DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 12 2016

The Honorable William M. "Mac" Thornberry
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This letter provides a report documenting the Department's recent infrastructure capacity analysis, which demonstrates that significant excess capacity exists to warrant Base Realignment and Closure (BRAC) authorization. To advance the dialogue on BRAC, I am providing this report before the Department submits the information required by section 2815 of the National Defense Authorization Act for Fiscal Year (FY) 2016 (Public Law 114-92). The Department will combine the information in this report with additional material in order to create a report that meets the requirements of section 2815.

Based on FY 2019 force levels, the report indicates that the Department overall has 22 percent excess capacity distributed as follows: Army - 33 percent, Navy - 7 percent, Air Force - 32 percent, and the Defense Logistics Agency - 12 percent. The analysis compared base loading from 1989 to base loading in 2019 using 32 metrics of infrastructure.

As Department of Defense leadership has repeatedly testified, spending resources on excess infrastructure does not make sense. Therefore, we urge Congress to provide the Department authorization for another round of BRAC. Our recently submitted BRAC legislative proposal responds to congressional concerns regarding cost. The changes include requiring the Secretary to certify that BRAC will have the primary objective of eliminating excess capacity and reducing costs; emphasizing recommendations that yield net savings within five years (subject to military value); and limiting recommendations that take longer than 20 years to pay back. These and other revisions reflect discussions with Members and amendments to the legislation introduced in previous sessions of Congress.

Under current fiscal restraints, local communities will experience economic impacts regardless of a congressional decision regarding BRAC authorization. This has the harmful and unintended consequence of forcing the Military Departments to consider cuts at all installations, without regard to military value. A better alternative is to close or realign installations with the

lowest military value. Without BRAC, local communities' ability to plan and adapt to these changes is less robust and offers fewer protections than under BRAC law. Further, because the cost of operating installations is relatively fixed, the magnitude of savings from efficiency measures are less than that from closing a base.

An identical letter has been sent to the other congressional defense committees.

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member

DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 12 2016

The Honorable John McCain
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

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Enclosure:
As stated

cc:
The Honorable Jack Reed
Ranking Member

DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 12 2016

The Honorable Thad Cochran
Chairman
Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, DC 20510

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As stated

cc:
The Honorable Richard J. Durbin
Vice Chairman

DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 12 2016

The Honorable Rodney P. Frelinghuysen
Chairman
Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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cc:
The Honorable Peter J. Visclosky
Ranking Member

DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 12 2016

The Honorable Mark Kirk
Chairman, Subcommittee on Military Construction,
Veterans Affairs, and Related Agencies
Committee on Appropriations
United States Senate
Washington, DC 20510

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Enclosure:
As stated

cc:
The Honorable Jon Tester
Ranking Member

DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 12 2016

The Honorable Thad Cochran
Chairman
Committee on Appropriations
United States Senate
Washington, DC 20510

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cc:
The Honorable Barbara A. Mikulski
Vice Chairwoman

DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 12 2016

The Honorable Charles W. Dent
Chairman, Subcommittee on Military Construction,
Veterans Affairs, and Related Agencies
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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Enclosure:
As stated

cc:
The Honorable Sanford D. Bishop, Jr.
Ranking Member

DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

APR 12 2016

The Honorable Harold Rogers
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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cc:
The Honorable Nita M. Lowey
Ranking Member

TAB

B

Department of Defense

Department of Defense
Infrastructure Capacity
March 2016

The estimated cost of this report or study for the Department of Defense is approximately $210,000 in Fiscal Years 2015-2016. This includes $50,000 in expenses and $160,000 in DoD labor.
Cost estimate generated on October 20, 2015. RefID: 9-B481A8E.

Introduction

In the face of increasing demands on the defense budget and a highly uncertain global security environment, the Department of Defense (DoD) must stop wasting money on unnecessary infrastructure. We must right-size our infrastructure, capture the savings, and devote these savings to readiness, modernization, and other more pressing national security requirements. It has been 14 years since Congress authorized the Department to conduct a BRAC round and 12 years since the Department conducted a top level parametric capacity analysis. In the intervening period, the Department has successfully completed BRAC 2005 and is reducing its force structure. Army personnel will shrink to 450,000 from 570,000; Marine Corps personnel will decline from 202,000 to 182,000. Since 2005, the Air Force has already reduced its force structure by eliminating 500 aircraft from its inventory and 50,000 personnel, and the Navy has already reduced its force structure by eliminating 1 carrier and 36,000 personnel.

This report responds to individual member and various Committee suggestions that DoD conduct a capacity analysis to reflect changes in force structure. For example, the National Defense Authorization Act for Fiscal Year (FY) 2016 requires the Department to complete such an analysis. This report, therefore, addresses congressional concerns by providing a capacity analysis and force structure projections.

This report describes the parametric analysis, articulates the limits of such an analysis, provides the findings of the analysis, and documents the projected force levels for FY 2019. The report also reiterates why the Department believes authorization of another BRAC round is necessary to reduce our excess infrastructure. As part of the BRAC discussion, the report discusses the nature of BRAC savings and what can be expected from another round.

Parametric Analysis

This report provides the results of a broad parametric capacity analysis that examines different types of infrastructure broadly relative to a defined force structure.

