

Strategy Research Project

Reducing Excess Infrastructure to Focus on Core Strategic Assets

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Abstract

The Budget Control Act (BCA) of 2011 mandated reductions to the DoD budget and resulted in less money to support current manning levels, operations, weapons systems, and facilities infrastructure. These lower budgets have forced the Services to underinvest in facility maintenance, accelerating the deterioration of DoD asset portfolios. Moreover, as the Services reduce manning further, many current facilities will become redundant. DoD has long favored the Base Realignment and Closure (BRAC) process to pare down its holdings, but for over a decade Congress has refused to authorize a new BRAC. DoD needs to concentrate its limited funds on preventing deterioration of its core strategic asset portfolios, those critical to core missions which often require a high degree of physical security, for which there is limited or no equivalent commercial capacity, and which cannot be easily recreated. DoD can shed less critical asset portfolios- and many unneeded buildings--by developing new public-private partnerships.

Reducing Excess Infrastructure to Focus on Core Strategic Assets

Since 2011, sharply reduced Defense budgets have forced Department of Defense (DoD) leaders to relook its spending, precipitating policies to pare down real property holdings while reducing expenditures on what remained. The Budget Control Act (BCA) of 2011 mandated reductions to DoD's budget, resulting in less money to support current manning levels, operations, weapons systems, and facilities infrastructure.¹ As the Services evaluate ways to reduce manning, including decommissioning units and reducing civilian positions, each option faces the likelihood that at least some facilities will become redundant. The Office of Management and Budget's 2013 Freeze the Footprint (FTF) policy directed the services to find 'offsets', properties they would dispose of prior to building anything new.² Its subsequent 2015 Reduce the Footprint (RTF) policy went further, requiring all federal agencies to reduce, not just freeze, their footprint from Fiscal Year (FY)16 onward.³ Before these mandates to freeze and reduce footprint came into force, the Services had increased the pace of demolishing derelict buildings; however, future demolition depends on uncertain funds. Lower budgets will mean less money to maintain what remains. Already, to maintain operational spending during lean budget years, Services have reduced Sustainment, Restoration, and Modernization (SRM) budgets, underinvesting in facility maintenance and repair and placing DoD facility assets at risk of accelerated deterioration.⁴

With less money than it needs to properly maintain its facilities and more facilities than it needs to support its missions, DoD has looked to reduce its SRM bill by reducing its asset management (AM) portfolio. Without relief from current austere budgets, DoD could continue concentrating reduced funding on its most critical facilities, in the process exacerbating the decline of other, less critical facilities. The Department could

also choose to reduce the size of its AM portfolio, concentrating scarcer SRM dollars on fewer facilities. For several years, DoD leaders have insisted on doing the latter and identified the Base Realignment and Closure (BRAC) process as the best way to make large-scale infrastructure reductions. Yet Congress has remained opposed to BRAC, Defense facilities budgets have continued to shrink, and the Services have continued to defer maintenance. While the Department has demolished significant numbers of derelict structures in response to new policies, these actions have not solved the SRM funding problem and funding for future demolition is uncertain. DoD needs new alternatives to reduce its SRM bill, its portfolio of assets, or both. This paper will review the current BRAC and other AM challenges DoD faces, analyze three specific areas that could help DoD better meet these challenges, and offer recommendations to help the Department focus its limited investment dollars while recapitalizing and absorbing overcapacity of its existing facility assets.

Why BRAC Is Not the Tool to Reduce Excess Infrastructure⁵

In response to budget pressures, DoD leaders have increasingly called for a new BRAC round, the first since 2005.⁶ DoD and Service leaders have raised the alarm that the growing cost to maintain unneeded infrastructure diverts needed funding from training, manpower and modernization.⁷ In 2015 testimony before the House Armed Services Committee, Assistant Secretary of the Army for Installations, Energy, and Environment Katherine Hammack estimated the yearly cost to maintain the Army's excess infrastructure at \$480 million.⁸ Similar testimony by Hammack's Air Force counterpart and by Acting Deputy Undersecretary of Defense for Installations and Environment, John Conger, illustrate the uphill battle DoD faces. The Department is convinced declining budgets have forced cuts in manning and created a growing

amount of fiscally untenable excess infrastructure. The DoD recently completed a European Infrastructure Consolidation to close unneeded bases across Europe and return these and other smaller properties to host nations.⁹ When pressed to provide a list of excess U.S. facilities, however, DoD hesitates, seemingly unable to determine the redundant infrastructure without knowing its final end strength and any future reorganizations required to field a smaller force. Realigning and closing bases is inherently political as BRAC recommendations translate to jobs lost and gained. While a full study of the political dimensions of BRAC may merit future analysis, this paper will focus on how current BRAC law may be a poor infrastructure reduction tool.

The DoD envisions a new BRAC round as an optimal solution, offering a way to achieve both excess infrastructure reductions and a restructuring of its reduced force. Defense officials see in BRAC three advantages inherent in the design of the original 1990 law: an independent recommendation-making authority, an expedited decision-making process, and the possibility of force realignments accompanied by dedicated construction.¹⁰ As an independent commission, BRAC can create a slate of economically rational, but politically difficult decisions. Lawmakers designed the law precisely to achieve savings while minimizing both DoD and legislators' ability to favor or punish districts economically. While DoD committees develop initial recommendations, an independent commission edits DoD's input to develop a final slate, subject to wholesale approval or disapproval. The process to develop these lists moves quickly, providing DoD clear, expedited decisions which can, in turn, help provide DoD the confidence to make (or cancel) future facility investments. Finally, decisions tied to realignments could come with dedicated construction funding for new

facilities. In a period where a growing number of facilities, in Secretary Hammack's words, are "poor" or "failing," BRAC offers a tempting way to recapitalize, shifting forces to newly-built assets.¹¹

However, since the completion of BRAC 2005, DoD faces a trust problem that will limit its ability to use BRAC as a tool to reduce excess. Specifically, the 2005 round removed relatively little excess at higher than expected cost. BRAC legislation focuses on periodically closing and realigning bases; reducing excess infrastructure is a byproduct of this. In 2002, Secretary of Defense (SECDEF) Rumsfeld argued, "At a minimum, BRAC 2005 must eliminate excess physical capacity."¹² Yet ultimately, the 2005 BRAC round was primarily used to realign forces. Though Congress mandated no infrastructure reduction thresholds in the original *Defense Base Closure and Realignment Act of 1990*, or in subsequent modifications, BRAC rounds prior to 2005 did eliminate substantial infrastructure by closing installations. In contrast, Secretary Hammack noted, "Nearly half the [2005] recommendations focused on...moving forces and functions to where they made sense, even if doing so would not save much money."¹³ The GAO estimated BRAC 2005 eliminated relatively little excess infrastructure (perhaps 5%), yet costs grew 67%, from an original \$21 billion estimate to an eventual figure of \$35.1 billion.¹⁴ In light of BRAC 2005's limited excess space reductions, DoD's continued argument that BRAC is needed to reduce excess invites Congressional skepticism. Complicating this, DoD promoted BRAC 2005 as a cost-savings initiative, yet GAO ultimately questioned high initial costs and extended payback periods.¹⁵ Many of BRAC 2005's transformation initiatives included costly new construction. Though difficult to estimate, the extent of costly environmental cleanup

triggered by base closures also exceeded expectations.¹⁶ While DoD sees BRAC as a way to eliminate the cost of retaining unneeded infrastructure, a skeptical Congress will likely question how DoD will better reduce excess facilities and contain costs.

