capabilities. China has also invested in its own regional global positioning system (the system is expected to be global by 2020), allowing them to control their precision systems without relying on U.S. GPS.

- Russian military buildup includes developing advanced UAV capabilities, and investing in advanced, camouflaged cruise missile systems.

- Iran's precision munitions are referred to as the "poor man's" version of China's arsenal. Iran views precision munitions as key to holding at risk the Strait of Hormuz.

- Essentially free access to GPS systems has removed the need to develop complex and expensive guidance technologies.

Indicators that a more benign security environment could emerge

- Effective use of precision munitions requires access to C4ISR (Command, Control, Communications, Computers, ISR), which complicates acquisition for some potential adversaries.

- Resource limitations and difficulties in system integration may deter some potential adversaries from pursuing long-range precision strike systems. Instead, they may opt for shorter-range options that can attack regional, rather than global, targets.

Implications for U.S. military

- As precision-munitions capabilities spread, the ability for the United States to project power will be challenged, especially in naval operations.

- The U.S. Air Force has concluded that "smaller, lighter, agile, more lethal, and more affordable" air-deployed precision munitions will be available over the next several decades and would enhance the capabilities of the service in modern warfighting scenarios.

- Advanced ISR and targeting capabilities are required for successful employment of precision munitions; U.S. military capabilities in both areas must be technologically advanced and survivable.

- The United States will need to develop countermeasures against enemy ground-attack precision munitions. Unlike in the maritime and aviation areas, ground forces have until now been mostly immune to such attacks. Countermeasures will include a mix of dispersion, hardening, concealment, and kinetic defenses.

Changes in the Character of Warfare: Contested Space

Planning context and assumptions

- While space has historically been a sanctuary, there is an increasing movement toward weaponization, including development of such programs by the United States, UK, France, Russia, and China. Contested space is now a reality.
- Potentially adversarial powers with advanced space programs such as China and Russia are developing anti-satellite systems that can damage, jam, disrupt, and interfere with U.S military reconnaissance, global positioning, and communications satellites to bolster current A2/AD and asymmetric cyber capabilities.
- Space and launch capabilities are proliferating, and will continue to spread as smaller and cheaper commercially developed satellites become more available, including possibly to nonstate actors.
- Threats are not all intentional. There is an ever-present risk that orbital assets, including military satellites, could collide with another body in motion, whether that's debris or a small celestial body, both of which became more likely as space becomes more cluttered.

Today's indicators that this planned future could happen

- In 2005, 2006, and 2007, the Chinese military conducted anti-satellite missile launches to test the possibility of orbital interception. In 2007, the Chinese intercepted one of their own satellites in polar orbit and created an extremely dangerous debris field in the process. The outcome of such debris fields would be damaging to all nation states and private companies with assets in orbit, including Chinese assets, thus making this a feasible but less useful capability. China conducted an anti-satellite launch in 2014 that intentionally did not intercept a satellite.

Indicators that a more benign security environment could emerge

- It is widely recognized that kinetic warfare in space will hurt everyone—both militarily and economically—because of the effects of debris.

Implications for U.S. military

- The United States will need to build both offensive and defensive space systems. Satellites will need some measure of hardening.
- The most sensitive communications will need alternative, non-space networks, like the joint aerial layer network and meshed networks.
- Increased ISR focus will be needed on known anti-satellite missile facilities.

- To increase survivability, alternative space investments will be needed, including satellite systems that contain anti-jam, advanced encryption, nulling, and maneuver capabilities, and more easily replaceable space assets like microsatellites.
- Advent of the space plane may provide a platform that, if weaponized, has the potential to support air and space supremacy.

Changes in the Character of Warfare: War in Cyberspace

Planning context and assumptions

- Cyber-attacks have become a preferred offensive tactic by nation-states and transnational organizations to infiltrate and damage targets in the public and private sector without the risks of kinetic operations.
- Over the past decade, the frequency of cyber-attacks has steadily risen, yielding new demands for sophisticated cybersecurity defenses.
- U.S. cyberspace remains vulnerable and will be relentlessly attacked by adversaries (both private and governmental) seeking to exploit both our vulnerability and dependence on the cyber domain.

Today's indicators that this planned future could happen

- Since the 2014 QDR, there have been several notable cyber-attacks, including the alleged North Korean attack against Sony Pictures and the Chinese attack against OPM.
- The 2015 Worldwide Threat Assessment published by the Office of the Director of National Intelligence (ODNI) suggests that China, Russia, North Korea, and Iran are currently strengthening their offensive cyber capabilities.
- Cyber is likely to remain an attractive option for attacking the United States, since it is low-cost counter, avoids U.S. conventional superiority, and provides the attacker a degree of plausible deniability. U.S. military investment in cyber capabilities has not yet been able to credibly deter persistent attacks on U.S. cyber infrastructure.

Indicators that a more benign security environment could emerge

- The recent OPM hack has been referred to as the "Cyber Pearl Harbor." Perhaps so, in terms of the magnitude of compromised data, but thousands of Americans died in the Pearl Harbor attack (and 9/11 for that matter).
- The director of OPM and the head of its IT function lost their jobs, but Americans themselves seem unaffected and exhibit no sign of spiking insecurity. If the compromise of OPM represents the apex of the damage caused by cyber-attacks, then cybersecurity, while still important, may remain more of an annoyance and an economic threat than a clear and present military danger.

Implications for U.S. military

- DoD has established a U.S. Cyber Command and clearly ramped up investment in cyber capabilities, both defensive and offensive. However, the frequency of cyber-

attacks seems to be steadily increasing, which reflects the continued U.S. failure to establish credible deterrence in cyberspace.

- The vulnerability of U.S. systems has led to mandatory reforms of security procedures not only in the U.S. government and military, but the private sector as well. Such measures are becoming increasingly incorporated into the daily routine of U.S. institutions in order to prevent access, damage, or theft to sensitive information technology. However, much of this activity lies outside of the DoD purview.

- Cyberspace is clearly a contested domain, but how important the offense-defense competition in cyber remains to be seen. Undoubtedly, continued cyber investment by the U.S. military will be important to continue to compete in this domain. The question is whether the current level of investment is adequate to maintain the core DoD missions of protecting DoD networks and developing non-kinetic options for offensive cyber capabilities.

Changes in the Character of Warfare: Employment of Nuclear Weapons

Planning context and assumptions

- Much as the United States did during the 1950s (New Look national security policy: "more bang for the buck"), some nuclear-armed nations are increasing their reliance on nuclear weapons as a counter to U.S. conventional superiority.
    - Russian military doctrine (the so-called "escalate to deescalate") envisions nuclear escalation as a means of deescalating a conflict with a conventionally superior adversary.
- Other nations (such as Iran) may be seeking nuclear weapons as a means of deterring U.S. intervention.
    - The Indian chief of staff identified the main lesson learned from the first Gulf War: "Don't fight the U.S. without nukes."
- U.S. war games indicate that adversaries will use nuclear weapons early in a conflict to persuade the United States to back off.
    - Adversaries may believe that the United States could be self-deterred from using nuclear weapons if its nuclear response options are "dirtier" and cause high levels of collateral damage.

Today's indicators that this planned future could happen

- Russia's aggressive nuclear modernization program includes new delivery systems and "special effects," low-yield nuclear weapons. Russia regularly conducts major exercises that conclude with nuclear strikes against NATO members.
- North Korea said (July 22, 2015) that it was "not interested" in an Iranian-like deal because it's security situation was "quite different" from Iran's since it was under constant U.S. military threat.

Indicators that a more benign security environment could emerge

- Economic collapse leads adversaries to turn inward and abandon belligerent foreign policies.
- Arms control and non-proliferation agreements can limit or even reverse the holdings of nuclear weapons.

Implications for U.S. military

- Instead of replicating its massive Cold War nuclear arsenal, the United States develops and deploys a focused but robust set of discriminate, nuclear options capable of proportionate, in-kind responses to any nuclear attack against it or its allies.

- The United States should emulate the Russian approach to training, exercising, and posturing its nuclear forces in order to demonstrate readiness to engage in nuclear operations, if deterrence fails.

    - Adversary perceptions of U.S. capability and resolution are critical to the credibility of U.S. nuclear deterrence.

Changes in the Character of Warfare: Hybrid Warfare

Hybrid warfare: the diverse and dynamic combination of regular forces, irregular forces, terrorist forces, criminal elements, or a combination of these forces and elements all unified to achieve mutually beneficial effects.[xv]

Planning context and assumptions

- Gen. Martin Dempsey, as chairman of the Joint Chiefs of Staff, referred to hybrid warfare as an "inflection point" in modern war.
- The ambiguous character of hybrid warfare, including provocations short of war, increases the difficulty of the United States and NATO responding in an effective and timely manner and hampers NATO decisionmaking.

Today's indicators that this planned future could happen

- Russia's annexation of Crimea was extremely effective, demonstrating the utility of hybrid warfare and Russian expertise in political subversion. Russia's continuing subversion of the Ukraine shows that it finds the approach useful.
- China's buildup of "islands" in the South China Sea blends military, diplomatic, and informational means to achieve its desired political goals and creates a mix of problems for U.S.-allied relationships in the region.
- ISIS's demonstrated use of the Internet as a recruitment tool for local attacks poses a threat to U.S. homeland security in a way that terror groups in the past have not. The increased chance for lone-wolf attacks is especially concerning for day-to-day U.S. security.

Indicators that a more benign security environment could emerge

- Russia's weak economic base may not support a long-term campaign of hybrid warfare.
- Destabilizing actions by the Chinese, namely the buildup of "islands," has the potential to hurt their long-term economic relationships with the United States and Europe, resulting in less visible forms of hybrid aggression.
- U.S. and coalition airstrikes against ISIL may degrade the organization to a point where its online recruitment is reduced.
- Bolstered homeland security and intelligence works may bring down the threat from lone-wolf style attacks.

[xv] Army Doctrine Publication 3-0.

Implications for U.S. military

- The United States will need to retain the capability to respond quickly to regional crises and that will require forward-deployed U.S. assets.
- U.S. and NATO military readiness will need to reflect a “perpetual competition” mindset, rather than “peace” and “war”..
- High levels of U.S. military engagement will continue, both within alliances like NATO and bilaterally, in order to strengthen allied and partner resistance to hybrid warfare and help deter adversary aggression.
- There will be an increased demand for special operations forces, particularly military information support operations, civil affairs, foreign internal defense, and other counter-unconventional warfare requirements.

Changes in the Character of Warfare: Unmanned Aerial Systems (UAS)

Planning context and assumptions

- UAS technology, at varying capability levels, has proliferated around the world into the hands of foreign militaries, transnational organizations, international corporations, and individuals over the past two decades.