The analysis is based on comparing existing U.S. installation and metric data to broad force structure plans. As such, the analysis is not designed to determine the specific excess of any one base. Rather, this analysis focuses on base loading ratios for a select group of metrics (maneuver battalions compared to training acres, ships compared to pier space, planes to apron space, etc.) in the context of the projected force structure. As such, the analysis tends to be conservative in that it does not focus on maximizing use of existing capacity. The intent is to get a sense of excess and whether excess remains after various changes, such as BRAC or force structure reductions. To go beyond a parametric analysis requires more detailed metrics and data collection, both of which will uncover excess at individual installations. The identification of installation level excess at this stage could then lead to speculation that a particular installation is on a closure list when in fact such an outcome is best determined by the BRAC process.

Results

Employing a parametric analysis to compare base loading from 1989 to base loading in 2019 using 32 metrics (as tied to force structure plans) indicates that the Department has 22 percent infrastructure excess. This excess is lower than the 24 percent found in 2004 and is a reasonable outcome given that BRAC 2005 reduced infrastructure by 3.4 percent (as measured by plant replacement value) and force structure has declined. This level of excess underscores the need for a BRAC round because it is clear that the Department has more infrastructure than force structure plans require.

While 22 percent excess is substantial, the results of this analysis cannot be used to project the potential size of BRAC closures broadly, nor can the excess in any category of installation be used to project the likelihood of an installation closing. Historically, BRAC has reduced plant replacement value by an average of 5 percent. This is because BRAC is not designed to eliminate all excess. The focus of every BRAC round is to reduce excess where needed in balance with the need to have room for changed missions, tactics, and technology while enhancing military value and achieving recurring savings. Individual closure decisions weigh the unique characteristics and military value of infrastructure compared to the specific requirements of forces and functions. Thus, less excess capacity is a logical and beneficial side effect of BRAC.

The remainder of this report provides the projected force structure for 2019, describes the parametric methodology in greater detail, and presents the details of the capacity analysis for all 32 metrics and the estimated excess for Military Departments and the Defense Logistics Agency (DLA). This report also further articulates the nature of BRAC savings and the Department's expectations for a future BRAC round.

Force Structure

Tables 1 and 2 outline the programmed force structure for the Army, Navy, Marine Corps, and Air Force for FYs 2016 and 2019. The tables represent the latest projections and were coordinated with the Joint Chiefs of Staff. The Force Structure is the minimum necessary to carry out current missions and supports the Chairman's 2015 National Military Strategy. The Military Departments and DLA used this force structure as the basis for the capacity analysis that follows.

Table 1 - Service Force Units

Service Force Units	FY16	FY19
Army BCTs		
Active	31	30
Reserve	27	26
Maneuver Battalion Equivalents	122	119
Aircraft Carriers	11	11
Carrier Air Wings		
Active	10	10
Reserve	1	1
Battle Force Ships	282	300
Air Force		
Total Aircraft Inventory	5,285	5,332
Marine Corps Divisions		
Active	3	3
Reserve	1	1

Table 2 - Service End Strength (as of the FY 2016 President's Budget)

End Strength (in thousands)	FY16	FY19
Army		
Active	475	450
Reserve	540	530
Navy		
Active	329	330
Reserve	57	59
United States Marine Corps		
Active	184	182
Reserve	39	39
Air Force		
Active	317	311
Reserve	69	67

Methodology

To be consistent with the two previous capacity reports, the Department elected for this report to measure capacity against a 1989 baseline. As stated in the 2004 report and noted by the Government Accountability Office (GAO), choosing a 1989 baseline assumes that the facilities were properly sized at least in overall capacity to support assigned missions and forces. In fact, the bases were most likely not all properly sized and had excess. As was the case in the prior reports, using 1989 as a baseline indicates that the excess found in this report is conservative because significant excess existed in 1989, as evidenced by the subsequent BRAC closures.

In this updated report, the Military Departments and DLA had the option to modify, add, or eliminate categories and metrics (taking into account availability of comparable 1989 data). The Military Departments and DLA also were able to determine which installations supported which metric. This enabled them to re-examine the prior methodology to reflect current operations, changes in their base structure as a result of BRAC (including Joint Basing), and other factors, such as changed business practices (e.g., conducting maintenance at the tactical level). Where necessary, the Military Departments and DLA also had the option to modify the 1989 baseline to better approximate these changing factors, helping to ensure that excess was not overstated. Such an approach also allowed the metrics to be tailored to the differing operating principles of the Military Departments. The Military Departments and DLA derived the data for this report using the most current data available from the current Future Years Defense Plan and existing records. It is important to note that this methodology purposely focused on 251 installations selected by the Military Departments and DLA. The Department believes this approach is analytically sound because the analysis is only designed to indicate whether excess capacity exists in the aggregate, not to identify excess capacity at individual installations, nor to make decisions about which bases to close or realign.

In calculating a percentage of excess capacity, the Military Departments and DLA established metrics (e.g., small aircraft parking apron space) for their respective base categories and compared those metrics to an applicable measurement of force structure or requirements (e.g., number of small aircraft) to establish a simple ratio for 1989 and 2019 in each category. The 1989 metrics are then compared to the 2019 metrics to determine a level of excess capacity. 2019 was selected as representative of out year or projected force structure and DoD's estimate of programmed resources. This comparison calculated the amount of infrastructure necessary to support the 2019 force structure at the same level of infrastructure usage as in 1989. Increases were then reduced to percentages and expressed as excesses. If there was no increase, the excess capacity was characterized as "No Increase."

Detailed Results

Understanding Capacity Table Calculations

The following six steps explain the calculations used in the Military Departments and DLA capacity tables. The corresponding letters can be found in the headings for each table.

1. For each Category Type of facilities, we defined a metric. A metric is an equation that reflects the ratio of a measure of capacity over a measure of force structure. For example, the Army used Base Acres (measure of capacity) over Maneuver Battalion Equivalents (measure of force structure) to determine the level of excess for their Maneuver category.