Indeed, while the BRAC process may have been a valuable tool to achieve large-scale base closures and realignments in prior years, its long execution period, broad scope and bias toward retaining facilities make it a poor choice for reducing today's excess infrastructure anytime soon. BRAC's committee-based recommendations are often large-scale, closing entire bases or relocating large units--processes that can take years. However, budget pressures, and the desire to achieve both cost savings and footprint reduction mandates are immediate. Moreover, BRAC has an installation rather than facility focus. Rather than targeting poorly maintained or inefficient buildings, what comes off the books is often perfectly serviceable, or even recently built. Finally, BRAC law may be biased against reducing infrastructure outside of the context of base closure. The BRAC's 2005 final selection criteria for closure or realignment put primacy on four "military value" criteria, including the "ability to accommodate contingency, mobilization, surge, and future total force requirements."¹⁷ Arguably, then, BRAC law compels the SECDEF to look at excess facility infrastructure as a positive attribute that could support future growth.

Current BRAC law also directs the SECDEF to consider future threats, missions, and force structure on a twenty-year time horizon. The last BRAC issued recommendations based on Secretary Rumsfeld's 2005 vision of the future.¹⁸ Eleven years later, missions and threats continue to evolve, and the new emphasis is on reducing costs to meet shrinking budgets. The Department's promising efforts to

demolish derelict buildings fall well short of the new, more aggressive mandate to reduce footprint further each year; such underperformance further exacerbates DoD's infrastructure funding shortfalls when considering it must also find a way to sustain, restore, and modernize those facilities it retains.

While DoD might prefer BRAC as a tool to make major realignment moves, Congress is not likely to grant authority in the foreseeable future. Meanwhile the Department struggles to leverage its smaller facilities budgets to support its current infrastructure. The DoD must find more near-term opportunities to streamline its AM portfolio and reduce long-term costs; areas for DoD to consider include (1) its backlog of derelict facilities and growing portfolio of redundant facilities; (2) its portfolios of *core strategic assets*; and (3) its options to leverage commercial AM expertise and capital.

A Backlog of Derelict Facilities--and a Growing Portfolio of Redundant Facilities

U.S. property law defines "excess property" as "not required to meet the agency's needs or responsibilities."¹⁹ This definition fails to distinguish between redundant, obsolete, or derelict assets, making it difficult for DoD to develop a list of excess facilities. *Redundant* assets are mission-aligned and usable, but not likely needed for current or out-year missions. *Obsolete* assets can no longer meet their original mission and cannot be feasibly modified to meet evolving mission needs, but may be cost-effective to repurpose for other uses. Moreover, what local commands consider obsolete may be useful, or even desirable, to others. Distinguishing redundant or obsolete facilities from surge capacity poses a challenge, especially since BRAC law mandates the Secretary of Defense consider both force structure and threats on a twenty-year time horizon.²⁰ Conversely, *derelict* assets are beyond repair, frequently

unoccupied, and candidates for demolition. Logically, then, DoD should concentrate first on identifying and demolishing its backlog of derelict assets.

Demolition is not a new idea, and the Services have pursued demolition programs as a way to reduce excess infrastructure since the 1990s. The Army began its program in 1992, demolishing over 39 million square feet (MSF) in the program's first five years. The initial goals emphasized demolishing abandoned WWII-era wooden structures. The Marine Corps and Navy followed with their own programs in 1994 and 1996, respectively.²¹ In his 1997 Defense Reform Initiative Report, SECDEF Cohen added new emphasis by announcing his intention to demolish "8,000 buildings totaling 50 MSF" by 2003.²² Within six months, DoD released further guidance mandating more reductions and specifically tasking the Army to eliminate over 53 MSF of space through demolition or disposal.²³ The Office of the Assistant Secretary of Defense for Energy, Installations, and Environment claims this initiative exceeded its target, demolishing 86.6 MSF of excess facilities by 2003. By 2004, DoD had identified over 90 MSF more space for demolition. Through September 2013, DoD had demolished 62.3 MSF of this, and set a goal to remove the remainder by the end of FY19.²⁴

While these successes are impressive, a combination of reduced funding and budget uncertainty may slow further progress. To cope with declining budgets, services began slashing demolition funding in 2013. In its 2015 follow-up to high-risk government programs, GAO observed DoD, "does not have sufficient resources to continue...reducing excess infrastructure through demolition or consolidation of excess space. DOD decreased its funding for demolition based on its plans for significantly smaller amounts of demolition in fiscal years 2013 through 2015."²⁵ The Navy's FY15

budget proposal reflected this uncertainty, proposing to decrease its Facilities Sustainment, Restoration and Modernization (FSRM) spending by \$194.2 million, of which “\$44.7M [million] reflects a pause in the demolition program.”²⁶ The DoD’s overall demolition budgets declined from \$218.3 million in 2014 to only \$65 million in 2015.

Even when DoD finds funds to contract demolition, lengthy legal compliance processes and limited staff can keep excess facilities on the books for years. The Office of Management and Budget estimates “there are more than twenty required steps in the process to sell or otherwise dispose of owned Federal property.”²⁷ Prior to demolishing any asset, DoD must comply with a myriad of legislation, which requires employing a staff of technical professionals including historic consultants, environmental engineers, legal advisers, and contracting officers. For example, the *National Historic Preservation Act* requires DoD demolition teams to work with state and federal officials to determine if a facility’s historic status prevents demolition.²⁸ Similarly, the *McKinney-Vento Act* requires DoD to work with Department of Housing and Urban Development officials to determine whether a facility might serve the homeless.²⁹ While GAO found that “DOD has been more proactively managing processes to meet historic preservation and environmental requirements,” reduced overall budgets may impact the Services’ ability to retain qualified technical staff, or hire experts needed to comply with legal requirements that have not diminished.³⁰

While a concentrated “house cleaning” to eliminate derelicts may remove safety or environmental hazards, spur the removal of contaminated soil or building materials, and clear land for more productive uses, DoD stands to benefit more politically than economically from further demolition. Removing derelicts will not likely help DoD realize

significant maintenance or utility savings because these buildings receive little or no upkeep, and consume minimal utilities.³¹ As such, demolition alone will not produce the out-year facilities savings DoD needs to achieve. However, a well-executed program to remove derelicts will help DoD comply with footprint reduction mandates in the Office of Management and Budget's (OMB's) FTF and RTF policies. To this end, DoD should ask for dedicated demolition and remediation funding and support its request with a comprehensive, time-phased future demolition plan. Such a plan could hold significant political value for DoD; aside from outlining a path to abolish derelicts, it would demonstrate asset accountability to DoD's stakeholders, something its critics have alleged has been woefully absent from DoD's infrastructure management in the past.