- The demonstrated success of U.S. strike and ISR UAS platforms in a variety of missions will continue to drive the spread of these technologies to adversaries. It is likely that nations will deploy a system capable of kinetic action on an autonomous basis despite calls for a ban on such systems by various members of the international community.

- The use of small UASs to operate undetected in restricted airspace due to their small size poses a threat to a wide range of military, government, and critical infrastructure sites both in the United States and abroad. In addition, their use in novel ways may lead to operational surprises.

Indicators that this planned future could happen

- Research into UAS technology is ongoing around the globe. As many as 86 countries now have UAS capabilities in some form, including at least 8 with armed UASs.[xvi]

- Military UAS have rapidly evolved from pure ISR platforms to multirole systems capable of attack and precision strike, not only for the U.S. military, but also for transnational organizations and the militaries of states such as Russia, China, and Iran. The fusion of sensors with shooters (on systems like the MQ-9 Reaper) has permitted the seamless integration of ISR and strike missions, greatly reducing the time lag between decision and action.

- Unmanned systems have demonstrated high degrees of autonomy as exhibited by the successful tests of autonomous takeoff, landing, and refueling by the X-47B.

Indicators that a more benign security environment could emerge

- Future electronic warfare and/or cyber capabilities could allow for the non-kinetic neutralization of a UAS threat.

- Advanced radar, surface-to-air missiles, and air-to-air interception capabilities could defend against UAS strikes.

[xvi] "World of Drones: Military," *New America Foundation*, http://securitydata.newamerica.net/world-drones.html.

- The C2 challenges of leveraging high-end UAS capabilities may be beyond the ability of less advanced adversaries.

- In the long term, railguns and laser weapons could provide cost-effective countermeasures.

Implications for U.S. military

- It is possible that a large fraction of air forces around the world will be replaced with unmanned systems with varying degrees of autonomy in the future. Because UAS operations do not place pilots at risk, the conditions under and ways in which actors use airpower will likely change.

- Swarming UAS systems may challenge current defense systems and could have a profound effect on future conflict. U.S. ground forces have not faced effective enemy air attacks since 1945. The United States may need to rebuild a tactical short-range air defense system that was mostly deactivated after the Cold War.

- The United States will continue its own research and development on UAS. However, it is unclear if the current funding levels and institutional commitment to these systems are sufficient to maintain the current comparative advantage.

- UAS strikes could possess some level of plausible deniability, which may further incentivize an attacker to employ this capability and increase hybrid challenges.

Changes in the Character of Warfare: Game-changing Technology

Offensive

- Hypersonics
    - Hypersonics offer a significant reduction in time-to-target for strike, which would allow for a true global strike capability within an hour.
    - Hypersonics also create challenges for defensive systems different from those posed by stealth technology, offering another counter to A2/AD tactics.
    - The U.S. Air Force, NASA, and Defense Advanced Research Projects Agency (DARPA) have developed scramjet and ramjet missiles that operate upward of Mach 20 (13,000 mph), though testing to date has been disappointing.
    - States such as China and Russia are known to also be developing hypersonic aircraft of their own, which would be a major threat to the United States and require different capabilities in missile defense systems.
- Autonomous Systems
    - Autonomous systems offer the potential to increase speed of action, extend time-on-station, reduce operation costs, reduce exposure of friendly forces, and improve the cost-exchange ratio.
    - Potential uses for autonomous systems include ISR, targeting, electronic warfare, and swarming attack. They offer the potential for low-cost, high-quantity networks of systems that are linked and coordinated.
    - Unmanned systems have already demonstrated high degrees of autonomy as demonstrated by the successful tests of autonomous takeoff, landing, and refueling by the unmanned X-47B, and swarming patrol boats by the Navy.
    - By removing human beings from platforms, elements of conflict might become the realm of preprogrammed machines rather than human beings.

Defensive

- Directed-Energy and Electromagnetic Pulse (EMP) Weapons
    - Laser weaponry has the potential to be a highly effective and cost-effective defense against low-cost missiles. In 2013, the U.S. Navy publicly debuted its prototype laser canon that has the mission of countering swarm attacks from enemy UAS, missiles, and small boats.

    - Future EMP weapons might be employed from the air to provide a non-kinetic capability to neutralize a target's the cyber and communications linkages.

    - It has been reported that the Institute of Optics and Precision Mechanics of the Chinese Academy of Sciences has developed a Third-Generation X-Ray Pulsar Simulation Source.

- Railgun

    - The U.S. Navy has begun to deploy a prototype multimission electromagnetic railgun. This ballistic artillery system fires a small inexpensive projectile at hypervelocity speeds to ranges in excess of 100 nautical miles, thus greatly expanding point defense and surface-to-air capability.

| Appendix D. Conflict Scenarios for Testing Strategies

The purpose of these scenarios was to act as a tool for measuring the sufficiency of the different strategies' forces, modernization programs, and readiness levels. The purpose was not to examine crisis management. Therefore, how a crisis arises and how the United States decides to respond is less important for the study's analysis than establishing what the toolkit for decisionmakers needs to be and the risks that different strategies accept.

Many of these scenarios cover conflict areas that the national security community has focused on in the past. However, the specifics represent the CSIS study team's assessment and not official DoD planning. Several scenarios are new CSIS proposals, reflecting changes that have occurred globally in the last few years.

Short Title: Korea (MCO)

Description: Defense of the Korean peninsula against a full-out North Korean attack.

Background/rationale: Long-standing scenario

Warning: Short. Might grow out of an extended crisis but militarily actionable warning (time that can be used to deploy forces) is short.

Desired end state: NK regime change; eventual reunification of North with South; isolation, neutralization, and removal of all WMD capabilities.

Allies/coalition: Only South Korean forces assumed. Use of U.S. bases in Japan and elsewhere assumed.

Length of conflict: Less than one year for conventional conflict, years for WMD removal.

WMD use: Yes, chemical attacks against ports and airfields.

Campaign assumptions: Demand for strike, SOF, and counter-WMD assets is high in the first phase before major ground forces can arrive. Short participation by U.S. combat forces in postwar occupation. Longer U.S. participation in occupation by specialized units to find, safeguard, and destroy WMD assets. Occupation and civil reconstruction left mainly to South Koreans. China and Russia neutral (except when Korea scenario combined with a China scenario), but both push hard diplomatically to get U.S. combat forces removed from NK after NK regime destroyed.

Assessment: This scenario stresses land and air capacity because of the size of the NK forces, but not capabilities because of NK force obsolescence.

Forces—Conventional conflict [10 AF Fighter Wings, 100 Heavy Bombers] 500 TacAir A/C, 50+ bombers 4–5 Army Divisions/12–15 BCTs 4–5 Navy Carrier Battle Groups 4–5 Marine Expeditionary Brigades BMD and counter-WMD forces + 2 divisions (in extremis)	250,000–400,000 personnel (Army: 160,000–280,000)
Forces—Occupation/WMD removal Heavy demands on specialized Chemical, Biological, Radiological, Nuclear (CBRN) units, intelligence, SOF (reserves fully usable) Large contractor operation needed long term to deactivate, dismantle, and remove WMD materials. (plus, possibly, U.S. security)	20,000? military, plus large contingent of government civilians and contractors (If U.S. security needed, 150,000)
Source: Conventional conflict from the 1993 *Report on the Bottom-up Review* (BUR), except Air Force fighter wings were reduced to allow for UAVs and PGMs; WMD removal from Arroyo Center.	

Short Title: North Korea (nuclear crisis)

Description: (1) North Korea threatens the use of nuclear weapons by moving nuclear units out of garrison; (2) North Korea actually uses nuclear weapons as a demonstration or against military forces, not involving the United States.

Background/rationale: NK has been threatening such actions for years. Such a scenario, tests the limits of extended deterrence and tests a new kind of crisis. Note: Either version might be part of a full-invasion scenario but here considered in isolation. Nuclear attacks on U.S. forces or on civilian populations of allies already covered by retaliatory and extended-deterrence doctrine.

Warning: Medium, as the crisis unfolds.

Desired end state: (1) Deterrence of nuclear weapons use; (2) neutralization of NK nuclear force

Allies/coalition: Regional, depending on nature of initial attack

Length of conflict: Weeks

WMD use: Yes, nuclear only. (Chemical use would likely spark a full-scale conventional conflict because of large number of projectiles needed, the force concentration needed at the border, and the heavy casualties inflicted on the civilian population.)

Campaign assumptions: No major ground force movements across border. Under (2) some ground fires and SOF across border possible. Likely results in a denuclearization campaign, conventional and possibly nuclear.

Assessment: Probably more important as a crisis-management problem than as a force requirements driver. As a force-requirements driver, not a driver of capacity but of capability. A key question: Are theater nuclear assets needed or just national assets?

Forces
STRATCOM on alert
BMD-capable ships, Terminal High-Altitude Area Defense (THAAD) and other missile defense assets moved forward
Conventional assets on alert and likely reinforced
Theater nuclear delivery capabilities put into place (B61; ALCM; Long-Range Standoff, LRS-O weapons)
Source: CSIS estimates.

Short Title: Russia MCO (strike at Riga)

Description: Russia makes quick grab for Riga after “incidents”

Background/rationale: New scenario recognizing increased Russian aggressiveness; requires either a short, successful defense with counterattack to regain lost ground or an extended counter-invasion to reenter the country. Also explores a different A2/AD environment than China. Access a major problem, maybe a greater constraint than force capacity.

Warning: Short to medium

Desired end state: Restoration of border and national government, NATO deterrent remains intact

Allies/coalition: NATO with varying degrees of involvement; UK, France, Germany, Poland send forces

Length of conflict: Weeks

WMD use: (1) No, conventional only

(2) Yes, if Russia implements its “escalate to deescalate” strategy

Campaign assumptions: Russian attacks launched against Baltics. NATO conducts strikes and possibly ground offensive against Kaliningrad to open supply lines and reduce A2/AD threat. Difficult to avoid escalation.

Assessment: Likely a narrower problem than “the Baltics.” Belarus buffers Lithuania. Estonia less vulnerable because of good defensive line at Narva-Lake Peipus. Latvia most vulnerable because of openness of terrain. Key, then, is buying time in Latvia.

(1) **Forces—wartime:** Multi-division defense/counteroffensive (6 U.S. BCTs; 100,000 troops). 500 aircraft, of which 300 fifth generation, access likely the limiting factor. Major amphibious forces, with heavy escorts, especially if territory lost. Space and cyber heavily engaged. Because of access limitations, early response extremely valuable. Great uncertainty.
(2) **Forces—peacetime:** Forward-deployed elements in Baltics, from small tripwire force to a rotational brigade in each country.
Source: RAND for ground; CSIS estimate for tactical air based on BUR MCO and Kosovo air operation.