2. The Military Departments and DLA then collected data for the capacity and force structure measures for FY 1989 (A)/(B) and FY 2019 (C)/(D). The FY 2019 data came from programmed estimates. The Input column shows the data collected for each measure.

3. Once the data is entered into the metric equation, a capacity index is calculated for FY 1989 (E) and FY 2019 (F) by dividing the capacity measure by the force structure measure. For the Army Maneuver category, the FY 1989 capacity measure of 4,494,585 Base Acres (A) is divided by the 1989 force structure measure of 193 Maneuver Battalion Equivalents (B) to get a FY 1989 capacity index of 23,288 (E). The same calculation is done with the metrics in (C)/(D) to determine the capacity index for FY 2019 (F).

4. In order to determine how much capacity is needed in FY 2019 to support the projected force structure in FY 2019, using the same ratio of capacity to force structure in FY 2019 as we did in FY 1989, we multiplied the FY 1989 Index by the force structure measure for FY 2019. We used the FY 1989 index because the ratio of capacity to force structure in FY 1989 represented the largest force structure accommodated by that infrastructure. The result is referred to as Proportional Capacity (G). In the Maneuver category, the FY 1989 Index of 23,288 (E) is multiplied by the FY 2019 force structure measure of 119 Maneuver Battalion Equivalents (D).

5. We then estimated the change in capacity relative to force structure from FY 1989 to FY 2019 by subtracting the capacity measure for FY 2019 (C) from the Proportional Capacity (G), which takes into account the infrastructure reductions from prior BRAC rounds. This change in capacity is shown as (H). In the Maneuver category, the Delta 2,036,885 (H) is calculated by subtracting 2,771,273 (G) from 4,808,157 (C). When the Delta is an increase in capacity relative to force structure from 1989 to 2019, it is expressed as a positive number. When the Delta is a decrease in capacity relative for force structure from 1989 to 2019, it is expressed as "No Increase."

6. Finally, we determined the percentage of FY 2019 capacity that is excess by dividing the Delta (H) (if there was an increase) by the FY 2019 capacity measure (C) and multiplying the result by 100. In the Maneuver category, the Delta 2,036,885 (H) is divided by the FY 2019 capacity measure (C) of 4,808,157 to get 0.424, which, when multiplied by 100, shows a 42 percent excess in the Category for 2019.

Department of the Army

The Army's force structure is composed of multifunctional divisions and units in the Active Component, National Guard, and U.S. Army Reserve. Army units perform six different types of warfighting functions, defined as a group of tasks and systems (people, organizations, information, and processes) united by a common purpose that commanders use to accomplish missions. The six warfighting functions are linked to Joint functions: Mission Command, Movement and Maneuver, Intelligence, Fires (indirect fire support and air defense), Sustainment, and Protection. Army Active Component and National Guard Divisions are composed of modular Army Brigade Combat Teams (BCTs). The Army has three types of BCTs: Armor, Infantry (to include Airborne), and Stryker. The Army utilized BRAC 2005 to complete an Army Transformation that shifted significant warfighting function capabilities from Divisions to individual BCTs so that each BCT is capable of operating autonomously in their assigned area of responsibility. The Army identified nine categories of supporting installation infrastructure key to assessing its ability to support its forces: Maneuver, Major Training Active, Major Training Reserve, Schools, Depots, Other Industrial Base, Arsenals/Industrial Manufacturing, Test and Evaluation/Labs, and Administration. Table 3 provides the overall capacity results by category.

Description of Army Installation Categories

1. *Administration.* This category includes active component installations that support headquarters or administrative organizations stationed there or to provide base operations, family housing, and other support to units in the region.

2. *Depots.* This category includes Government Owned, Government Operated installations that support the full range of Army depot maintenance activities from tanks, to helicopters, to electronics.

3. *Other Industrial Base.* This category includes Government Owned, Government Operated installations that support a broad range of industrial functions, including ammunition production, weapons systems component production or assembly, and transshipment of units and materiel.

4. *Arsenals/Industrial Manufacturing.* This category includes Government Owned, Government Operated installations involved in manufacturing and research of weapons systems, chemical-biological defense systems, specialized metallurgy, and pyrotechnic munitions for the Army.

5. *Major Training–Active.* This category includes installations that are owned by the active component and support higher unit level training that cannot be accomplished at home station (typically, brigade-level events prior to deployment).

6. *Major Training–U.S. Army Reserve.* This category includes installations that are owned and managed by the U.S. Army Reserve primarily to support unit and individual training for the Reserve and similar training for the National Guard as necessary. Many of the Army's warfighting functions are provided by the U.S. Army Reserve.

7. *Maneuver.* This category includes installations that support Army fighting forces. Divisions, BCTs, and associated tactical units are the primary tenants of these installations.

8. *Schools.* This category includes installations that have as their primary mission support to institutional training. The type of school ranges from the U.S. Military Academy and initial entry training to branch schools and professional military education.

9. *Test and Evaluation/Labs.* This category includes installations that support a range of research, development, and test and evaluation, such as basic research, research and development engineering, or test and evaluation.