Demolishing excess derelict structures can help DoD resolve some of its excess, improve its accountability, and earn political capital, but it needs to find SRM savings from the remainder of its assets, a growing number of which are becoming redundant as the Department shrinks. The 2011 BCA underscored the urgency of the problem: lower budgets would bring lower end strength, with the Army particularly hard hit as missions in Iraq and Afghanistan wound down. At least some facilities used by an Army of 570,000 would become redundant as the force shrinks to 490,000 in 2017.³² On March 14, 2013, Acting Undersecretary Conger and other DoD leaders testified before the House Armed Services Committee, emphasizing "maintaining more infrastructure than we need taxes other resources that the warfighter needs, from depot maintenance, to training, to bullets and bombs."³³

While a smaller DoD needs fewer assets than it maintains, it continues to provide costly utilities and maintenance across its portfolio, sustaining the same number of

buildings with less money. The Office of the Secretary of Defense's (OSD) FY16 Facilities Sustainment budget builds on the \$8.378 billion spent in FY14, but projects negative program growth of \$1.522 billion for FY15.³⁴ Obviously, reduced sustainment budgets fund less maintenance, fewer repairs and inspections, and delay scheduled component replacements.

However, budgets rarely meet costs, further exacerbating the impact of this budgeted reduction. The OSD Facility Investment and Management Directorate notes "Current budgeting guidance...is to fund sustainment at a minimum of 90% of the FSM-derived requirement; however due to budgetary issues, in recent years the Department has funded sustainment at...lower levels across the enterprise."³⁵ In March 2015, Acting Undersecretary Conger estimated 2014s sustainment funding to be much lower--closer to 70%--warning, "If you stop funding the preventative maintenance at the front, you're going to suck up all of your funding with critical repairs, and eventually you're going to have to replace the buildings."³⁶ In March 2015 Assistant Secretary of the Army for Installations, Energy, and Environment Hammack noted, "The results of not paying for sustainment in 2013 and 2014 means that we [the Army] now have a \$3 billion maintenance backlog and 5,500 major work orders."³⁷ She also noted the cuts to 2013 and 2014 sustainment budgets left 7% of the Army's facilities in failing condition and 24% more in poor condition. Hammack claimed further that sustainment cuts have directly led to "a 9% increase in requirements for restoration and modernization."³⁸ Over time, these under-investments can be expected to accelerate deterioration of buildings across DoD's facility asset portfolio.

Which assets should remain and which will become redundant has proven much harder for DoD to determine. Department installation management leaders have relied on parametric arguments to claim that as end strength declines, DoD will need proportionally fewer facilities.³⁹ The DoD leaders have demurred when asked by Congress to produce a list of excess facilities, preferring an independent BRAC commission make the call. Yet Congress has rejected BRAC, denying DoD its preferred means to reduce redundant assets and SRM liabilities. To move forward, DOD can choose a mission-focused facilities spending approach, focusing SRM spending on asset types to support its most critical missions, even if doing so sustains some redundant facilities.

Core Strategic Asset Portfolios

To mitigate potential mission impacts DoD can prioritize how it manages *core strategic* assets. All DoD assets support mission; however, *core strategic* asset types also meet one of three criteria:

- (1) asset types unique to the military or very limited in the commercial market; or
- (2) asset types supporting something the government must do for security reasons; or
- (3) asset types whose locations are mission critical and impossible/impractical to replicate.⁴⁰

In contrast, *support assets* indirectly support core missions. They accommodate more routine administrative and supply functions or enhance quality of life, and most have commercial equivalents. To ensure its most critical assets remain viable even as missions evolve, DoD needs to distinguish its core strategic assets and establish department-wide management teams to ensure rational investment across core portfolios. With no commercial alternative and no way to replace these mission essential

assets once they are gone, DoD has an incentive to retain these facilities and ensure they do not decline.

Over the past decade, DoD asset managers have largely adopted the framework of Mission Dependency Index (MDI) to prioritize funding for assets such as nuclear submarine repair facilities, armories, warship piers, and specialized hangars over more common assets such as warehousing, office buildings, and lodging. DoD’s asset managers use MDI to mitigate risk and establish the “relative importance of...facilities in terms of...mission criticality”⁴¹ by asking four questions:

- 1) How long could the "functions" supported by your infrastructure be stopped without adverse impact to the mission?
- 2) If your facility was not functional, could you continue performing your mission by using another facility, or by setting up temporary facilities?
- 3) How long could the services provided by (named Functional Area) be interrupted before impacting your mission readiness?
- 4) How difficult would it be to replace or replicate the services provided by (named Functional Area) with another provider from any source?”⁴²

Table 1. MDI Categories and Score Ranges⁴³

MDI Category	Score Range
Critical	100-85
Significant	84-70
Relevant	69-55
Moderate	54-40
Low	39-1

Using an algorithm that assigns values to each question, AM teams calculate an MDI ranging from 1 to 100; Table 1 illustrates that the highest MDI scores indicate unique assets crucial to performing critical missions, while lower scores indicate more common assets that perform only supporting roles.⁴⁴ For example, the Navy has few

submarine drydocks, all of which it continually uses to support the critical repairs that keep a limited number of nuclear subs in service. Drydocks have a high MDI because the Navy cannot easily stop the repair work performed there without seriously impacting submarine availability. In contrast, installations typically contain multiple instances of support facilities such as office buildings, warehouses, and barracks. While any one building may house a more critical mission function (e.g., an office building may house the Commander's Office), the overall asset type (e.g., office buildings) will be less important and have a lower MDI score because the mission could be performed using a similar facility on base or using another provider such as leased space in the community.