Short Title: Russia Lesser Conflict (hybrid warfare)

Description: Russia continues and expands hybrid warfare campaign against neighbors—Ukraine, Baltics, Caucasus.

Background/rationale: Reflects Russian recent behavior and what appears to be a key element of their security strategy.

Warning: Long, builds to peak over months

Desired end state: Independence of border states maintained

Allies/coalition: NATO, but unenthusiastic outside Eastern Europe

Length of conflict: Years

WMD use: No

Assessment: Not an MCO; instead adds demands for day-to-day operations. Important to note that "reassurance" is not defense. Few countries border Russia directly. Poland, Bulgaria, Romania need reassurance—through engagement and exercises—that the NATO commitment is solid, but they do not need U.S. or NATO warfighting forces. However, existence of this new threat likely puts floor on U.S. forces in Europe to maintain exercise and rotational schedule.

Forces:
Continued high level of engagement in Ukraine and Eastern Europe, as increased recently by the European Reassurance Initiative.
Source: CSIS estimate.

Short Title: China MCO (conflict in Taiwan Strait)

Description: China tries to conquer Taiwan by force quickly.

Background/rationale: Standard scenario, arising from the continuing post-1949 tension between Kuomintang on Taiwan and Chinese Communist Party on mainland.

Warning: Short

Desired end state: An independent Taiwan

Allies/coalition: Taiwan only, use of regional bases

Length of conflict: Weeks. Belligerents have capability to fight for years but status of Taiwan would likely be decided quickly—either China invades quickly or through attrition and surge of U.S. forces loses ability for invasion.

WMD use: None

Campaign assumptions: Attacks on bases in region. China may launch attack in a crisis or may choose to engage only when it expects to win; China will likely attempt a quick seizure before the United States can respond effectively.

Assessment: Would be first peer conflict that United States has fought in 70 years. Many unknown areas—antisubmarine warfare (ASW), blue-water surface combat, mass ballistic missile defense (BMD), counter-space, long-range precision strike.

Forces:
Surge of naval forces 5+ carriers, submarines
Air forces based on Guam, Japan, and distributed bases; demands could be high but limited by basing; 500 TacAir total, of which 400 fifth generation
Ground-based THAAD and Patriot
Space and cyber heavily engaged
Source: RAND plus CSIS estimate.

Short Title: China (seizes Spratly/other islands)

Description: China uses force to expel other navies, like Vietnam's or Philippines', perhaps arising from an incident at sea; casualties result. United States supports or leads freedom-of-navigation effort. Escalation results in a high-intensity but localized war.

Background/rationale: New scenario for possible event given China's assertiveness in South China Sea. Different from China-Taiwan conflict in that this is not all-out war but localized and involves a wider set of coalition partners.

Warning: Short

Desired end state: Island status determined by arbitration/negotiation. Freedom of navigation restored.

Allies/coalition: Regional. Not Korea. Possibly Japan, Philippines, Vietnam, Australia.

Length of conflict: Weeks, possibly months. Might devolve into blockade and long-range missile strikes, a naval version of Northern Watch/Southern Watch.

WMD use: None

Campaign assumptions: Would not involve actions against Taiwan. If localized to South/East China Sea, might not involve strikes against Chinese homeland or U.S. Pacific bases. Will tie down U.S. naval and air assets, making them unavailable for other global requirements.

Assessment: If the response were limited to a freedom-of-navigation exercise, then this scenario would not be a force generator. Existing forward-deployed and surge forces can conduct such operations. The demanding scenario would be a localized conflict. Forces, however, would be similar to, but smaller than, a China-Taiwan scenario because of its limited nature. If conflict were prolonged, might require rotation of forces and stress naval capacity. Posture and access are the key.

Forces:
Surge of naval forces
Air forces based regionally
Ground-based THAAD and Patriot
Cyber likely heavily engaged
Source: CSIS estimate.

Short Title: Iran MCO (degrade Iranian nuclear capabilities)

Description: Degrading Iran's nuclear capabilities through air strikes

Background/rationale: New scenario, based on long-standing discussion about how to contain Iranian nuclear program. Iran agreement may reduce likelihood in near term but scenario could occur later if Iran cheats. Recognizes possibility that Iran could respond by attacking regional countries—including critical infrastructure—with missiles, proxies, and special forces. Also could try to close straits (includes standalone scenario for Iranian strait closure).

Warning: Short, but long planned.

End state: Known facilities destroyed or neutralized, but campaign cannot guarantee full "denuclearization" because of the existence of covert facilities and Iran's ability to reconstitute.

Allies/coalition: Low-profile regional support from Saudi Arabia, Jordan, Qatar, Kuwait; access to regional bases; Israel helpful but in background for political reasons. No forces from Western/NATO powers (including Turkey) for air attacks but some mine countermeasures (MCM) help for keeping strait open.

Length of conflict: Several weeks for main attacks, up to one year for some residual force.

WMD use: None, but Iranian long-range conventional warheads used.

Campaign assumptions: Strikes limited to nuclear facilities and IADS unless Iran uses long-range missiles and tries to close strait. Then campaign expanded to attack Iranian missile forces, naval forces, and air assets near Persian Gulf. Residual coalition ISR force, with appropriate force protection, in theater for up to a year or more to monitor compliance with whatever settlement agreement arises from conflict conclusion. Iran may also strike targets in Israel via Hezbollah and Hamas (even if Israel not participating in coalition, it will be presumed complicit).

Assessment: Stresses Air Force tactical aircraft inventory. Requires coalition support for MCM because U.S. assets limited.

Forces:
WMD strike: 800 U.S. Air Force aircraft, all types, about half fighter/attack (400) of which 100 fifth generation, 100 for longer-term surveillance Some ground forces for protection of air bases (3 BCT equivalents at one battalion per base) Patriot and THAAD batteries for Gulf bases and Israel Strait protection: 1 Marine brigade, 2 CV battle groups (can be used for strike also), U.S. and coalition MCM SOF to combat Iranian asymmetric attacks
Source: Aircraft requirements based on Kosovo air war, which had the same sort of strategic attack requirements on infrastructure, enemy forces, and IADS that an attack on Iran nuclear facilities would have. Did not need aircraft for the preparation of a ground attack that Operations Desert Storm or Enduring Freedom had. However, United States has to substitute for allied aircraft that participated in Kosovo operation. Need for forces flexible since campaign timeline can be stretched.

Short Title: Iran MCO (closes Strait of Hormuz)

Description: Iran closes strait using mines, naval forces, and aircraft; coalition reopens strait

Background/rationale: Standard scenario based on historical tensions and planning

Warning: Short

Desired end state: Strait reopened, Iranian power-projection capabilities around strait (navy, air power) suppressed

Allies/coalition: Yes, regional, perhaps broader

Length of conflict: Months

WMD use: None

Campaign assumptions: Landings at Qeshm Island but not on mainland. Campaign limited to strait, not regime change or destruction of Iranian capabilities.

Assessment: Stresses Navy mine clearance. Not the size of a full MCO.

Forces:
2 Marine brigades 2 CV battle groups; U.S. and coalition MCM 200 land-based aircraft
Source: CSIS estimate.

Short Title: Stabilizing a Developing Country (Columbia, Venezuela, Libya, Yemen, parts of Nigeria)

Description: United States heads peacekeeping forces when government collapses.

Background/rationale: A hypothetical long-term stabilization campaign, growing out of a planned short-term campaign (not unlikely given how, historically, exit strategies tend to get postponed). Not part of current force-sizing construct but a plausible occurrence in an uncertain world. Covers countries up to size of Iraq (pop: 31 million), like Columbia (pop: 45 million), Venezuela (pop: 29 million), Yemen (pop: 24 million) but only part of a country like Nigeria because of Nigeria's large size (pop: 170 million). Does not cover Pakistan with both a large population (pop: 170 million) and a hostile population.

Warning: Weeks for first rotation, long thereafter.

Desired end state: Sufficient local authority established to maintain order.

Allies/coalition: Yes, through UN.

Length of conflict: Years; long-term stabilization campaign

WMD use: No

Campaign assumptions: Mission limited to stabilization. Need for security against local violence but no organized insurgency. If insurgency occurs, then force requirements increase to 160,000 (Iraq surge level) and coalition contributions decrease.

Assessment: Very stressing for Army and Marine Corps because of need for rotation base. Full use of reserves possible because of long timeline.

Forces: 120,000 U.S. troops, multiple rotations, extensive reserve mobilization Plus 20,000–30,000 coalition troops, based on Iraq levels but adjusted down because of wariness after Iraq and Afghanistan experiences
Source: Iraq experience.

Short Title: Islamic Extremists (ISIS breakout)

Description: ISIL breaks out of currently held areas; major Arab governments threatened or collapse (Lebanon, Jordan, Saudi Arabia, Kuwait, or Egypt).

Background/rationale: New scenario; a large, long-term counterterrorism campaign, more intensive than current (2015) campaign.

Warning: Short for first force rotation, but peak demands build over time.

Desired end state: ISIL contained, security handled by local governments with modest U.S. help.

Allies/coalition: Regional, some UK and France

Length of conflict: Years

WMD use: No

Campaign assumptions: No major ground force involvement. Aviation, SOF and ground spotting teams with some ground security for large bases.

Assessment: Not a major force driver except for SOF, ISR, and some specialties. Raises day-to-day demands on fighter/attack because of need for rotation base.

Forces:
2–3 BCT-equivalents of light infantry, Army and USMC
Extensive SOF, ISR
100 attack aircraft, Air Force and Navy—enough for continuous strikes but at relatively low levels (100 strike sorties/day or twice 2015 level—though in 2015 only 27 percent of strikes actually dropped ordnance)
Source: Current posture, plus CSIS estimate.

Short Title: Homeland Security: Terrorist Conventional Attack (9/11 2.0)

Description: Major conventional terrorist attack against U.S. homeland; thousands of casualties.

Background/rationale: Standard homeland security scenario, based on scale of 9/11 attacks, requires extensive security forces for post-incident infrastructure security.

Warning: None

Desired end state: Further attacks stopped, U.S. domestic functions restored.

Allies/coalition: Broad intelligence sharing only.

Length of conflict: Months for DoD role (possibly years for domestic and local agencies).

Campaign assumptions: Could be conducted by an independent terrorist group, by a state-sponsored group, or even by an adversary's special operations unit.

WMD use: Could include dirty bomb but nuclear explosion is separate scenario; otherwise, conventional attack only. Military assists local emergency forces.

Forces:
20,000 peak military
Source: 9/11 response, homeland only.

Short Title: Homeland Security: Extreme Natural Disaster

Description: Hurricane or earthquake hits major city

Background/rationale: Standard homeland scenario, many historical examples

Warning: Days

Desired end state: Lives saved; domestic functions restored.