Results for the Department of the Army

Table 3

Category Type/Metric	Metric Values from Military Department		Ratios ((A)/(B) and (C)/(D) as ratio values)		Proportional Capacity	Change in Capacity Relative to Force Structure Since 1989	
	FY89	FY19	FY89	FY19		Delta from FY19 Capacity	Excess FY19 Capacity
	(A) / (B)	(C) / (D)	(E)	(F)	(G) = (E) X (D)	(H) = (C) - (G)	(H)/(C)
Administration							
Administrative Space (Square Feet (000s)) [1, 17, 19, 27]	6,627	12,940	0.0691	0.0973	9,188	3,752	29%
Military/Civilian Authorized [19, 20, 21, 27]	95,880	132,937					
Depots							
Capacity Direct Labor Hours (000s) [2, 4, 5]	29,000	16,464	1.3810	1.2706	17,894	No Increase	
Budgeted/Programmed Direct Labor Hours (000s)	21,000	12,958					
Other Industrial Base [3, 4, 5]							
Capacity Direct Labor Hours (000s)	2,270	4,497	1.3810	1.2998	4,777	No Increase	
Budgeted/Programmed Direct Labor Hours (000s)	1,644	3,459					
Arsenals/Industrial Manufacturing [6]							
Total Facilities Square Feet (000s)	34,707	12,804	1.4524	2.2587	8,234	4,571	36%
Military/Civilian Authorized	23,897	5,669					
Major Training Active [7]							
Base Acres	1,509,334	945,900	7,820	7,949	930,626	15,274	2%
Maneuver Battalion Equivalents [12, 13, 14, 15]	193	119					
Major Training Reserve [8, 11]							
Base Acres [16]	258,413	333,724	0.8101	1.7114	157,964	175,760	53%
End Strength [10]	319,000	195,000					
Maneuver							
Base Acres [9, 16, 24]	4,494,585	4,808,157	23,288	40,405	2,771,273	2,036,885	42%
Maneuver Battalion Equivalents [12, 13, 14, 15]	193	119					
Schools							
Instructional Space (Square Feet (000s) [18, 22]	14,964	14,997	0.0407	0.0724	8,432	6,565	44%
Military/Civilian Authorized [23]	367,613	207,150					
Test and Evaluation/Labs							
Total Facilities Square Feet (000s) [25]	48,924	60,895	0.4793	0.8794	33,187	27,707	46%
Military/Civilian Authorized [26]	102,079	69,245					

Note:

1) Ft. Knox in FY 2019 now coded as "Administrative" (was categorized as a "School" prior to BRAC 2005)
2) Depot FY 2019 Capacity: 1-shift actual Direct Labor Hours (DLH), which is average of 2004 and 2014 data
3) Other Installation Base (OIB) FY19 Capacity = 1 shift actual DLH (average of 2003-2005 data); FY 1989 Capacity = FY 2000 actual DLH multiplied by 1.381 (no 1989 data exists)
4) FY 2019 budgeted workload = FY 2016 Budget Estimate Submission (BES) projected new orders for each OIB installation (Sierra Army Depot programmed at average of 2000-2007 execution).
5) Projected FY 2019 budgeted DLHs assumes PresBud and that Budget Control Act budget caps do not trigger sequestration.
6) Arsenal population = Army Stationing and Installation Plan (ASIP). Army Military + Army Civilians
7) Ft. Polk has acquired ~41.5K acres of training land for Joint Readiness Training Center (JRTC) since FY 2009; Yakima Training Center (YTC) (~323K acres) is now part of Joint Base Lewis-McChord (included in Maneuver Category).
8) Ft. Dix transferred to Air Force Joint Base McGuire Dix Lakehurst but is still included in Army analysis because there is no comparable Air Force category/metric.
9) Ft. Bliss was a "School" prior to BRAC 2005 (~1.1M acres) and YTC (~323K acres) was "Major Training - Active." YTC now part of JBLM; 1989 acres adjusted to include Bliss and YTC.
10) U.S. Army Reserve force structure in FY 2019: 195,000.
11) Army National Guard personnel and acres are not included in analysis.
12) FY 1989 combat service/combat service support enabler functions were held at the division level; Modular BCTs are larger than 1989 brigades (more enablers in BCTs).
13) FY 2009 Army BCTs = 2 maneuver battalions (Plus Reconnaissance, Surveillance, and Target Acquisition (RSTA)); FY 2019 BCTs = 3 maneuver battalions (Plus RSTA) except OCONUS (Hawaii, Alaska, Italy)
14) Force Structure calculated in "maneuver battalion equivalents" and counts cavalry squadrons (RSTA) as BNs, 1989 force structure.
15) FY 2019 maneuver BN equivalents includes inactivation of 6 maneuver BN equivalents; Army has 125 maneuver BN equivalents at end of FY 2015.
16) Acreage was reviewed to remove obvious non-maneuverable parcels (i.e., cemeteries, museums, Nike sites, recreation areas, closed BRAC property, buffer areas at Ft Bragg, etc)
17) Admin Space used HQIS FAC = 6100 (Gen Purpose Admin).
18) Instruction Facilities used HQIS FCG = F17119, F17120, F17131 thru F17139
19) FY 2009 Population Data: FY 2015 Q2 LOCKED ASIP DATA 30 APR 2015
FY 2019 Population Data: FY 2015 Q3 LOCKED ASIP DATA 31 JULY 2015 (this includes the force structure announcements of July 9, 2015)
20) MIL POPULATION: All Military (all services); CIV POPULATION: All Civilians (including defense agencies and contractors)
21) 1989 Admin installation population was increased by 17.618 percent to reflect an estimated proportion of other service military, civilians, and contractors.
22) SCHOOL POPULATION: Army MIL, Army PCS Students, TDY Students and Trainees, Army Civilians, and Army Contractors
23) 1989 School population increased by 5 percent to reflect contractor population
24) Ft. Richardson is part of Joint Base Elmendorf Richardson, but its acreage is still included as "Maneuver" installation acreage (AF has no comparable category/metric).
25) RDT&E facilities square footage for FY 2019 was adjusted to remove closed BRAC installations (i.e., Camp Evans, Ft. Wingate, Walter Reed Army Medical Center, Ft. Monmouth)
26) RDT&E population 1989 baseline is based on 1993 ASIP data, adjusted backwards to 1989; FY 2019 RDT&E population includes Army MIL + Army CIV + Army CTR
27) Admin square footage and population in leased space was not captured in the 1989 or 2009 data (nor in the 1998 or 2004 parametric capacity analysis reports).