To be sure, some critical assets may become obsolete as technologies evolve and weapons systems change. Consider that while BRAC law considers a twenty-year planning horizon, DoD's senior leaders publish strategic guidance almost yearly to meet rapidly evolving threats. During the half-century or more expected lifespan of a typical DoD facility, threats, missions, unit organizations, and weapon systems will change. The DoD needs the flexibility to make future realignment recommendations without being constrained by inadequately maintained facilities. As such, DoD should fully invest in the SRM of its current core strategic assets, even if they wind up redundant in the future and ultimately divested. Managers of strategic assets must leverage existing funds to ensure they maintain their core assets, until they prove to no longer be core assets.

In contrast, DoD also holds many other supporting facilities that do not fall into core strategic asset types. Though they support relevant functions (including administrative support, storage and preservation, classroom training,) these supporting

assets are likely to degrade further and faster if DoD directs limited FSRM funding to support core assets. Using only MDI as a basis for funding, asset managers prioritize funding on assets with the highest MDI scores (See Table 1.) In the current pattern where DoD has underfunded FSRM budgets, this leaves little to fund assets of “relevant” or “moderate” importance. Secretary Hammack summarized the problem neatly in a September 2014 blog post: “Multiple years of underinvestment will transform an asset, which could otherwise be repurposed, realigned or returned to the community, into a liability eventually requiring demolition.”⁴⁵

Many of these supporting assets are facility types common in the civilian real property market. Logically, assets with the lowest MDI scores reflect the relative ease with which an asset manager can find substitute facilities, including on the commercial market. As FSRM budgets decline, DoD could deliberately underinvest in these lower-MDI support asset types commonly found in the private sector, targeting its limited funding at its most critical assets.⁴⁶ Alternatively, the Department could leverage commercial AM expertise and capital to preserve its support assets, allowing it to release excess space to the marketplace.

Options to Leverage Commercial Expertise and Capital

In 2004, President Bush issued Executive Order 13327 in an attempt to better manage the Federal government’s real property. That Order established, “It is the policy of the United States to promote efficient and economical use of America’s real property assets.”⁴⁷ Further, the Order directed the Administrator of General Services to establish measures to determine “opportunities for cooperative arrangements with the commercial real estate community.”⁴⁸ In 2010, President Obama set a goal of eliminating \$8 billion in real estate costs by 2012: \$5 billion in savings through BRAC

and \$3 billion in non-BRAC savings.⁴⁹ With no success getting Congress to act on BRAC, OMB issued new guidance. The FTF policy already prohibits federal agencies from increasing the total amounts of office and warehouse space in their asset inventory.⁵⁰ The RTF policy further requires agencies “to reduce the total square footage of their domestic office and warehouse inventory.”⁵¹

Partnering with the commercial sector offers an alternative way to reduce many types of excess infrastructure and to increase capital investment. Within the limited authorities granted by Congress, DoD has developed public-private partnerships (PPP) to successfully recapitalize and manage base housing infrastructure and utility systems. State and local governments and university systems offer further examples where large asset holders have turned to the private sector to better direct facility investment. The DoD has an opportunity to build on these successful experiences by partnering with the commercial sector to manage its support asset portfolios.

The DoD can look to lease excess assets to the marketplace; however, its leasing options remain limited under existing Title 10 Real Property authority. In the 2001 *National Defense Authorization Act* (Public Law 106-398), Congress granted DoD broader guidance to lease non-excess property, including real property such as buildings and land.⁵² In 2003, President Bush issued *Executive Order 13327*, charging OMB and the General Services Administration to “develop legislative initiatives that seek to improve Federal real property management through the adoption of appropriate industry management techniques.”⁵³ In one of the earliest of these leasing initiatives, DoD delegated authority to the Services to lease non-excess real property under Title 10, United States Code 2667.⁵⁴ Each Service, in turn, has developed an Enhanced Use

Lease (EUL) program to lease properties to the private sector in exchange for funding or in kind consideration. The Navy describes the EUL program as “leveraging the value of underutilized and under performing assets.”⁵⁵ Title 10 law allows DoD to accept in-kind consideration in exchange for leased property, including “maintenance, protection, alteration, repair, improvement, or restoration (including environmental restoration) of property...provision of facilities” and “provision of...maintenance services....”⁵⁶

Nonetheless, the Services have struggled to comply with legal requirements of Section 2667 and have executed relatively few agreements with high overhead costs. In first ten years of this program, the Services had executed only seventeen EUL agreements with an additional thirty-seven projects under consideration.⁵⁷ In many of these agreements, they leased undeveloped land on which private entities either stored material or built limited structures, or on which local governments built facilities such as wastewater plants or airport structures. In one of the few EULs used for building renovation, the Army partnered with a developer to upgrade and lease three deteriorated buildings at Fort Sam Houston to the commercial market.⁵⁸ However, the GAO later cited the Army for failing to comply with basic Section 2667 provisions at Fort Sam Houston, noting that it improperly estimated the project’s fair market value and improperly spent funds received from the developer.⁵⁹ The GAO found similar management problems with EULs at two other Army and one Air Force EUL. While the Services had spent \$60 million from 2006-2010 to manage the program, they received only \$94 million in consideration, while struggling to conduct the time-intensive appraisals of fair market value, legal review, and accounting required by Section 2667.⁶⁰

Even if the Services could reduce overhead costs and improve compliance with Section 2667, the current EUL law may not be attractive enough to entice developer interest. Specifically, the law requires the military to certify that assets to be leased are NOT excess. Further, it limits lease periods to five years, unless DoD can document that longer terms would promote the national defense or be in the public interest. Finally, leases must generally permit DoD to revoke the lease at any time.⁶¹ Under these restrictive conditions, there may be an incentive for a developer to justify the limited capital investment required to lease DoD land, but less rationale for a developer to lease a “non-excess” building and spend money improving it.