Allies/coalition: None

Length of event: Weeks for DoD role (possibly years for domestic and local agencies)

WMD use: None

Assessment: Neither this nor Terrorist Attack 9/11 2.0 are major force drivers because of their relatively small demands. Further, many different kinds of units can provide the capabilities required—logistics and security. Would have a major effect if large forces kept at home as security.

Units	**Personnel**
Military police, civil affairs, transportation, engineers (any service, any component)	~70,000 at peak, flexible on most skills
Source: Katrina experience.	

Short Title: Homeland Security: Terrorist Nuclear Attack

Description: 10 KT improvised nuclear detonation in U.S. city

Background/rationale: Low probability, but high impact

Warning: None

Desired end state: Damage contained, services restored

Allies/coalition: None

Length of conflict: Military, weeks; civil authorities, years

WMD use: Yes

Campaign assumptions: This scenario represents an actual nuclear detonation, which, while unlikely—a terrorist group would need to acquire a complete, working weapon and deliver it to the United States—would have devastating impact and so needs to be considered. This is not a radiological weapon (a so-called "dirty bomb" that spreads nuclear contamination), which would have a serious, but much more limited, effect and not require major military forces. Similarly, any terrorist use of chemical weapons would be a serious event but limited in effect and not require major military forces to respond.

Two separate efforts: (1) Military forces augment local emergency forces for consequence management; (2) National radiological and nuclear search for additional weapons, a larger and longer effort for local forces and federal radiological forces, not necessarily military.

Assessment: Consequence management not a major driver in itself but could be in conjunction with other simultaneous demands. Radiological search could require large effort by local emergency organizations augmented by government and military specialty units. If military used, then could expand to size of MCO.

Forces:
Consequence management: Chemical, medical, and military police units plus support (up to 100,000?); possible maritime and Coast Guard involvement to seal coasts and ports.
Source: CSIS estimate, based on larger demand than Katrina.

| Appendix E. Building a Roster of Alternative Defense Strategies

The strategy descriptions in this appendix elaborate on what is in the main body of the report. Each strategy description includes a summary, the strategy's connection to a grand strategy for the United States, and the priorities for functions and missions.

The arrows depicting higher or lower mission and function priority for the strategies use the cost-constrained "Global Engagement" strategy as a baseline. The current strategy with currently planned resources was not used because nearly all the arrows for the alternative strategies would have been down as a result of the decrease in resources, which would not be helpful in trying to understand the differences between strategies.

Strategy #1: Global Engagement

Strategy Statement:

This strategy, much like that of previous administrations (particularly President Clinton's), relies on U.S. global presence and engagement to shape the security environment and provide order and stability.

Strategy Description:

- This strategy has the same goals as the current defense strategy, the 2012 DSG/2014 QDR strategy as modified by DoD by recent events (especially Russia-Ukraine and rise of ISIS), but is executed at the budget cap level. .
- This strategy maintains a global focus. As stated in the 2014 QDR report, it "re-balance[s] to Asia-Pacific while maintaining strong commitment to security and stability in Europe and the Middle East and Europe."
- Secretary of Defense Gates (2010): "The U.S. needs a broad portfolio of military capabilities with maximum versatility across the widest possible spectrum of conflict."
- Relies on forward-deployed forces as it nurtures (and relies upon) a global network of regional alliance systems.

U.S. Grand Strategy (including role of United States):

- United States maintains role as provider of stability (regional and global) and enforcer of rules-based order.

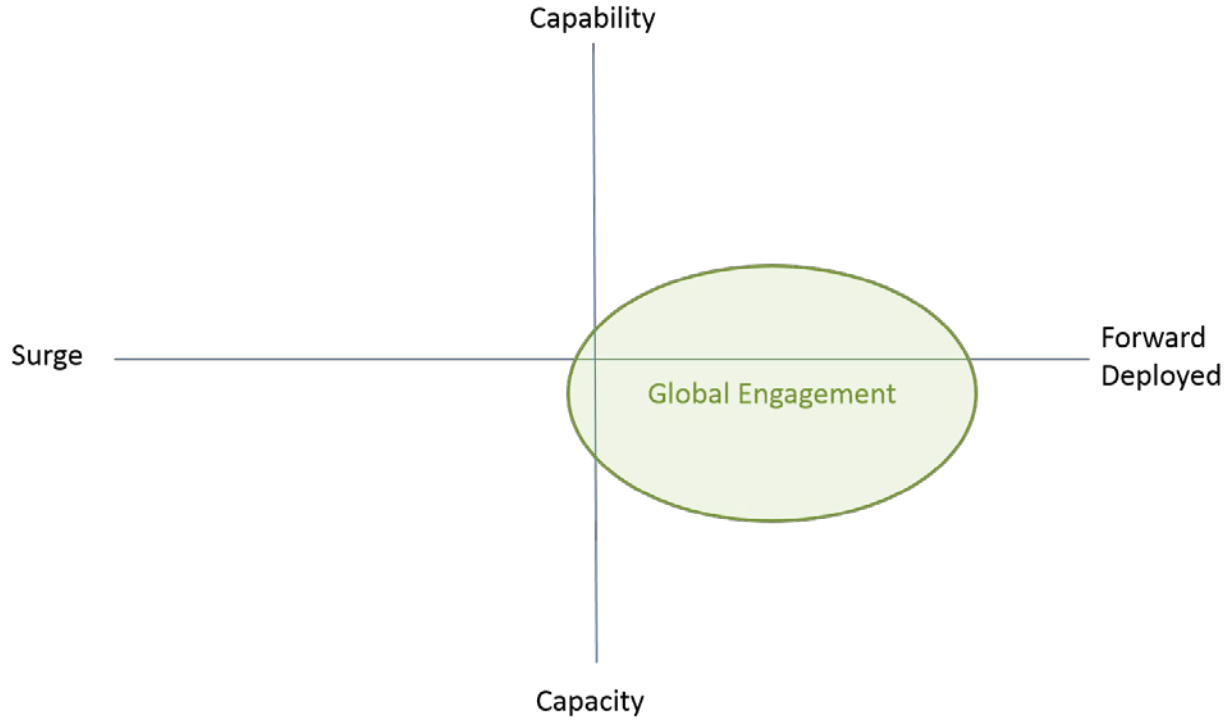
The current Global Engagement strategy is evolving. . The CSIS study team did not attempt to characterize how the current strategy had changed from its 2012 DSG/2014 formulation with respect to its mission and capabilities. Because of its balanced nature, it constitutes the baseline to which all the alternative strategies are being compared. Therefore, all prioritization below has been left blank.

Mission Priorities

The "Capability Priorities" section for this strategy used public documentation of how DoD would make cuts in a budget-capped environment. Although not rigidly across-the-board, the cuts are made in a balanced way to maintain the broad portfolio of capabilities required by a global engagement strategy.

Capability Priorities

Capability	Posture/Focus
Ground Forces	Globally engaged and regionally aligned. Active Army cut to 420k; reserve component to 500k.
Naval Forces	Cut 1 carrier/CVW; slow DDG-51, Littoral Combat Ship (LCS), VA-class SSN, P-8 buys. Reduce cruiser fleet.
Marine/Amphib. Forces	Remains contingency response force. Cut LSD force, reduce Marine Corps to 175k.
Special Operations	Maintain capacity for global counterterrorism and BPC (building partner capacity) missions.
IAMD	Maintain support for National Missile Defense (NMD) and Theater Missile Defense (TMD) programs.
Air Superiority	Cut A-10 fleet; reduce F-35A, B, and C buys. Some cuts to legacy fighter fleet, some shift into the reserves.
Global Strike	Some shrinkage of bomber fleet and munitions buys; maintain LRS-B plan.
Air Mobility	Cut KC-10 fleet
ISR	Reduced Remotely Piloted Aircraft (RPA) CAPs, cut U-2.
Space	Maintain current constellations, slight reduction in modernization.
Nuclear	Long-Range Strike Bomber (LRS-B) and Ohio-class Replacement Program (ORP) remain on current schedule; trim ICBM fleet to 400.
S&T	Stays at 2015 level.



Strategy #2: Asia-Pacific Engagement

Strategy Statement:

The rise of China is the most significant geopolitical challenge today, which U.S. strategy seeks to manage and counter through regional partnerships, robust forward presence (particularly maritime), and targeted capabilities development.

Strategy Description:

- U.S. forces focus on presence, engagement, and deterrence, emphasizing the Asia-Pacific region as the primary driver of capabilities requirements, forward posture, and alliance building.
- Military challenge: coping with China's growing A2/AD capabilities as well as its efforts to displace the United States as the Asia-Pacific's dominant maritime power.
- Maintains strong hedge against North Korean aggression.

U.S. Grand Strategy (including role of United States):

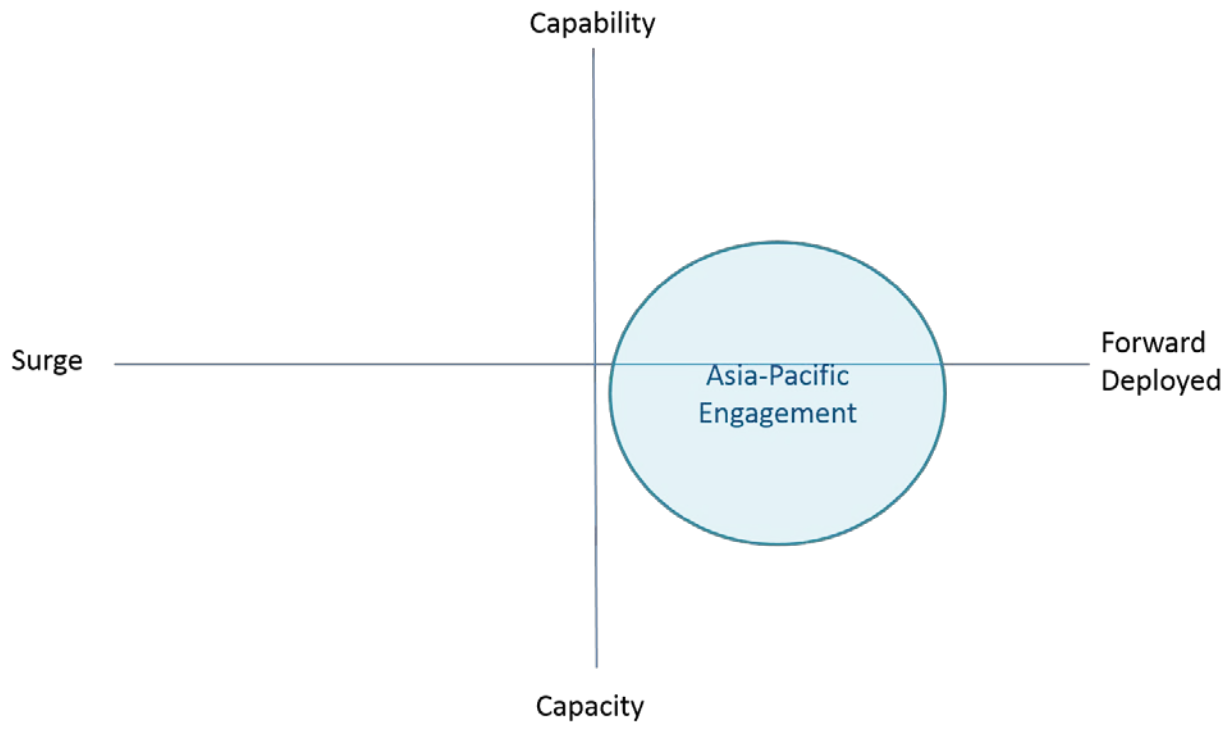
- United States maintains role as provider of stability and enforcer of rules-based order, but gives priority to Asia-Pacific.
- In reaction to evolving Sino-American bipolarity, U.S. focuses on countering China's bid for regional military dominance, particularly in the maritime domain (including Chinese assertiveness in the South China seas) and via collective security efforts with allies and partners.
- In focusing on collective security efforts in the Asia-Pacific region, the United States increasingly relies upon the European allies to take the lead in confronting Russia (with U.S. support through NATO) and Middle Eastern states to take the lead in containing ISIL (with the backing of U.S. air power).