Department of the Navy

The basic warfighting elements of the Navy are surface combatants (battle force ships and aircraft carriers) with their Active and Reserve air wings and submarines. For the Marine Corps, the principal fighting element is the division, both Active and Reserve. The Navy and Marine Corps identified eleven categories of supporting infrastructure key to assessing their ability to support naval and marine forces: Naval Bases; Marine Corps Bases; Air Stations; Ordnance Stations; Supply Installations; Aviation Maintenance; Depot Maintenance (USMC); Shipyards; Research, Development, Test and Evaluation (RDT&E); Training Air Stations; and Training Installations. Table 4 provides the overall capacity results by category.

Description of Navy and Marine Corps Installation Categories

1. *Naval Bases.* This category includes those activities that have a principal mission to homeport, support, maintain, and train Navy ships and assigned crews.

2. *Marine Corps Bases.* This category includes those activities that have a primary mission to house, support, and provide training areas for operating forces of the Fleet Marine Force.

3. *Air Stations.* This category includes those activities that have a principal mission to homeport, support, and operate a base from which operational missions can be flown by Navy and Marine Corps aircraft squadrons.

4. *Ordnance Stations.* This category includes those activities that provide secure storage for the full range of naval ordnance, support the safe receipt of that ordnance from other activities and the delivery of that ordnance to fleet units, and perform maintenance and inspection functions on ordnance.

5. *Supply Installations.* This category includes those activities providing consolidated supply services and logistics support of afloat and ashore operating forces and industrial activities.

6. *Aviation Maintenance.* This category includes those activities that perform depot maintenance and repair across all aviation component mission areas.

7. *Depot Maintenance (USMC).* This category includes those activities that provide the full range of depot and intermediate maintenance support for Marine Corps amphibious and ground equipment to the Atlantic and Pacific Fleet Marine Forces.

8. *Shipyards.* This category includes those activities that function to satisfy the major maintenance and overhaul requirements of the operating fleet and to provide depot-level emergent and voyage repair to those ships.

9. *RDT&E.* This category includes those activities responsible for maintaining a technological advantage against the threat, for rapid crisis response, and for maintaining unique facilities, capabilities, and corporate knowledge required for national security.

10. *Training Air Stations.* This category includes those Navy activities that have undergraduate pilot training (UPT) as their primary mission. UPT refers to the flight training student pilots and naval flight officers undergo to earn their wings before being assigned to fleet replacement squadrons.

11. *Training.* This category includes those activities that provide professional training, from recruit training to postgraduate degree programs for all levels of enlisted and officer personnel.

Results for the Department of the Navy

Table 4

Category Type/Metric	Metric Values from Military Department		Ratios ((A)/(B) and (C)/(D) as ratio values)		Proportional Capacity	Change in Capacity Relative to Force Structure Since 1989	
	FY 89 (A) / (B)	FY 19 (C) / (D)	FY 89 (E)	FY 19 (F)	(G) = (E) X (D)	Delta from FY19 Capacity (H) = (C) - (G)	Excess FY19 Capacity (H)/(C)
Naval Bases [1]							
Cruiser Equivalent Available	637	431	1.0670	1.3596	338	93	22%
Cruiser Equivalent Assigned	597	317					
Marine Corps Bases [2]							
Base Acres	802,522	1,035,977	4.1367	5.6922	752,881	283,096	27%
End Strength	194,000	182,000					
Air Stations [3]							
Hangar Modules Available	363	310	1.1748	0.9038	403	No Increase	
Hangar Modules Required	309	343					
Ordnance Stations							
Available Storage (000 sf)	3,619.9	4,659	1.0000	1.0562	4,411	248	5%
Inventory (000 sf)	3,619.9	4,411					
Supply Installations [4]							
Potential Workyears	9,896	2,733	1.0181	1.0022	2,776	No Increase	
Budgeted/Programmed Workyears	9,720	2,727					
Aviation Maintenance (formerly Aviation Depots) [4]							
Capacity Direct Labor Hours (000s)	26,000	12,260	1.1454	1.3214	10,627	1,633	13%
Budgeted/Programmed Direct Labor Hours (000s)	22,700	9,278					
Depot Maintenance (formerly Logistics Bases) (USMC) [4]							
Capacity Direct Labor Hours (000s)	2,057	2,898	1.0506	1.1509	2,645	253	9%
Budgeted/Programmed Direct Labor Hours (000s)	1,958	2,518					
Shipyards [4]							
Potential Direct Labor Man-Years	48,400	15,928	1.3596	0.8259	26,219	No Increase	
Budgeted/Programmed Direct Labor Man-Years	35,600	19,285					
Research, Development, Test and Evaluation (RDT&E) (Test and Evaluation/Labs) [4]							
Maximum In-House Workyears	72,000	47,260	1.0976	0.9791	52,977	No Increase	
In-House Workyears	65,600	48,268					
Training Air Stations							
Available Throughput (Students Per Year)	5,032	2,986	1.0000	0.9858	3,029	No Increase	
Students Per Year	5,032	3,029					
Training							
Available Throughput (Students Per Year)	765,000	711,821	1.0479	1.1410	653,757	58,064	8%
Students Per Year	730,000	623,847					
Degree Granting Maximum (Classroom Hrs)	460,000	630,266	1.0000	1.0516	599,351	30,915	5%
Classroom Hours	460,000	599,351					

