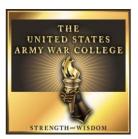
Strategic Basing Guidance for the Air Force's Call to the Future

by

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United States Army War College Class of 2015

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Abstract

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The United States Air Force (AF) maintains approximately 30% surplus infrastructure capacity across its airbase enterprise, but it lacks comprehensive strategic basing guidance to objectively evaluate and manage the excess. The excess infrastructure taxes critical fiscal resources and limits the AF's ability to effectively maintain and keep its installations relevant. The AF recently published its 30-year strategic path in, "America's Air Force: A Call to the Future," and it articulates a strategy to emphasizing capability over capacity. The AF should take the same strategic approach of capability over capacity toward installation management and develop basing guidance framed by this strategy. Such guidance will allow the AF to efficiently manage its installations, objectively assess and articulate its excess capacity to its stakeholders, and strategically shape its future basing efforts. This paper provides recommendations for developing strategic basing guidance to align installation capability and capacity to air, space, and cyber mission generation.

Strategic Basing Guidance for the Air Force's Call to the Future

We must be fearless in our efforts to build agility into our processes, capabilities, concepts, and thinking . . . Disruptive change is always difficult.

—America's Air Force: A Call to the Future¹

The United States Air Force (AF) plays a foundational role in national security, focusing on keeping relevant with rapidly emerging developments in the complex security environment. The constrained fiscal climate continues to force the AF to balance risks and make strategic choices to meet national defense priorities. The AF recently published its 30-year strategic path in, "America's Air Force: A Call to the Future," and it articulates a strategy emphasizing capability over capacity. Specifically, the AF is evolving to maintain the minimum capabilities required to defeat today's threats while investing the maximum available in the high-end capabilities required to dominate future threats.² With regard to weapon systems, the AF is drawing down capacity to recapitalize its fleet with a smaller full-spectrum capable, high-end focused force.³

The AF should take the same strategic approach of capability over capacity toward installation management. Capability is what something does or provides, and capacity is the quantity of something. In reference to installations, capability is the total direct mission, mission support and community support an installation generates and provides, while capacity is the measure of an installation's total infrastructure enabling its capability.⁴ Currently, the service maintains approximately 30% surplus infrastructure capacity across its airbase enterprise, but the AF lacks comprehensive strategic basing guidance to objectively evaluate and manage the excess.⁵ The excess infrastructure taxes critical fiscal resources and limits the AF's ability to effectively maintain and keep

its installations relevant. The AF should develop strategic basing guidance shaped by its over-the-horizon strategy. Such guidance will allow the AF to efficiently manage its installations, objectively assess and articulate its excess capacity, and strategically shape its future basing efforts by aligning installation capability and capacity to mission generation.

This paper begins with a brief history of AF's installations. It explains the initial acquisition and alignment of AF bases and their development through five rounds of Base Realignment and Closure (BRAC). It then evaluates current resource strategies and installation efficiency initiatives. Next, it presents the existing strategic framework that guides defense installation management toward the execution of U.S. national security strategy. Finally, the paper applies strategic guidance and current initiatives to provide recommendations for a basing plan framework and the development of a strategic basing plan.

History of AF Installation Inventory

Since its establishment, the AF has predominately operated from adapted airbases. Ninety-four percent of current continental United States (CONUS) AF bases were War Department and Department of the Army airfields during World War II, meaning the AF sited and developed only 6% for their specific mission.⁶ Certainly, the AF strategically selected base locations, as it occupied and reactivated inherited Army airfields. From 1947-1960, the AF scattered bomber and tanker units across the CONUS to minimize response time and maximize force protection, dispersed Intercontinental Ballistic Missile sites throughout the country's center for security, sited air interceptors north to protect the nation from Soviet strikes, located fighter-bombers near gunnery and bombing ranges in the south, placed mobility wings on the coasts to

facilitate overseas lift, and concentrated training bases in the south to capitalize on good year-round flying weather.⁷