Mission Priorities (as compared to current strategy)

DSG Mission	Prioritization
Maintain a safe, secure, and effective nuclear deterrent	↔
Defend the homeland and provide support to civil authorities	↔
Deter and defeat aggression	↔
Provide a stabilizing presence	↔
Counter terrorism and irregular warfare	↔
Counter weapons of mass destruction	↔
Project power despite anti-access/area-denial challenges	↔
Operate effectively in cyberspace and space	↑
Conduct stability and counterinsurgency operations	↓
Conduct humanitarian, disaster relief, and other operations	↔

Capability Priorities

Capability	Force Priority	Read. Priority	Mod. Priority	Posture/Focus
Ground Forces	↔	↔	↓	Globally engaged (including focus on Pacific Pathways).
Naval Forces	↓	↔	↑	Forward-deployed and stationed, increased Pacific deployments make up for smaller force (ship count).
Marine/Amphib. Forces	↔	↔	↔	Highly ready and forward deployed but focused on Pacific.
Special Operations	↔	↔	↔	Less focus on global counterterrorism mission and low end. Continued BPC and engagement, focused on Asia.
IAMD	↑	↔	↑	TMD key for anti-access challenges.
Air Superiority	↔	↔	↔	Area-denial challenges. More 5th gen aircraft, fewer 4th gen.
Global Strike	↑	↑	↔	More bombers to handle long distances in Pacific.
Air Mobility	↔	↔	↔	Mobility in AP theater is key, particularly getting forces into theater, but focus shifted to Pacific.
ISR	↑	↑	↑	
Space	↔	NA	↔	
Nuclear	↔	↔	↔	Sustain nuclear superiority over China for extended deterrence.
S&T	NA	NA	↔	


Capability
Surge
Forward
Deployed
Asia-Pacific
Engagement
Capacity

Strategy #3: Europe Engagement

Strategy Statement:

Russia poses the greatest near- to medium-term threat to the United States, and its actions in Eastern Europe indicate an anti-American belligerence that must be contained by U.S. presence, engagement, and deterrence, as was the case during the Cold War.

Strategy Description:

- U.S. forces focus on reassurance and deterrence in Europe, which signal both a strong commitment to allies and a willingness to counter irresponsible revisionist action. The United States emphasizes the European theater as the primary driver of capabilities requirements, forward posture, and alliance building.

- Military challenge: countering Russia's regional conventional superiority on NATO's eastern border and hybrid warfare tactics in its "near abroad." As part of reinvigorating NATO, the United States redeploys forces (particularly ground forces) throughout the region in order to reassure its European allies, build partnership capability, and counter Russian aggression.

U.S. Grand Strategy (including role of United States):

- United States maintains role as global provider of stability and enforcer of rules-based order, but gives priority to Europe.

- In reaction to growing Russian hostility (but a Russia that is significantly weaker than the Soviet Union), United States focuses on countering Russia's effort to weaken NATO.

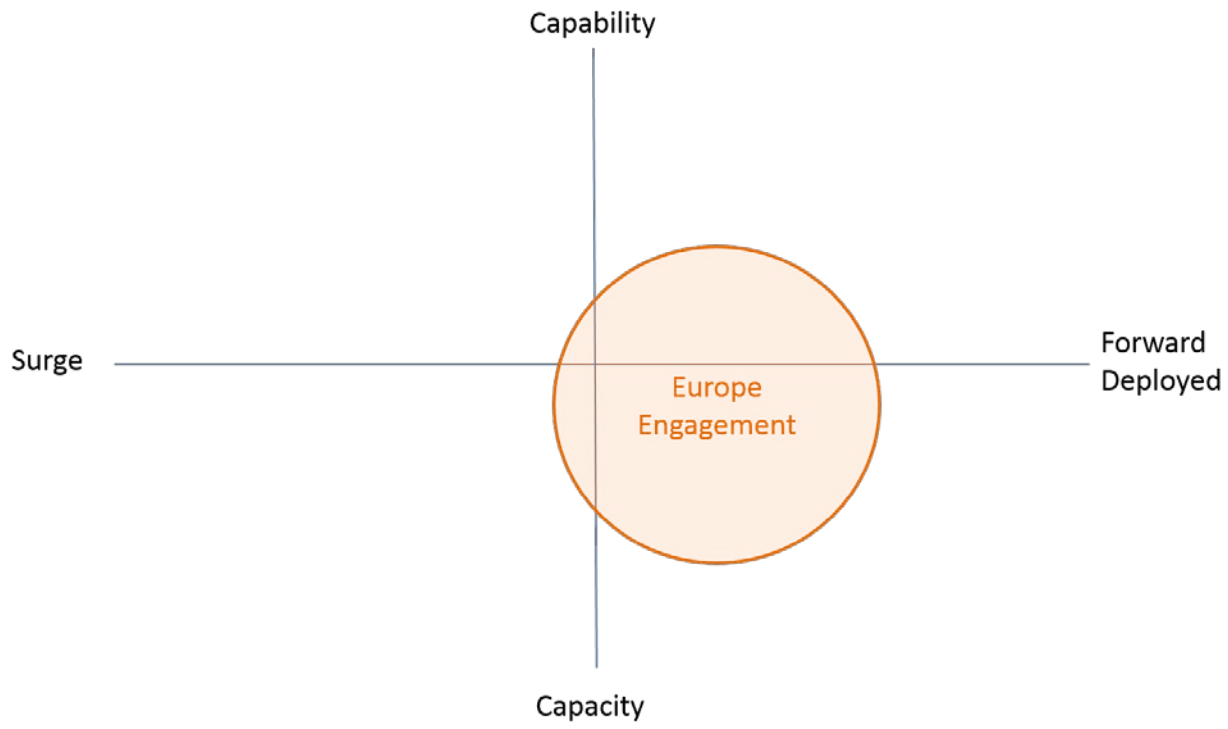
- Because of its focus on security efforts in Europe, the United States increasingly relies upon Asian allies to take the lead in countering China and upon Middle Eastern states to take the lead in containing ISIL (with the backing of U.S. air power).

Mission Priorities

DSG Mission	Prioritization
Maintain a safe, secure, and effective nuclear deterrent	↑
Defend the homeland and provide support to civil authorities	↔
Deter and defeat aggression	↑
Provide a stabilizing presence	↔
Counter terrorism and irregular warfare	↔
Counter weapons of mass destruction	↔
Project power despite anti-access/area-denial challenges	↑
Operate effectively in cyberspace and space	↑
Conduct stability and counterinsurgency operations	↓
Conduct humanitarian, disaster relief, and other operations	↓

Capability Priorities

Capability	Force Priority	Read. Priority	Mod. Priority	Posture/Focus
Ground Forces	↑	↔	↔	Increased presence across Europe.
Naval Forces	↓	↔	↔	Focus on high end, undersea.
Marine/Amphib. Forces	↓	↔	↓	Reduction because of difficult access to Russian periphery.
Special Operations	↔	↔	↔	Focused on countering hybrid threats in Eastern Europe.
IAMD	↔	↔	↑	Forward missile defense, continued spending on national BMD.
Air Superiority	↑	↔	↑	Focused on countering Russian IADS and air force. Robust 5th gen inventory,
Global Strike	↑	↔	↑	
Air Mobility	↓	↔	↔	Forward basing in Europe eases need.
ISR	↔	↔	↔	
Space	↔	NA	↔	
Nuclear	↔	↔	↑	Stay ahead of Russia's nuclear modernization.
S&T	NA	NA	↔	


Capability
Surge
Forward
Deployed
Europe
Engagement
Capacity

Strategy #4: Combating Islamic Extremists

Strategy Statement:

Islamic extremists pose both a regional threat in the Middle East and a broader threat (throughout the "arc of instability") to Americans overseas and to the American homeland in the post–9/11 security environment. The regional threat posed by the newly established Islamic caliphate and the continuing threat of mass casualty attacks on the U.S. homeland necessitate a strategy less focused on deterrence but more on directly countering Islamic extremists by rolling back ISIS, eliminating terrorist sanctuaries in the region, and attacking terrorist leadership structures.

Strategy Description:

- Assumes that related threats of ISIL expansion and terrorist attacks on the U.S. homeland take priority over the emerging great-power competition with China and Russia, which will rely on a different set of allies
- Military challenge: Containing and ultimately dislodging ISIL (both as a threat to the region and an inspiring vision for homegrown terrorists) and eliminating sanctuaries for large-scale terrorist attacks on Americans and the U.S. homeland.
- Maintain current U.S. posture (forward-deployed air power, offshore naval presence, and U.S. trainers/advisers, including forward air controllers and embedded advisers) in the Middle East with increased counterterrorism and stability operations capabilities.