Note:
1) All ships in the Navy inventory were equated to a CG-47 class ship and converted to a Guided Cruiser Equivalent (CG-E). The CG-E capacity metric means an installation has the pier space, power, dredge depth, and other resource requirements to berth a CG-47 class ship.
2) In this category, the Marine Corps is acquiring additional acreage to address documented shortfalls in training area requirements. This metric therefore overstates excess capacity.
3) The Fleet Response Plan, with its goal to increase readiness, has resulted in an increased requirement for hangars.
4) The measure of capacity is expressed in workload rather than in physical space.

Department of the Air Force

The Air Force structure supports five core missions: air and space superiority; intelligence, surveillance, and reconnaissance; rapid global mobility; global strike; and command and control. There are eight categories that describe the key infrastructure necessary to support these five core missions and the integrated Air Force approach to its current force structure. These eight categories include the Air Force Reserve; Air National Guard; Depots; Education and Training; Large Aircraft; Small Aircraft; Space Operations; and Product Centers, Labs, and Test and Evaluation. Table 5 provides the overall capacity results by category.

Description of Air Force Installation Categories

1. *Air Force Reserve.* This category comprises Air Force Reserve Command (AFRC) major installations that support an AFRC operational wing where the Air Force has responsibility for the entire installation's real property.

2. *Air National Guard.* This category comprises Air National Guard (ANG) major installations that support an ANG wing where the Air Force has real property responsibility for the entire installation.

3. *Depots.* This category includes those installations that conduct depot level maintenance, to include software maintenance, performed at the depot level.

4. *Education and Training.* This category consists of all installations that conduct formal education and training: basic military training; operational training at technical schools; professional military education; and undergraduate and advanced pilot training, navigator training, and foreign student pilot training.

5. *Large Aircraft.* This category includes all active installations with assigned operational wings and large primary mission aircraft, such as tankers, bombers, reconnaissance, and airlift aircraft.

6. *Small Aircraft.* This category includes installations with assigned operational wings that have primary mission fighter aircraft as well as smaller footprint reconnaissance aircraft.

7. *Space Operations.* This category includes installations with space launch operations and/or space operations control and management as their primary missions.

8. *Product Centers, Labs, and Test and Evaluation.* Product Center installations develop, acquire, and support in-service engineering and design of weapon systems. They provide resources and acquisition expertise to support successful program execution. Laboratories are installations that conduct discovery, development, and transition of affordable, integrated technologies. Test and Evaluation installations include ground and open-air ranges, facilities, and chambers to test manned and unmanned aerospace vehicles; conduct ground test, flight evaluation and recovery of research vehicles; and simulate and evaluate products and services applications.

Results for the Department of the Air Force

Table 5

Category Type/Metric	Metric Values from Military Department		Ratios ((A)/(B) and (C)/(D) as ratio values)		Proportional Capacity	Change in Capacity Relative to Force Structure Since 1989	
	FY89	FY19	FY89	FY19		Delta from FY19 Capacity	Excess FY19 Capacity
	(A) / (B)	(C) / (D)	(E)	(F)	(G) = (E) X (D)	(H) = (C) - (G)	(H)/(C)
Air Force Reserve							
Parking Apron Space (Square Yards)	1,421,429	3,374,219	29,613.10	38,784.13	2,576,340	797,879	24%
Reserve Aircraft	48	87					
Air National Guard							
Parking Apron Space (Square Yards)	2,512,185	769,995	17,206.75	22,646.91	585,029	184,966	24%
National Guard Aircraft	146	34					
Depots							
Capacity Direct Labor Hours	46,403	26,133	1.18	1.20	25,784	349	1%
Budgeted/Programmed Direct Labor Hours	39,172	21,766					
Education & Training							
Parking Apron Space (Square Yards)	7,227,994	5,923,642	4,597.96	4,965.33	5,485,367	438,275	7%
Training Aircraft	1,572	1,193					
Classroom Space (Square Feet)	7,943,941	9,437,319	9.51	20.08	4,472,718	4,964,601	53%
Military/Civilian Authorized	834,939	470,100					
Large Aircraft							
Parking Apron Space (Square Yards)	24,918,585	14,920,059	14,623.58	22,813.55	9,563,823	5,356,236	36%
Large Aircraft	1,704	654					
Small Aircraft							
Parking Apron Space (Square Yards)	11,093,787	7,968,341	7,455.50	12,977.75	4,577,678	3,390,663	43%
Small Aircraft	1,488	614					
Space Operations							
Total Facilities Square Feet (000s)	12,028	16,514	0.50	1.08	7,652	8,862	54%
Military/Civilian Authorized	24,007	15,274					
Product Centers, Labs and Test & Evaluation							
Total Facilities Square Feet (000s)	37,159	39,522	0.62	0.72	33,795	5,727	14%
Military/Civilian Authorized	60,274	54,817					

Defense Logistics Agency

DLA provides support to all the Military Departments and is not separately identified in the Force Structure Plan. DLA identified two categories of infrastructure key to assessing its ability to support the Military Departments: Distribution Depots and Supply Centers. Table 6 provides the overall capacity results by category.