The Department has used other Title 10 provisions under Title 10, United States Code 2871-2885 to privatize and fundamentally improve its housing stock, however. By the mid-1990s, the majority of military housing had significantly degraded as a result of chronic underinvestment. Within the 1996 *National Defense Authorization Act* (PL 104-106), Congress established the Military Housing Privatization Initiative (MHPI) providing DoD the authority to form public-private ventures in order to recapitalize, build, and maintain military housing. More specifically, MPHI allowed DoD to “obtain private capital to leverage government dollars, make efficient use of limited resources, and use a variety of private-sector approaches to build and renovate military housing faster and cheaper...”⁶²

Unlike EUL, the MHPI authorities give DoD more flexibility to entice private sector developers with economic incentives. The program does not distinguish whether facilities are excess, but applies to the entire portfolio of family housing. The DoD can enter into 50-year leases and guarantee a minimum occupancy level, permitting

developers a longer return on investment and a guaranteed income stream. Finally, DoD can offer loans and limited capital investment as incentives.⁶³ With this type of public-private partnership arrangement, DoD has significantly improved the condition of its housing stock, accessing private sector capital to upgrade or replace deteriorated units. The Navy, for example, estimates that by the end of 1995, it had privatized 61,604 family homes, eliminated its inventory of inadequate homes, and executed over \$9 billion in total development for a government cash investment of \$1 billion.⁶⁴ Similarly, the Army estimated that in 1996, over 70% of its homes had to be “torn down or completely renovated.” Since 1998, Army’s MHPI program has privatized over 86,000 homes, renovating more than 26,000 and building 36,000 new units.⁶⁵

Unique among the services, the Army also used Title 10 privatization authorities to recapitalize its lodging facilities starting in 2009.⁶⁶ Like housing, temporary lodging facilities support missions, but their low MDI led to chronic underfunding. Based on the success of MHPI, Congress expanded DoD’s 10 USC 2884 authorities to include privatization and long-term (50 year) management of military lodging.⁶⁷ As it had done with housing, the Army chronically underinvested in its lodging portfolio. By 2009, the Army estimated the cost to renovate its 17,000 hotel rooms would exceed \$1 billion and take over twenty years to complete.⁶⁸ To overcome this, Army started the Privatized Army Lodging (PAL) Initiative, with stated goals to “use private sector capital and best practices, to overcome \$1B [billion] + revitalization backlog, to provide for long-term sustainment of the facilities, to capitalize on success of a proven initiative, and to transfer a non-core function.”⁶⁹ By October 2015, Army’s partners, Lendlease

Corporation and International Hotels Group, had assumed control of over \$715 million of lodging on 41 Army installations.⁷⁰

The Army expects its partners to complete the privatization and redevelopment of over 14,000 lodging rooms by FY2019.⁷¹ Army's PAL partners can amortize larger investments over fifty years, accessing a pool of military travelers with commercial-standard lodging at competitive rates. While the PAL Initiative is recent, Army is already benefiting from the speed and volume of Lendlease's investment. Rather than being forced to phase renovations over time, it will see near-term improvements. By January 2016, Lendlease had begun upgrading all 41 of its recently privatized properties. Moreover, the company committed to investing 39% of revenue, up to \$7.6 billion over its fifty-year contract, to recapitalizing these assets.⁷²

Though limited real property authorities limit the federal government's ability to develop additional infrastructure PPPs, local governments have actively worked with industry to overhaul or expand airport and road infrastructure. Wayne County, Michigan partnered with Northwest and Delta airlines to recapitalize Detroit Airport, building a new \$1.2 billion terminal. Dallas similarly partnered with Southwest Airlines to complete a \$519 million renovation of Love Field.⁷³ At the state level, Indiana developed a PPP with Cintra/Macquarie in 2006 to lease the Indiana Toll Road for 99 years, trading toll revenue for road and bridge upgrades and maintenance. Illinois and Puerto Rico have developed similar PPPs for the Chicago Skyway and Puerto Rico Highway 22, respectively.⁷⁴

The commercial market manages some of the same asset types that DoD does; however, private industry can often do it better by leveraging both private capital and

years of experience managing specialized asset portfolios. While DoD manages a broad spectrum of asset types, many commercial asset managers focus on and develop competitive advantages in more specific market sectors, including housing and lodging. Commercial asset managers compete for market share and seek to maximize return on their investments by integrating more efficient processes and technologies. Within the context of limited Title 10 authorities, DoD created PPP to reverse underinvestment and dramatically recapitalize poorly maintained housing and lodging. With tighter facilities budgets, DoD is likely to continue to underinvest in other non-core, support assets. As MHPI and PAL demonstrated, commercial partners can inject funds needed to recapitalize failing facility portfolios. As DoD's support facilities degrade further, the Department needs to work with Congress to explore expanding commercial partnership authorities. Moreover, as DoD needs fewer of these support facilities to sustain its current operations, it should explore opportunities to shift further support asset portfolios - including excess facilities - to private management.

Recommendations

Despite the challenge of declining budgets, DoD needs to retain and continue to invest in its core strategic assets. The Department can take steps to reduce the burden of maintaining more infrastructure than it needs by accelerating the demolition of derelict facilities, concentrating its attention on core strategic facility portfolios, and increasing the privatization of less critical support infrastructure.

Demolishing the Backlog of Derelict Facilities

The Department must start by redoubling its efforts to demolish derelict facilities. DoD's 2015 budget request reflects a positive direction for demolition funding, but not yet a trend. For 2015, for example, the Army proposed to increase funding for its

demolition program by 46% to \$42.2.⁷⁵ Yet this may do little to reduce what Secretary Hammack termed in August 2013, “A 15-year backlog in planned demolition of buildings in failing condition.”⁷⁶ Further, each Service maintains its own demolition program and budget, often relying on AM professionals at the installation level to prepare legal compliance paperwork and contract demolition. The GAO criticized this decentralized approach in 2014, finding Army installations frequently, “Did not have the manpower, the time...or the resources to pay a contractor” to identify excess property.⁷⁷ While the Services have used centralized installation management commands to streamline demolition priorities and centralize funding decisions, limited Installation-level staff may be unable to inspect, identify, and prepare the paperwork that supports these centralized decisions. To identify, prioritize and get assets off DoD’s books faster, Services could consider developing centralized cells of budget, engineering, environmental, and contracting professionals to alleviate installation deficiencies.

Creating Cross-Service Core Strategic Asset Portfolio Managers to Focus Investment

The DoD’s facility priorities must be its core strategic asset portfolios. By creating cross-service strategic asset portfolio managers, the Department could better concentrate limited resources on these asset types. These portfolio managers would focus on asset types DoD cannot replace because

- (a) the market no longer executes the mission,
- (b) DoD foresees a continuing need,
- (c) it would be too costly to rebuild, or
- (d) sufficient land is no longer available to rebuild the asset.

Strategic asset managers could prioritize investment across a portfolio of similar core facilities: ranges, drydocks, piers, and airfields where the nature of the mission and

existing infrastructure do not permit dual-use. A strategic asset portfolio manager could focus investment of DoD funds rationally to prevent over- or underinvestment due to local or Service bias. Rather than focus on the viability of installations, strategic asset portfolio managers would take a Department-wide approach to look at how missions and weapon systems are likely to evolve, and how to grow or contract infrastructure to meet those evolutionary requirements as efficiently as possible. In this way, a portfolio manager would recommend cost-effective investment options to meet those changing needs and position asset investments toward Department-wide mission goals.