U.S. Grand Strategy (including role of United States):

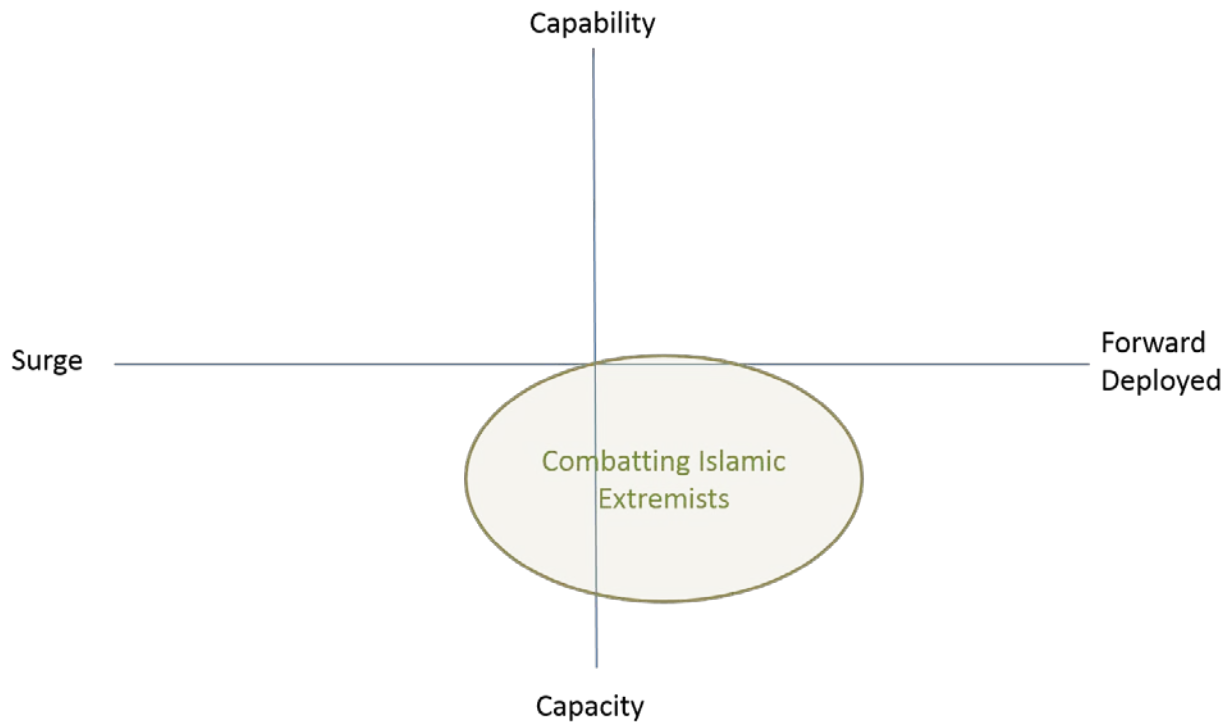
- Identifies the ongoing conflict with Islamic extremists as the most significant challenge of this era and biggest threat to the United States.
- Provides broad support to regional allies. United States supports NATO, but Europeans take the lead in confronting Russia.
- United States supports its Asian allies but they take the lead in confronting and/or accommodating China.

Mission Priorities

DSG Mission	Prioritization
Maintain a safe, secure, and effective nuclear deterrent	↓
Defend the homeland and provide support to civil authorities	↑
Deter and defeat aggression	↓
Provide a stabilizing presence	↔
Counter terrorism and irregular warfare	↑
Counter weapons of mass destruction	↔
Project power despite anti-access/area-denial challenges	↓
Operate effectively in cyberspace and space	↔
Conduct stability and counterinsurgency operations	↑
Conduct humanitarian, disaster relief, and other operations	↔

Capability Priorities

Capability	Force Priority	Read. Priority	Mod. Priority	Posture/Focus
Ground Forces	↑	↔	↔	Focus on infantry; increase readiness funding for active forces, reduce for Reserve component since so many missions require immediate response.
Naval Forces	↔	↔	↓	Refocus Navy on lower-end capabilities. 9-carrier fleet.
Marine/Amphib. Forces	↔	↔	↓	Maintain planned reductions in Marine Corps end strength.
Special Operations	↑	↑	↔	Increase SOF, particularly Army
IAMD	↓	↔	↓	
Air Superiority	↓	↔	↓	Air dominance in these conflicts remains nearly assured, slow fifth-generation fighter buy.
Global Strike	↔	↔	↔	Increase permissive strike coverage.
Air Mobility	↔	↔	↔	
ISR	↑	↔	↑	Increase permissive ISR coverage.
Space	↔	NA	↔	
Nuclear	↓	↔	↓	Dyad—eliminate ICBM leg of triad.
S&T	NA	NA	↔	


Capability
Surge
Forward
Deployed
Combatting Islamic
Extremists
Capacity

Strategy #5: Great Power Competition

Strategy Statement:

Intensified rivalry with China and Russia cause the United States to shift its focus to them.

Strategy Description:

- Assumes that balancing a growing maritime power (China) and a revanchist land power (Russia) depends on U.S. ability to maintain a qualitative technological edge.
- United States pulls back from its global engagement posture and relies on limited forward presence to prevent "easy wins" on its adversary's periphery, rapid power projection to counter adversary adventurism, and the pursuit of high-tech capabilities to sustain its qualitative military edge.
- Military challenge: Ensuring that neither China nor Russia gain leverage in any warfare domains (particularly cyber and space) or develop game-changing capabilities (e.g., autonomous systems and engineered biological warfare) that provide decisive military advantage.
- U.S. forward presence is more targeted, focusing on contested zones, countering "hybrid warfare" and "salami-slice" territorial incursions, preventing faits accomplis, and much less on reassuring a broad set of regional allies, partners, and friends.

U.S. Grand Strategy (including role of United States):

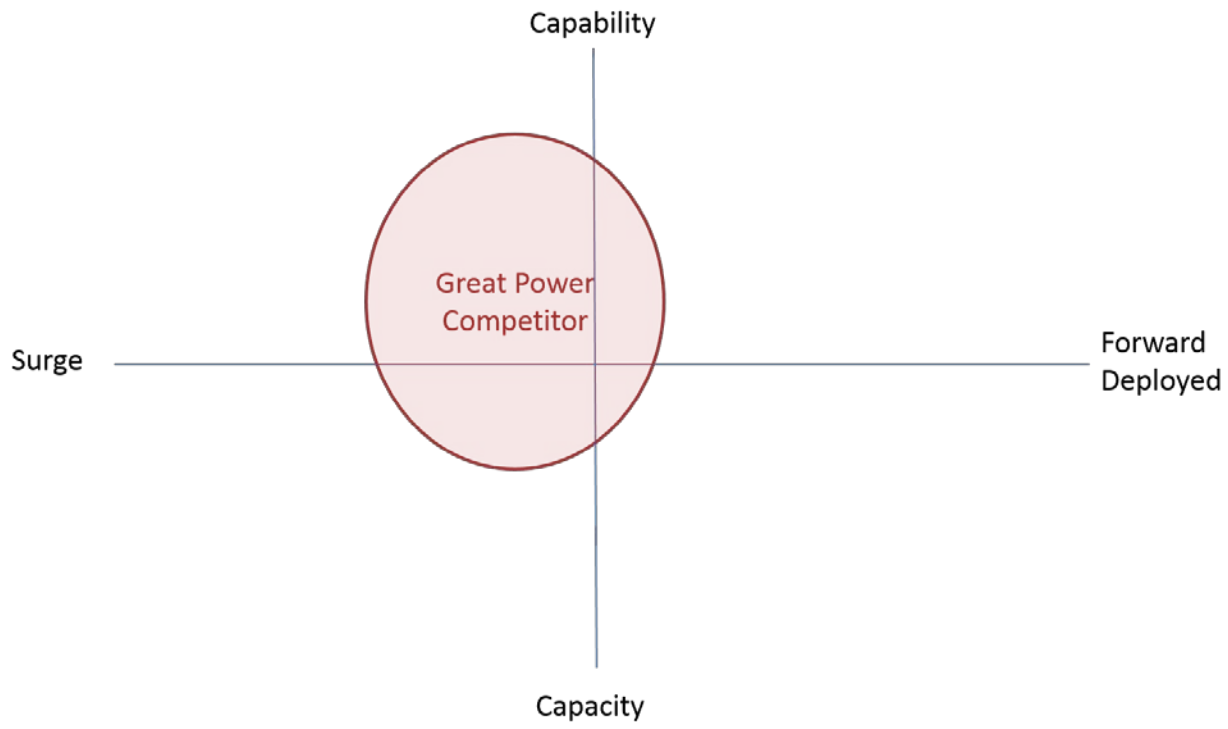
- Increasing competition with China and Russia causes the United States to step back its engagement strategy that emphasizes collective security and instead adopt a more nationalistic, self-reliant strategy to counter a more belligerent Russia and a more assertive China.
- As the most powerful (but hardly dominant) player in the new "great game," the United States gives less emphasis to reassuring its allies and partners (in effect, forcing them to be more self-reliant) and greater emphasis to interest-based, bipolar relationships with reliable security partners (e.g., UK, France, Japan, RoK, Australia, and Israel) and specific states that it wants to protect (e.g., Poland, Baltic states, RoK, and Taiwan).

Mission Priorities

DSG Mission	Prioritization
Maintain a safe, secure, and effective nuclear deterrent	↑
Defend the homeland and provide support to civil authorities	↔
Deter and defeat aggression	↑
Provide a stabilizing presence	↓
Counter terrorism and irregular warfare	↓
Counter weapons of mass destruction	↔
Project power despite anti-access/area-denial challenges	↑
Operate effectively in cyberspace and space	↑
Conduct stability and counterinsurgency operations	↓
Conduct humanitarian, disaster relief, and other operations	↓

Capability Priorities

Capability	Force Priority	Read. Priority	Mod. Priority	Posture/Focus
Ground Forces	↓	↓	↔	Pulled back for HD, except in key front-line states (Baltics).
Naval Forces	↓	↔	↑	Undersea, strike. Carrier force reduced.
Marine/Amphib. Forces	↓	↔	↔	Crisis response, highly ready, but narrower regional focus.
Special Operations	↓	↔	↔	Preserve options for action, reduced BPC SOF.
IAMD	↑	↔	↑	Increases in theater and national BMD.
Air Superiority	↓	↔	↑	Maintain full fifth-generation buy but fourth-generation aircraft less useful.
Global Strike	↑	↔	↑	Accelerate LRS-B.
Air Mobility	↓	↔	↔	
ISR	↔	↔	↔	Invest in non-permissive ISR.
Space	↑	NA	↑	Need resiliency.
Cyber	↑	NA	↑	
Nuclear	↑	↔	↑	Accelerate ORP, LRS-B.
S&T	NA	NA	↑	Significant increase to deliver tech superiority.


Capability
Great Power
Competitor
Surge
Forward
Deployed
Capacity

| Appendix F. Militaries Associated with Each Alternative Defense Strategy

This appendix provides additional detail for the militaries (force structure, modernization, readiness levels) that each strategy generates.