Description of Defense Logistics Agency Installation Categories

1. *Distribution Depots.* This category includes covered general purpose wholesale warehouse storage facilities storing material regardless of material owner/commodity.

2. *Supply Centers.* This category includes installations that manage and procure consumable items of supply in support of the Military Services' missions.

Results for the Defense Logistics Agency

Table 6

Category Type/Metric	Metric Values from Military Department		Ratios ((A)/(B) and (C)/(D) as ratio values)		Proportional Capacity	Change in Capacity Relative to Force Structure Since 1989	
	FY89 (A) / (B)	FY19 (C) / (D)	FY89 (E)	FY19 (F)	(G) = (E) X (D)	Delta from FY19 Capacity (H) = (C) - (G)	Excess FY19 Capacity (H)/(C)
Distribution Depots							
Attainable Cubic Feet (millions)	693.92	208.57	1.186	1.384	178.66	29.91	14%
Occupied Cubic Feet (millions)	585.33	150.70					
Supply Centers							
Total administrative Space (GSF)	3,993,500	1,861,244	327.98	324.99	1,878,349	No Increase	
Military/Civilian Assigned	12,176	5,727					

Note: The calculation on our Distribution Depots for 1989 arrived at a 1.186 ratio for all types of storage. When converted to a percentage, a 1.186 ratio equates to an approximately 85 percent occupancy rate. However, since 1989 DLA's thoughts on efficient and effective storage practices have changed. Modern storage practices suggest an 85 percent occupancy rate is correct for Bin and Rack storage, but 70 percent occupancy is a more accurate number for active Bulk storage. When factoring in a 70 percent Bulk Occupancy Rate, our calculations yield 1.5 percent excess.

Results for All DoD

DoD developed an estimate of excess capacity for each Military Department, DLA, and all of DoD by weighting the individual category excess figures by the number of bases in each category. Table 7 shows the Department's current estimated percentages of excess capacity for each Military Department, DLA, and all of DoD.

Table 7

Department	Estimated Percentage of Excess Capacity (above 1989 baseline)
Army	33
Navy	7
Air Force	32
DLA	12
Total DoD	**22**

Eliminating Excess to Achieve Savings

This report's analysis indicates that compared to 2019 force structure plans DoD's excess capacity is 22 percent. In the face of increasing demands on the defense budget and a highly uncertain global security environment, the Department of Defense must stop wasting money on unnecessary infrastructure. We must right-size our infrastructure, capture the savings, and devote these savings to readiness, modernization, and other more pressing national security requirements.

The Department believes that this excess should best be addressed through an authorized BRAC round that will focus on efficiency. Others share this view, given the current financial constraints facing the Department and existing excess. In particular, a bipartisan group of defense experts, the Defense Reform Consensus, wrote an open letter to Department and congressional leadership detailing their support for reducing wasteful excess infrastructure. In their open letter, they state: "As the U.S. military shrinks, it must reduce its inventory of physical infrastructure. Smaller budgets can no longer support paying for the operation of unnecessary facilities. Previous base closure rounds have produced significant savings for the American taxpayer."

Another reason to pursue BRAC is to address change. The 2005 Defense Base Closure and Realignment Commission recommended conducting a BRAC round every 8 to 12 years to

do just that. The Commission felt that "it is highly likely that America's security environment and corresponding military organization will continue to change, necessitating periodic re-examinations of the infrastructure supporting that organization." The Commission's final report stated that "the Base Closure and Realignment process has repeatedly proven its worth by enabling the painful and difficult decisions needed to restructure military installations into alignment with future military requirements." The Commissioners noted that "the Defense Base Closure and Realignment Act of 1990 is a viable, proven, practical, and effective mechanism to achieve difficult but necessary goals."

Absent another BRAC round, the Department will continue to operate some of its installations sub-optimally as other efficiency measures, changing force structure, and technology reduce the number of missions and personnel. The relatively fixed nature of installation operational costs means that the magnitude of savings from efficiency measures is less than that from a closure in which almost all fixed costs are eliminated. Moreover, efficiency measures could lead to reductions (e.g., deferred building maintenance and recapitalization) at all installations without regard to military value instead of enabling the Military Departments to close or realign installations with the lowest military value.

The BRAC process is also the fairest approach for working with Congress and local elected officials to close installations. The independent BRAC Commission provides all parties an opportunity to affect the final outcome of the BRAC process. The alternative is incremental reductions as the Department trims expenditures at the installation level. These cuts will have an economic impact on local communities without giving them the ability to plan effectively for the change.

As part of our Fiscal Year 2016 legislative proposals, the Department made its fourth request for BRAC. The primary driver for these requests has been the Department's intent to make its infrastructure more efficient given the fact that we have excess capacity, a tighter budget, and are on a path to further reduce force structure. The finding of 22 percent excess in this report underscores the need to pursue BRAC authority. While it is clear that a future BRAC round will not eliminate 22 percent excess capacity, the Department has demonstrated that we can conduct efficiency-oriented infrastructure realignment and closures as part of the last five BRAC rounds and the recently completed European Infrastructure Consolidation effort. As indicated in Table 8, the savings are substantial.

Table 8

	DoD Annual Recurring Savings ($B)[1]
BRAC 88	1.0
BRAC 91	2.3
BRAC 93	2.7
BRAC 95	1.9
BRAC 05	4.0
European Infrastructure Consolidation 2015	0.5
Total	**12.5[2,3]**

1. Annual Recurring Savings begin in the year following each round's 6-year implementation period; this is a derived calculation from DoD's annual budget documentation provided to Congress.
2. Does not add due to rounding.
3. Savings estimate is in FY 2008 constant dollars for BRAC, if inflated to FY 2016 constant dollars, the $12 billion in BRAC savings would be $13.6 billion, bringing the total to $14.1 billion.