Leveraging Commercial Asset Management Expertise and Capital

Successful privatization efforts show commercial industry may be better adapted to operate and maintain DoD's most common support facilities, while eliminating the overcapacity taxing Department resources. The DoD should work with Congress to expand Title 10 real property authorities to convey the non-core asset types that make up the bulk of its excess, including administrative buildings and warehouses, and do so for longer periods to allow partners to recover their capital investments. The DoD used such broad authorities to successfully recapitalize its vast military housing portfolio. Yet, DoD's narrow authorities under Title 10 United States Code 2667's enhanced use lease provisions limit its ability to lease property to the private sector. The current law caps leases at five-year terms and specifies that property must be non-excess. DoD should advocate for new Title 10 real property authorities that, like those that led to MHPI, provide the broader provisions to convey both excess and non-excess properties to commercial partners.⁷⁸

With expanded authority, DoD could use PPP to shift management of additional non-core support asset portfolios to the commercial sector, improving the quality of

infrastructure and incentivizing efficient use of facilities. Similar to MHPI, DoD could look at bundling administrative facilities, warehouses and other support asset types including training classrooms, laboratories, and light industrial space. These portfolios are not DoD core mission areas, and many assets within them are redundant to current DoD missions. Granted, the Department still needs to use at least some of this capacity; however, housing privatization shows that industry partnerships offer a way get better maintenance and more capital investment while offering services to market excess capacity.

To make further privatizations work and foster efficient use of space, DoD should change from providing essentially “free” support facilities to providing ‘rental’ allowances based on authorized end strength, type of space, and mission.⁷⁹ By giving units an allowance for leasing support space from a privatized facility manager, they have an incentive to pay only for the space they need. These rental payments guarantee a minimum income stream to a PPP partner. In addition, allowing the PPP partner to lease out any excess office or warehouse capacity potentially offers an additional funding stream to recapitalize facilities without the burden to, or inefficiency of, the government marketing the unneeded space. The PPP asset managers get a guaranteed income stream, or the right to sublet space and have an incentive to make the space as marketable as possible. Like privatized military housing, the government could identify acceptable tenants and occupancy terms. Moreover, if BRAC comes, PPP buildings would be marketable, not deteriorated, and could more readily compete for new tenants, minimizing economic disruption. In the interim, the government could use

partner experience and capital to arrest degradation of facilities, while providing higher levels of support expected in the commercial marketplace.

Conclusion

In the five years since the 2011 BCA, DoD funding has shrunk, leading to both lower end strength and broad cuts in facilities budgets. In turn DoD continues to underfund its SRM budgets, leaving its asset managers unable to prevent the steady decline of its facilities. Concurrently, as end strength declines, DoD finds today's smaller military does not need many of the facilities built years earlier for a much larger force. As a consequence of both trends, DoD has less money to sustain a facilities portfolio built for a far larger force; by spreading less money over too many assets, DoD's portfolio as a whole declines. With no likely increase in facilities budgets, DoD will be unable to prevent further asset degradation unless it acts quickly.

The Department's leaders have promoted BRAC as the best way to solve this dilemma, hoping to divest infrastructure and realign the military's asset portfolio to its reduced end strength; however, Congress is leery of DoD cost estimates or infrastructure reduction claims. The DoD should be as well, and instead focus on what it can control: eliminating derelict facilities and reducing redundant assets to earn political and financial capital. It can then leverage its limited funds in combination with proven Title 10 models to take advantage commercial asset management knowledge, gain access to new investment capital, and offload redundant facilities through the marketplace.

Endnotes

¹ *Budget Control Act of 2011*, Public Law 112-25, 112th Cong., 1st sess. (August 2, 2011).

² Controller Danny Werfel, Office of Management and Budget, "Implementation of OMB Memorandum M-12-12 Section 3: Freeze the Footprint," memorandum for All Executive Agencies, Washington, DC, March 14, 2013.

³ Controller David Mader, Office of Management and Budget, "Implementation of OMB Memorandum M-12-12 Section 3: Reduce the Footprint," memorandum for All Executive Agencies, Washington, DC, March 25, 2013.

⁴ Andrew V. Napoli, "The Challenge of Excess Defense Facilities: Practical Solutions," June 5, 2014, <http://adcsummit15.defensecommunities.org> (accessed November 13, 2015).

⁵ Realigning and closing bases is inherently political as BRAC recommendations translate to jobs lost and gained. While a full study of the political dimensions of BRAC may merit future analysis, this paper will focus on how current BRAC law may be a poor infrastructure reduction tool.

⁶ J.D. Leipold, "Hammack Tells Congress BRAC Round Needed," March 5, 2015, http://www.army.mil/article/143973/Hammack_tells_Congress_BRAC_round_needed/ (accessed November 3, 2015).

⁷ Hon. John M. McHugh and GEN Raymond T. Odierno, U.S. Army, *A Statement on the Posture of the United States Army 2015 to the Committees and Subcommittees of the United States Senate and the United States House of Representatives*, Posture Statement presented to the 114th Cong., 1st sess. (Washington, DC: U.S. Department of the Army, 2015), 29.

⁸ Katherine G. Hammack, *On the Alignment of Infrastructure Investment and Risk and Defense Strategic Requirements: Statement of Assistant Secretary of the Army (Installations, Energy, and Environment) before the House Subcommittee on Readiness, Committee on Armed Services*. 114th Cong., 1st sess., March 3, 2015, 4.

⁹ U.S. Department of Defense, "DoD Announces European Infrastructure Consolidation Actions and F-35 Basing in Europe," January 8, 2015, <http://www.defense.gov/News/News-Releases/News-Release-View/Article/605338> (accessed November 29, 2015).

¹⁰ Congress established the current Base Realignment and Closure (BRAC) process in 1990 in the *Defense Base Closure And Realignment Act of 1990* (Public Law 101-510) and has used it for four iterations (or 'rounds') of BRAC, in 1991, 1993, 1995, and 2005. Last amended in 2005, the law established an independent Defense Base Closure and Realignment Commission to review a list of bases that the Department of Defense recommends for closure or realignment. The Commission largely ensures that DoD's recommendations conform to Congressional intent, particularly the selection criteria contained in the law (modified for BRAC 2005 by P.L. 108-375.) See also <http://www.brac.gov/about.html> for detailed history of the BRAC process.

¹¹ Leipold, "Hammack Tells Congress BRAC Round Needed."

¹² U.S. Secretary of Defense Donald Rumsfeld, "Transformation through Base Realignment and Closure," memorandum for Secretaries of the Military Departments, Washington, DC, November 15, 2002, 1.