Global Engagement

INPUTS				
Inputs: Readiness				**Definitions**
ARMY	AC	ARMYAC	1	Readiness level 1 = 2015 levels
ARMY	RC	ARMYRC	1	Readiness Level 2 = Recover the shortfall identified in OGSI
NAVY	AC	NAVYAC	1	Readiness Level 3= -20%
NAVY	RC	NAVYRC	1	Readiness Level 4 = -10%
USMC	AC	USMCAC	1	Readiness Level 5 = +10%
USMC	RC	USMCRC	1	Readiness Level 6 = +20%
AF	AC	AFAC	1	
AF	RC	AFRC	1	
Inputs: Institutional Support				
ARMY	AC	ARMYAC	2	IS Level 1 = All 2015 Costs remain (costs are 100% fixed)
ARMY	RC	ARMYRC	2	IS Level 2 = IS Costs remain proportional to budget size
NAVY	AC	NAVYAC	2	IS Level 3 = IS Costs are sticky, costs are 50% fixed [Base Case]
NAVY	RC	NAVYRC	2	
USMC	AC	USMCAC	2	
USMC	RC	USMCRC	2	
AF	AC	AFAC	2	
AF	RC	AFRC	2	
Inputs: Military Construction				MilCon Level 1 = Keep at 2015 % of budget
Military Construction/Family Housing Funding			4	MilCon Level 2 = Increase to FYDP Average Share
				MilCon Level 3 = 2015 Shortfall fixed
				MilCon Level 4 = Increase to average share since 2001
Inputs: Science & Technology				S&T Level 1 = Keep at 2015 % of budget (21% of RDTE)
S&T Funding Level			1	S&T Level 2 = 2015 Shortfall fixed (23%)
				S&T Level 3 = Increase Share to 25% of RDTE
				S&T Level 4 = Cut share to Post-9/11 average (18.5%)

Global Engagement (cont.)

OUTPUTS			
Army Outputs	**2015**	**2023**	
Active End Strength	489,873	420,814	
Reserve End Strength	547,095	498,096	
Total BCTs (AC+RC)	60	52.7	
Navy Outputs	**2015**	**2023**	**Notes**
Active End Strength	327,261	299,041	
Reserve End Strength	58,231	46,643	
Carriers	11	10	
Amphibs	33	31	Count + 2 LCC
Large Surface Combatants	84	89	DDG, CG
Undersea	72	65	Attack & Boomer
Small Surface Ships	22	19	FFG, LCS, MCM; excludes PC (new FY15 counting)
Total Ship Count	*282*	*274*	Count + 29 Combat Logistics & 31 Support Vessels
Marine Corps Outputs	**2015**	**2023**	**Notes**
Active End Strength	186,535	174,777	
Reserve End Strength	39,055	39,039	
Infantry Regiments	14	14	Total AC & RC
Marine Air Groups	14	13	Total AC & RC
Air Force Units	**2015**	**2023**	**Notes**
Active End Strength	318,473	294,410	
Reserve End Strength	174,679	152,031	
Bombers	96	86	Total AC & RC
4th-Gen Fighter/Attack	975	668	Total AC & RC
5th-Gen Fighter/Attack	123	347	Total AC & RC
ICBM	450	400	Total AC & RC
Mobility	542	529	Total AC & RC
Air Refueling	416	330	Total AC & RC
ISR/SOF	633	539	Total AC & RC
Satellite Constellations	6	6	
Joint Force	**2015**	**2023**	**Notes**
Special Operations Units	31	31	All services

Asia-Pacific Engagement

INPUTS				
Inputs: Readiness				**Definitions**
ARMY	AC	ARMYAC	1	Readiness level 1 = 2015 levels
ARMY	RC	ARMYRC	1	Readiness Level 2 = Recover the shortfall identified in OGSI
NAVY	AC	NAVYAC	1	Readiness Level 3= -20%
NAVY	RC	NAVYRC	1	Readiness Level 4 = -10%
USMC	AC	USMCAC	1	Readiness Level 5 = +10%
USMC	RC	USMCRC	1	Readiness Level 6 = +20%
AF	AC	AFAC	1	
AF	RC	AFRC	1	
Inputs: Institutional Support				
ARMY	AC	ARMYAC	2	IS Level 1 = All 2015 Costs remain, w/ cost growth (costs are 100% fixed)
ARMY	RC	ARMYRC	2	IS Level 2 = IS Costs remain proportional to budget size
NAVY	AC	NAVYAC	2	IS Level 3 = IS Costs are sticky, costs are 50% fixed [Base Case]
NAVY	RC	NAVYRC	2	
USMC	AC	USMCAC	2	
USMC	RC	USMCRC	2	
AF	AC	AFAC	2	
AF	RC	AFRC	2	
Inputs: Military Construction				MilCon Level 1 = Keep at 2015 % of budget
Military Construction/Family Housing Funding			4	MilCon Level 2 = Increase to FYDP Average Share
				MilCon Level 3 = 2015 Shortfall fixed
				MilCon Level 4 = Increase to average share since 2001
Inputs: Science & Technology				S&T Level 1 = Keep at 2015 % of budget (21% of RDTE)
S&T Funding Level			1	S&T Level 2 = 2015 Shortfall fixed (23%)
				S&T Level 3 = Increase Share to 25% of RDTE
				S&T Level 4 = Cut share to Post-9/11 average (18.5%)

Asia-Pacific Engagement (cont.)

OUTPUTS			
Army Outputs	**2015**	**2023**	
Active End Strength	489,873	420,791	
Reserve End Strength	547,095	498,840	
Total BCTs (AC+RC)	60	53	
Navy Outputs	**2015**	**2023**	**Notes**
Active End Strength	327,261	290,112	
Reserve End Strength	58,231	46,097	
Carriers	11	10	
Amphibs	33	25	Amphib Count + 2 LCC
Large Surface Combatants	84	81	DDG, CG
Undersea	72	67	Attack & Boomer
Small Surface Ships	22	21	FFG, LCS, MCM; excludes PC (new FY15 counting)
Total Ship Count	*282*	*264*	Count + 29 Combat Logistics & 31 Support Vessels
Marine Corps Outputs	**2015**	**2023**	**Notes**
Active End Strength	186,535	174,915	
Reserve End Strength	39,055	39,039	
Infantry Regiments	14	14	Total AC & RC
Marine Air Groups	14	14	Total AC & RC
Air Force Units	**2015**	**2023**	**Notes**
Active End Strength	318,473	294,197	
Reserve End Strength	174,679	142,604	
Bombers	96	96	Total AC & RC
4th-Gen Fighter/Attack	975	512	Total AC & RC
5th-Gen Fighter/Attack	123	363	Total AC & RC
ICBM	450	400	Total AC & RC
Mobility	542	534	Total AC & RC
Air Refueling	416	330	Total AC & RC
ISR/SOF	633	569	Total AC & RC
Satellite Constellations	6	6	
Joint Force	**2015**	**2023**	**Notes**
Special Operations Units	31	31	All services

Europe Engagement

INPUTS				
Inputs: Readiness				**Definitions**
ARMY	AC	ARMYAC	1	Readiness level 1 = 2015 levels
ARMY	RC	ARMYRC	1	Readiness Level 2 = Recover the shortfall identified in OGSI
NAVY	AC	NAVYAC	1	Readiness Level 3= -20%
NAVY	RC	NAVYRC	1	Readiness Level 4 = -10%
USMC	AC	USMCAC	1	Readiness Level 5 = +10%
USMC	RC	USMCRC	1	Readiness Level 6 = +20%
AF	AC	AFAC	1	
AF	RC	AFRC	1	
Inputs: Institutional Support				
ARMY	AC	ARMYAC	2	IS Level 1 = All 2015 Costs remain, w/ cost growth (costs are 100% fixed)
ARMY	RC	ARMYRC	2	IS Level 2 = IS Costs remain proportional to budget size
NAVY	AC	NAVYAC	2	IS Level 3 = IS Costs are sticky, costs are 50% fixed [Base Case]
NAVY	RC	NAVYRC	2	
USMC	AC	USMCAC	2	
USMC	RC	USMCRC	2	
AF	AC	AFAC	2	
AF	RC	AFRC	2	
Inputs: Military Construction				MilCon Level 1 = Keep at 2015 % of budget
Military Construction/Family Housing Funding			4	MilCon Level 2 = Increase to FYDP Average Share
				MilCon Level 3 = 2015 Shortfall fixed
				MilCon Level 4 = Increase to average share since 2001
Inputs: Science & Technology				S&T Level 1 = Keep at 2015 % of budget (21% of RDTE)
S&T Funding Level			1	S&T Level 2 = 2015 Shortfall fixed (23%)
				S&T Level 3 = Increase Share to 25% of RDTE
				S&T Level 4 = Cut share to Post-9/11 average (18.5%)

Europe Engagement (cont.)

OUTPUTS			
Army Outputs	**2015**	**2023**	
Active End Strength	489,873	452,334	
Reserve End Strength	547,095	597,475	
Total BCTs (AC+RC)	60	63	
Navy Outputs	**2015**	**2023**	**Notes**
Active End Strength	327,261	277,289	
Reserve End Strength	58,231	44,866	
Carriers	11	8	
Amphibs	33	28	Amphib Count + 2 LCC
Large Surface Combatants	84	80	DDG, CG
Undersea	72	68	Attack & Boomer
Small Surface Ships	22	17	FFG, LCS, MCM; excludes PC (new FY15 counting)
Total Ship Count	*282*	*261*	Count + 29 Combat Logistics & 31 Support Vessels
Marine Corps Outputs	**2015**	**2023**	**Notes**
Active End Strength	186,535	167,813	
Reserve End Strength	39,055	39,039	
Infantry Regiments	14	13	Total AC & RC
Marine Air Groups	14	13	Total AC & RC
Air Force Units	**2015**	**2023**	**Notes**
Active End Strength	318,473	276,901	
Reserve End Strength	174,679	126,274	
Bombers	96	86	Total AC & RC
4th-Gen Fighter/Attack	975	440	Total AC & RC
5th-Gen Fighter/Attack	123	363	Total AC & RC
ICBM	450	400	Total AC & RC
Mobility	542	515	Total AC & RC
Air Refueling	416	220	Total AC & RC
ISR/SOF	633	454	Total AC & RC
Satellite Constellations	6	6	
Joint Force	**2015**	**2023**	**Notes**
Special Operations Units	31	31	All services

Combating Islamic Extremists

INPUTS				
Inputs: Readiness				**Definitions**
ARMY	AC	ARMYAC	2	Readiness level 1 = 2015 levels
ARMY	RC	ARMYRC	4	Readiness Level 2 = Recover the shortfall identified in OGSI
NAVY	AC	NAVYAC	2	Readiness Level 3= -20%
NAVY	RC	NAVYRC	4	Readiness Level 4 = -10%
USMC	AC	USMCAC	2	Readiness Level 5 = +10%
USMC	RC	USMCRC	4	Readiness Level 6 = +20%
AF	AC	AFAC	2	
AF	RC	AFRC	4	
Inputs: Institutional Support				
ARMY	AC	ARMYAC	2	IS Level 1 = All 2015 Costs remain (costs are 100% fixed)
ARMY	RC	ARMYRC	2	IS Level 2 = IS Costs remain proportional to budget size
NAVY	AC	NAVYAC	2	IS Level 3 = IS Costs are sticky, costs are 50% fixed [Base Case]
NAVY	RC	NAVYRC	2	
USMC	AC	USMCAC	2	
USMC	RC	USMCRC	2	
AF	AC	AFAC	2	
AF	RC	AFRC	2	
Inputs: Military Construction				MilCon Level 1 = Keep at 2015 % of budget
Military Construction/Family Housing Funding			4	MilCon Level 2 = Increase to FYDP Average Share
				MilCon Level 3 = 2015 Shortfall fixed
				MilCon Level 4 = Increase to average share since 2001
Inputs: Science & Technology				S&T Level 1 = Keep at 2015 % of budget (21% of RDTE)
S&T Funding Level			1	S&T Level 2 = 2015 Shortfall fixed (23%)
				S&T Level 3 = Increase Share to 25% of RDTE
				S&T Level 4 = Cut share to Post-9/11 average (18.5%)

Combating Islamic Extremists (cont.)