It is important to note that BRAC 2005 was two BRACs in one: a traditional "efficiency BRAC," in which many recommendations returned the initial investment in less than 7 years, and a "transformation BRAC," which had higher costs and less savings but achieved important military objectives that might not have been possible outside of BRAC. The efficiency recommendations cost $6 billion and resulted in $3 billion in annual recurring savings. The "transformation BRAC" cost $29 billion out of the $35 billion and resulted in $1 billion in annual recurring savings. The "efficiency BRAC" is the type of BRAC round the Department intends to pursue if authorized.

Based on the efficiency focused BRAC rounds of the 1990s, the Department projects that a new efficiency-focused BRAC round will save about $2 billion a year after implementation, with savings offsetting approximately $7 billion in costs over the six year implementation period.

The table includes the $500 million in savings associated with the Department's European Infrastructure Consolidation (EIC) because it exemplifies a comprehensive "BRAC-like" review of infrastructure during a period of force structure changes, a tough fiscal climate, and an evolving security environment. The actions resulting from this comprehensive review of our European infrastructure allow DoD to create long-term savings by eliminating excess infrastructure without reducing operational capabilities. Prior to this effort, the Department had not pursued a holistic, joint review of our European infrastructure.

The Importance of BRAC Savings

By moving forward quickly to eliminate excess infrastructure, the Department can reap savings and adjust to force structure changes quickly and effectively. Leading U.S. corporations retain their vitality and market position by being able to adapt to changed circumstances, and the U.S. military is no different. The Deputy Secretary noted this in a November 2014 speech when he stated: "in this time of constrained resources, I just don't understand why we are hamstringing ourselves. … [M]aintaining that extra capacity is a big problem for us because it is wasteful spending, period. It is the worst type of bloat." BRAC would allow the Department to reallocate resources spent on infrastructure "bloat" to other needs, such as readiness and weapons systems.

BRAC savings can be broken out into three major categories: operations and maintenance, military personnel, and other. The operations and maintenance category consists of savings such as civilian personnel eliminations, reduced base operating support costs, and reduced facility sustainment costs. Military personnel savings include salary and allowance savings (e.g., Basic Allowance for Housing) associated with eliminations. The category "other" includes cost avoidance for such things as lease and equipment procurement (e.g., base level supplies). The majority of savings in BRAC are recurring savings, permanent, and ongoing reductions in planned spending. The other portion is avoided one-time costs, such as cancelling a planned Military Construction project or near-term procurement action (e.g., upgrading information technology or furniture).

The process of reallocating resources saved or costs avoided is a key part to understanding how the Department views savings. The Department's accounting system, like that of private firms, does not track avoided costs; therefore, the Department must estimate savings based on current assumptions about what would have occurred without specific actions.

The Congressional Budget Office (CBO) stated as much in a 1998 letter: "...the firm measures of BRAC savings that were requested by the Congress do not—and indeed cannot—exist. BRAC savings are really avoided costs—costs that DoD would have incurred if BRAC actions had not taken place. Because those avoided costs are not actual expenditures, DoD cannot observe them and record them in its financial records." CBO further observed that "[i]t is not possible for DoD to establish an information system to track actual savings." When a corporation slashes costs by closing plants or eliminating jobs, it does not track the savings; rather, it recognizes the benefits of savings by becoming more efficient and therefore more profitable. The savings generated in BRAC are no different than the savings Congress has asked DoD to pursue through reductions in headquarters staff and overhead.

Despite its criticism of DoD for failing to track and validate the cost savings, the GAO recognizes that BRAC savings do exist. GAO has written in reference to the 1990s BRAC rounds that "in addition to our analyses, studies by other federal agencies, such as CBO, the DoD Inspector General, and the Army Audit Agency, have shown that BRAC savings are real and substantial and are related to cost reductions in key operational areas as a result of BRAC actions"(GAO-02-433-April 2002).

Conclusion

In the face of increasing demands on the defense budget and a highly uncertain global security environment, the Department must right-size its infrastructure, capture the savings, and devote these savings to more pressing national security requirements. In addition, declining force structure is contributing to underutilized infrastructure. The Department undertook this high-level capacity analysis to address congressional concerns that an updated analysis was required to justify another BRAC round. The results of this analysis—the Department has 22 percent excess infrastructure—reemphasize why the Department believes authorization of another BRAC round is necessary to reduce infrastructure. The finding is significant when viewed in the context of the Department and Congress' shared goal of spending wisely and efficiently and not wasting resources on unnecessary overhead.

Authorizing another BRAC round will enable the Department to address the excess in a comprehensive manner and then subject its recommendations to the oversight of an independent Commission that can incorporate the views of impacted communities. Enabling the Department to make these decisions is similar to the effort to empower program managers to make decisions on their weapons systems and be accountable for the results. The alternative to BRAC is either attempting to close individual installations or making reductions to personnel and shuttering or mothballing parts of installations across the country. Neither of these options is optimal, and both prevent communities from taking advantage of the structured redevelopment process that is available with the BRAC process.

BRAC has been proven to produce substantial dollar savings. Prior BRAC rounds and the recently completed EIC initiative will save the Department over $12 billion a year in perpetuity. The Department estimates that a future BRAC round focused on achieving efficiencies will save an additional $2 billion a year and recoup its upfront investment in a relatively short period of time. In light of the current budget and global security environment, as well as the results of this analysis, DoD cannot afford to continue to carry excess infrastructure.