¹³ Katherine G. Hammack, "2014 Green Book: The Costly Consequences of Excess Army Infrastructure and Overhead," September 30, 2014, http://www.army.mil/article/134864/2014_Green_Book_The_costly_consequences_of_excess_Army_infrastructure_and_overhead/ (accessed October 29, 2015).

¹⁴ U.S. Government Accountability Office, *Analysis of DOD's 2005 Selection Process and Recommendations for Base Closures and Realignments* (Washington, DC: U.S. Government Accountability Office, July 2005), 4; U.S. Government Accountability Office, *Opportunities Exist to Improve Future Base Realignment and Closure Rounds* (Washington, DC: U.S. Government Accountability Office, 2013), 3.

¹⁵ U.S. Government Accountability Office, *Opportunities Exist to Improve Future Base Realignment and Closure Rounds*, 25-26.

¹⁶ Michael J. O'Hanlon and Kay Bailey Hutchison, "Saving Defense Dollars: From Base Realignment and Closure to Overhead Realignment and Closure," October 14, 2013, <http://www.brookings.edu/research/opinions/2013/10/14-defense-budget-ohanlon-hutchison> (accessed November 10, 2015).

¹⁷ *Defense Base Closure and Realignment Act of 1990*, Public Law 510, 101st Cong., 2nd sess. (November 5, 1990), Sec. 2913.

¹⁸ Rumsfeld, "Transformation through Base Realignment and Closure," 1-3.

¹⁹ 40 U.S.C. 102.

²⁰ 10 U.S.C. 2912; Developing a methodology to do so would be valuable, but is beyond the scope of this paper.

²¹ U.S. General Accounting Office, *Demolition of Unneeded Buildings Can Help Avoid Operating Costs* (Washington, DC: U.S. General Accounting Office, May 1997), 16-18.

²² William S. Cohen, *Defense Reform Initiative Report* (Washington, DC: U.S. Department of Defense, November 1997), 41.

²³ U.S. Deputy Secretary of Defense John J. Hamre, "Defense Reform Initiative Directive #36 - Disposal/Demolition of Excess Structures," memorandum for Secretaries of the Military Departments, Washington, DC, May 5, 1998.

²⁴ *Facility Investment and Management Directorate, Office of the Deputy Undersecretary of Defense Installations and Environment Home Page*, http://www.acq.osd.mil/ie/fim/program_areas.shtm (accessed October 29, 2015).

²⁵ U.S. Government Accountability Office, *High Risk Series: An Update* (Washington, DC: U.S. Government Accountability Office, February 2015), 161.

²⁶ U.S. Department of the Navy, *Fiscal Year 2015 Budget Estimates, Operations and Maintenance, Navy* (Washington, DC: U.S. Department of the Navy, March 2014), 275.

²⁷ David Mader, "A National Strategy for Reducing the Federal Government's Real Estate Footprint," March 25, 2015, <http://www.whitehouse.gov/blog/2015/03/25/national-strategy-reducing-federal-government-s-real-estate-footprint> (accessed November 1, 2015).

²⁸ 16 U.S.C. 470h-2.

²⁹ 42 U.S.C. 11411; U.S. General Accounting Office, *Demolition of Unneeded Buildings Can Help Avoid Operating Costs* (Washington, DC: U.S. General Accounting Office, May 1997), 13.

³⁰ U.S. Government Accountability Office, *High Risk Series: An Update* (Washington, DC: U.S. Government Accountability Office, February 2015), 161.

³¹ Power, water, etc.

³² U.S. Congress, House of Representatives, Committee on Armed Services, Subcommittee on Readiness, *Is Base Realignment and Closure Appropriate at This Time?* 113th Cong., 1st sess., March 14, 2013. Army active duty end strength in 2010 was approximately 570,000 in 2010.

³³ *Ibid.* Acting Under Secretary of Defense for Installations and Environment, John Conger; Secretary of the Army for Installations, Energy, and the Environment, Katherine Hammack; Acting Assistant Secretary of the Air Force for Installations, Environment and Logistics, Kathleen Ferguson; and Principal Deputy Assistant Secretary of the Navy for Energy, Installations and Environment, Roger Natsuhara testified.

³⁴ Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, *Operation and Maintenance Overview Fiscal Year 2016 Budget Estimates* (Washington, DC: U.S. Department of Defense, February 2015), 125. OSD's Facilities Investment and Management Branch creates this budget by estimating sustainment costs using the Facility Sustainment Model (FSM) to develop DoD's Annual Sustainment Requirement (ASR). Sustainment pays for preventative maintenance, routine repairs, inspections, and scheduled replacements of components such as roofs and heating equipment; FY14 is the latest fiscal year for which actual spending data are available.

³⁵ *Facility Investment and Management Directorate, Office of the Deputy Undersecretary of Defense Installations and Environment Home Page*, http://www.acq.osd.mil/ie/fim/program_areas.shtm (accessed October 29, 2015).

³⁶ Jared Serbu, "2016 Budget Aims to 'Arrest' Deterioration in Military Facilities," March 4, 2015, <http://federalnewsradio.com/sequestration/2015/03/2016-budget-aims-to-arrest-deterioration-in-military-facilities/> (accessed October 29, 2015). Rather than targeting anyone in particular, Mr. Conger used the word "you" in the generic sense.

³⁷ *Ibid.*

³⁸ Leipold, "Hammack Tells Congress BRAC Round Needed."

³⁹ Katherine G. Hammack, "Excess Infrastructure," *Army Live*, blog entry posted August 15, 2013, <http://armylive.dodlive.mil/index.php/2013/08/excess-infrastructure/> (accessed November 3, 2015).

⁴⁰ Core strategic asset types meet one or more of these criteria. For example, nuclear submarine repair facilities are unique to the military. Armories, classified data centers, warship piers, and specialized hangars may have unique physical security requirements. Deep-water ports, range complexes, and specialized radar systems may be located in geographic areas that cannot be replicated.

⁴¹ U.S. Department of the Navy, Navy Installations Command, *Mission Dependency Index*, CNICINST 11000.1 (Washington, DC: U.S. Department of the Navy, Navy Installations Command, May 6, 2015), 1. Navy, Coast Guard, and NASA partnered to develop MDI in 2001. Navy formally required MDI use in 2005. The other Services have since adopted the tool.

⁴² *Ibid.*, 2-4.

⁴³ *Ibid.*, 8.

⁴⁴ *Ibid.*

⁴⁵ Hammack, "Excess Infrastructure."

⁴⁶ To reduce spending on such facilities is rational, yet may prove unpopular, particularly with DoD-operated facilities that support popular family support functions.

⁴⁷ The White House, *Federal Real Property Asset Management*, Executive Order 13327 (Washington, DC: The White House, February 4, 2004).