OUTPUTS			
Army Outputs	**2015**	**2023**	
Active End Strength	489,873	420,775	
Reserve End Strength	547,095	497,745	
Total BCTs (AC+RC)	60	52	
Navy Outputs	**2015**	**2023**	**Notes**
Active End Strength	327,261	293,045	
Reserve End Strength	58,231	46,097	
Carriers	11	9	
Amphibs	33	30	Count + 2 LCC
Large Surface Combatants	84	88	DDG, CG
Undersea	72	65	Attack & Boomer
Small Surface Ships	22	31	FFG, LCS, MCM; excludes PC (new FY15 counting)
Total Ship Count	*282*	*283*	Count + 29 Combat Logistics & 31 Support Vessels
Marine Corps Outputs	**2015**	**2023**	**Notes**
Active End Strength	186,535	177,594	
Reserve End Strength	39,055	39,039	
Infantry Regiments	14	14	Total AC & RC
Marine Air Groups	14	14	Total AC & RC
Air Force Units	**2015**	**2023**	**Notes**
Active End Strength	318,473	284,117	
Reserve End Strength	174,679	129,099	
Bombers	96	86	Total AC & RC
4th-Gen Fighter/Attack	975	520	Total AC & RC
5th-Gen Fighter/Attack	123	281	Total AC & RC
ICBM	450	0	Total AC & RC
Mobility	542	525	Total AC & RC
Air Refueling	416	240	Total AC & RC
ISR/SOF	633	662	Total AC & RC
Satellite Constellations	6	6	
Joint Force	**2015**	**2023**	**Notes**
Special Operations Units	31	39	All services

Great Power Competition

INPUTS				
Inputs: Readiness				**Definitions**
ARMY	AC	ARMYAC	1	Readiness level 1 = 2015 levels
ARMY	RC	ARMYRC	6	Readiness Level 2 = Recover the shortfall identified in OGSI
NAVY	AC	NAVYAC	1	Readiness Level 3= -20%
NAVY	RC	NAVYRC	6	Readiness Level 4 = -10%
USMC	AC	USMCAC	1	Readiness Level 5 = +10%
USMC	RC	USMCRC	6	Readiness Level 6 = +20%
AF	AC	AFAC	1	
AF	RC	AFRC	6	
Inputs: Institutional Support				
ARMY	AC	ARMYAC	2	IS Level 1 = All 2015 Costs remain (costs are 100% fixed)
ARMY	RC	ARMYRC	2	IS Level 2 = IS Costs remain proportional to budget size
NAVY	AC	NAVYAC	2	IS Level 3 = IS Costs are sticky, costs are 50% fixed [Base Case]
NAVY	RC	NAVYRC	2	
USMC	AC	USMCAC	2	
USMC	RC	USMCRC	2	
AF	AC	AFAC	2	
AF	RC	AFRC	2	
Inputs: Military Construction				MilCon Level 1 = Keep at 2015 % of budget
Military Construction/Family Housing Funding			4	MilCon Level 2 = Increase to FYDP Average Share
				MilCon Level 3 = 2015 Shortfall fixed
				MilCon Level 4 = Increase to average share since 2001
Inputs: Science & Technology				S&T Level 1 = Keep at 2015 % of budget (21% of RDTE)
S&T Funding Level			3	S&T Level 2 = 2015 Shortfall fixed (23%)
				S&T Level 3 = Increase Share to 25% of RDTE
				S&T Level 4 = Cut share to Post-9/11 average (18.5%)

Great Power Competition (cont.)

OUTPUTS			
Army Outputs	**2015**	**2023**	
Active End Strength	489,873	373,249	
Reserve End Strength	547,095	560,665	
Total BCTs (AC+RC)	60	54.3	
Navy Outputs	**2015**	**2023**	**Notes**
Active End Strength	327,261	273,325	
Reserve End Strength	58,231	43,465	
Carriers	11	8	
Amphibs	33	24	Count + 2 LCC
Large Surface Combatants	84	84	DDG, CG
Undersea	72	68	Attack & Boomer
Small Surface Ships	22	21	FFG, LCS, MCM; excludes PC (new FY15 counting)
Total Ship Count	*282*	*265*	Count + 29 Combat Logistics & 31 Support Vessels
Marine Corps Outputs	**2015**	**2023**	**Notes**
Active End Strength	186,535	154,308	
Reserve End Strength	39,055	39,039	
Infantry Regiments	14	12	Total AC & RC
Marine Air Groups	14	12	Total AC & RC
Air Force Units	**2015**	**2023**	**Notes**
Active End Strength	318,473	298,300	
Reserve End Strength	174,679	132,929	
Bombers	96	116	Total AC & RC
4th-Gen Fighter/Attack	975	440	Total AC & RC
5th-Gen Fighter/Attack	123	402	Total AC & RC
ICBM	450	450	Total AC & RC
Mobility	542	486	Total AC & RC
Air Refueling	416	388	Total AC & RC
ISR/SOF	633	419	Total AC & RC
Satellite Constellations	6	6	
Joint Force	**2015**	**2023**	**Notes**
Special Operations Units	31	25.8	All services

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About the Authors

Mark Cancian (Colonel, USMCR, ret.) is a senior adviser with the CSIS International Security Program. He joined CSIS in April 2015 from the Office of Management and Budget, where he spent more than seven years as chief of the Force Structure and Investment Division, working on issues such as DoD budget strategy, war funding, and procurement programs, as well as nuclear weapons development and nonproliferation activities in the Department of Energy. Previously, he worked on force structure and acquisition issues in the Office of the Secretary of Defense and ran research and executive programs at Harvard University's Kennedy School of Government. In the military, Colonel Cancian spent over three decades in the U.S. Marine Corps, active and reserve, serving as an infantry, artillery, and civil affairs officer and on overseas tours in Vietnam, Desert Storm, and Iraq (twice). Since 2000, he has been an adjunct faculty member at the Johns Hopkins School of Advanced International Studies, where he teaches a course on the connection between policy and analysis. A prolific author, he has published over 40 articles on military operations, acquisition, budgets, and strategy and received numerous writing awards. He graduated with high honors (magna cum laude) from Harvard College and with highest honors (Baker scholar) from Harvard Business School.

Clark Murdock is senior adviser for the International Security Program at CSIS. Joining CSIS in January 2001, Murdock has completed studies on a wide range of defense and national security issues, including strategic planning, defense policy and governance, and U.S. nuclear weapons strategy and policy. He directed the four-phase study on Defense Department reform, Beyond Goldwater-Nichols: USG and Defense Reform for a New Strategic Era, which released reports in 2004, 2005, 2006, and 2008. Murdock is currently leading an ongoing "track two" dialogue on nuclear policy issues—the Trilateral Nuclear Dialogues involving the United States, United Kingdom, and France. He has also recently completed studies on methodological approaches to building force-planning constructs and on nuclear posture implications of U.S. extended deterrence and assurance. He is the principal author of *Planning for a Deep Defense Drawdown—Part 1* (CSIS 2012; this report was the predecessor to the Affordable Military project), *The Department of Defense and the Nuclear Mission in the 21st Century* (CSIS 2008), and coauthored *Nuclear Weapons in 21st Century U.S. National Security* (AAAS, 2008).

Before joining CSIS, Murdock taught military strategy, the national security process, and military innovation at the National War College. Prior to that, from 1995–2000, he served in the Office of the Air Force Chief of Staff, where, as deputy special assistant to the chief for long-range planning, he helped develop a strategic vision for the 2020 Air Force. Then, as deputy director for strategic planning, he institutionalized the Air Force's strategic planning process and spearheaded the development of new planning products. Before joining the Air Force Chief of Staff's Office, he was special assistant to the under secretary of the Air Force, providing analytic support to the secretary and under secretary on broad issues of concern, including the future of air power and Air Force missions. Before joining the Air Force, Murdock served in the Department of Defense, where he headed the Policy Planning Staff

in the Office of the Under Secretary of Defense for Policy and held responsibility for mid- to long-range analysis and planning on strategy and defense policy issues. Prior to joining the Department of Defense, he served for several years on the House Armed Services Committee as a professional staff member and as a senior policy adviser to then-Chairman Les Aspin. Murdock's experience in defense planning and policy also includes service on the National Security council as senior director for Africa affairs and in multiple roles in the Central Intelligence Agency. Before turning to government service, Murdock taught for 10 years at the State University of New York at Buffalo. He is an honors graduate of Swarthmore College and holds a Ph.D. in political science from the University of Wisconsin at Madison.

Ryan Crotty is a fellow with the International Security Program and its deputy director for defense and budget analysis at the Center for Strategic and International Studies (CSIS). His work focuses on the management and application of defense resources, the strategic implications of resourcing decisions, and the effects of these decisions on the defense industrial base. He has worked on several CSIS projects focused on long-term defense spending trends and the defense budget drawdown and identifying challenges and opportunities facing the Department of Defense in a time of budget tightening. He also studies the interaction between the defense budget and the health of the defense industry through analysis of contracting and financial tools. He did his graduate study in international affairs at the Pennsylvania State University, where he previously worked as a research assistant to Ambassador Dennis Jett. While at Penn State, he was a 2010 recipient of the Office of the Director of National Intelligence's Strategic and Global Security Scholars Program Scholarship. Previously, he worked in state government consulting in Boston, MA. He holds a B.A. (with honors) in government and international studies from Colby College.

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1616 Rhode Island Avenue NW
Washington, DC 20036
202-887-0200 | www.csis.org

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