⁴⁸ *Ibid.*

⁴⁹ Werfel, "Implementation of OMB Memorandum M-12-12 Section 3: Freeze the Footprint."

⁵⁰ *Ibid.*

⁵¹ Mader, "Implementation of OMB Memorandum M-12-12 Section 3: Reduce the Footprint."

⁵² *Fiscal Year 2001 National Defense Authorization Act*, Public Law 106-398, 106th Cong., 2nd sess. (October 30, 2000), Sec. 2812.

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⁵⁴ U.S. Government Accountability Office, *The Enhanced Use Lease Program Requires Management Attention* (Washington, DC: U.S. Government Accountability Office, June 2011), 1.

⁵⁵ Naval Facilities Engineering Command, "Enhanced Use Leasing," http://www.navfac.navy.mil/products_and_services/am/products_and_services/enhanced_use.html (accessed January 17, 2016).

⁵⁶ 10 U.S.C. 2667.

⁵⁷ U.S. Government Accountability Office, *The Enhanced Use Lease Program Requires Management Attention*, 6.

⁵⁸ *Ibid.*, 6-12.

⁵⁹ *Ibid.*, 27.

⁶⁰ *Ibid.*, 31.

⁶¹ 10 U.S.C. 2667(b)(1)-(3).

⁶² *Military Housing Privatization*, Office of the Deputy Undersecretary of Defense Installations and Environment Home Page, <http://www.acq.osd.mil/housing/> (accessed January 12, 2016).

⁶³ *Ibid.*

⁶⁴ *Public Private Ventures*, Naval Facilities Engineering Command Asset Management Home Page, http://www.navfac.navy.mil/products_and_services/am/products_and_services/PPP.html (accessed January 12, 2016).

⁶⁵ Ivan G. Bolden, "Public Private Partnerships," December 9, 2014, <http://www.ncppp.org/wp-content/uploads/2015/02/Public-Public-and-Public-Private-Partnerships-The-DoD-Experience.pdf> (accessed January 12, 2016).

⁶⁶ U.S. Government Accountability Office, *Army's Privatized Lodging Program Could Benefit from More Effective Planning* (Washington, DC: U.S. Government Accountability Office, July 2010), 1.

⁶⁷ *Bob Stump National Defense Authorization Act for Fiscal Year 2003*, Public Law 107-314, 107th Cong., 2nd sess. (December 2, 2002), Sec. 2803.

⁶⁸ *Privatized Army Lodging Home Page*, <http://www.pal.army.mil/> (accessed November 27, 2015).

⁶⁹ *Ibid.*

⁷⁰ Dan Cohen, "Lendlease Closes on Final Phase of Army Lodging Privatization Program," October 2, 2015, <http://defensecommunities.org/blog/headlines/lendlease-closes-on-final-phase-of-army-lodging-privatization-program/> (accessed January 18, 2016).

⁷¹ U.S. Department of the Army, Office of the Deputy Assistant Secretary of the Army (Financial Management and Comptroller), *Fiscal Year 2014 United States Army Annual Financial Report* (Washington, DC: U.S. Department of the Army, November 2014), 14.

⁷² *The IHG Army Hotels Story Home Page*, http://www.ihg.com/armyhotels/hotels/us/en/global/customer_care/ourstory#scmisc=nav_ourstory_ma (accessed March 7, 2016).

⁷³ U.S. House of Representatives, Panel on Public Private Partnerships, *Public Private Partnerships: Balancing the Needs of the Public and Private Sectors to Finance the Nation's Infrastructure* (Washington, DC: U.S. House of Representatives, September 2014), 31.

⁷⁴ Robert W. Poole, Jr., *Annual Privatization Report 2014: Surface Transportation* (Los Angeles, CA: Reason Foundation, March 2014), 4, <https://trid.trb.org/view.aspx?id=1303008> (accessed January 18, 2016).

⁷⁵ Hammack, *On the Alignment of Infrastructure Investment and Risk and Defense Strategic Requirements: Statement of Assistant Secretary of the Army (Installations, Energy, and Environment) before the House Subcommittee on Readiness, Committee on Armed Services*. Note that in its FY17 budget request published in February, the DoD Comptroller provided an updated figure of \$33.1M for the enacted amount of Army demolition funding for FY16. However, because demolition and SRM are both subsets of O&M funding, it's still possible that that actual FY16 total will change before EOY. Office of the Under Secretary of Defense (Comptroller) / Chief Financial Officer, *Operation and Maintenance Overview Fiscal Year 2017 Budget Estimates* (Washington, DC: U.S. Department of Defense, February 2016), 142.

⁷⁶ Hammack, "Excess Infrastructure."

⁷⁷ U.S. Government Accountability Office, *Defense Infrastructure: DOD Needs to Improve Its Efforts to Identify Unutilized and Underutilized Facilities* (Washington, DC: U.S. Government Accountability Office, September 2014), 16-17.

⁷⁸ Military housing privatization regulations are detailed in 10 U.S.C. 2871-2885.

⁷⁹ Many DoD installations have begun installing utility meters to gauge utility consumption. Portsmouth Naval Shipyard, for example, can currently measure steam and electricity consumption and will install additional metering for water. By measuring utility usage, Public Works officials can charge tenant commands for what they consume. Commands can pay for usage through their operations and maintenance (O&M) funding, which in turn pays for commodities (cost of fuel) and infrastructure upkeep. This model could be extended to leasing of privatized facilities such as office buildings. By providing commands with apportioned O&M 'rental' funds (based on end strength and market lease rates) tenants could lease government infrastructure maintained by a PPP. The PPP could then seek market rentals (for additional income) for any 'excess' space not needed by government tenants.

Current research focuses on six themes: productivity and growth, natural resources, labor markets, the evolution of global financial markets, the economic impact of technology and innovation, and urbanization. MCKINSEY'S CAPITAL PROJECTS AND INFRASTRUCTURE PRACTICE McKinsey & Company's Capital Projects and Infrastructure practice is a leading adviser on the planning, financing, delivery, and operations of infrastructure, real estate, and large capital projects and portfolios worldwide. We bring a distinct focus on economic success that consistently delivers positive impact on schedule, budget, and quality. STRATEGIC REVIEW Strategy & Guidance. More focus on consumer protection and transparency Recovery and resolution mechanisms and Retail ring-fencing. REGULATION. Awaiting ICB final recommendations in September. Investment in infrastructure to deliver a holistic financial planning service. Enhancements grow: " Ability to service wealth and currently underserved mass affluent customers. Target core tier 1 capital ratio prudently in excess of 10% from 1 January 2013 when transition to Basel 3 commences. (1) Securitisation partially offset by removal of core tier 1 deduction. 58.