Operating from inherited installations, the AF has constantly balanced infrastructure modernization, growth, realignments, and closures to accommodate evolving missions and national security priorities. The number of airbases peaked in 1956 to meet Cold War threats, and during the drawdown after the Cold War, the service received Congressional authority to right size and divest of excess installations.⁸ Through four BRAC rounds between 1988 and 1995, the AF closed 34 major installations.⁹ When Congress authorized a fifth round for 2005, the AF possessed 24% excess infrastructure capacity and recommended closing ten and realigning 62 active, guard and reserve installations.¹⁰ Ultimately, the commission approved only three of the ten recommended closures.¹¹ In total, the Department of Defense (DoD) reduced installation capacity by a mere 3.4%, and the AF had minimal reductions.¹²

By measure of cost to savings, BRAC 2005 was expensive and did not produce estimated efficiencies. However, it is important to consider the Secretary of Defense laid out goals setting this round apart. He identified three goals to meet new security challenges: transform the military, foster jointness, and reduce excess infrastructure. Despite achieving notable transformation and joint development objectives, the poor savings to cost ratio became BRAC 2005's enduring legacy, leaving lawmakers wary of future BRAC rounds. Despite BRAC 2005 saving \$4 billion annually, Congress contends the process does not generate the savings to justify the upfront cost and disruption to impacted communities.

The AF recently completed a high-level infrastructure capacity analysis measuring current capacity to projected force structure, and it identified approximately 30% excess infrastructure. The excess continues to increase as the AF reduces personnel and force structure faster than it is able to cut infrastructure. For this reason, the AF and DoD persistently request Congress authorize another BRAC round, but lawmakers repeatedly deny their requests.

BRAC is a valuable tool to divest excess infrastructure, but it is just one potential piece of the complete solution. The AF should continue to advocate for the authority to realign and divest, but it must persist to employ innovation, partnerships and opportunity as it strategically manages its installations with a long-term focus.

Current Installation Strategy and Initiatives

The airbase is the platform from which all AF air and space power is projected. Installations are not simply support structures; they are weapon systems that serve as the foundation of decisive air and space power.¹⁷ Airbases send a strategic message to allies and adversaries; they reinforce commitments and build partner capacity to enable global accessibility in peace and conflict.¹⁸ Because of their intrinsic value, AF bases are national assets, and leaders must ensure their constant readiness at the lowest taxpayer cost. This translates to the minimum number of facilities on the minimum number of installations required to generate all required AF missions at the lowest lifecycle cost.¹⁹

Installation Resource Strategy

The AF should manage its bases with the same priority it maintains, modernizes and recapitalizes aircraft force structure. This requires committed funding of installation support and facility sustainment, restoration and modernization (FSRM) programs.

Installations do not require the same magnitude of funds as aircraft recapitalization and modernization, but they do require focused and consistent resources to keep relevant with other weapon systems that depend on them. The AF is designing and procuring the future tanker, multi-role fighter, long-range strike bomber and remotely piloted aircraft to meet future threats; however, these high-end systems will operate on installations lacking the resource prioritization to meet their modern support requirements. Force structure and infrastructure must be integrated and develop together.²⁰ Unfortunately, infrastructure funding has declined for years; the AF increasingly uses infrastructure funds as bill payers in favor of force structure and modernization requirements. The AF's fiscal year 2015 (FY15) budget request constrained FSRM funds to 65% of the lifecycle recapitalization requirement, reducing these funds 25% below DoD guidance.²¹ The AF also reduced its means to modernize infrastructure through military construction (MILCON), cutting its FY15 MILCON budget 28% from FY14.²²

The AF has decided to accept increased risk in infrastructure, but it is not realistic for the AF to continue to operate its foundational weapon system at such elevated risk. Fully funding sustainment over the life cycle is the most cost-effective means to manage infrastructure because it provides designed performance over the longest period at the lowest cost.²³ Infrastructure has a long, useful life and can weather temporary risk over the short term; however, prolonged risk quickly manifests itself in accelerated, more catastrophic and expensive failures that severely degrade mission readiness and capability. Because resources are always constrained, the AF must reduce infrastructure risk by strategically managing its corporate installation capacity.

According to DoD's 2014 Base Structure Report, the AF operates 185 active, guard and reserve installations (major and minor) with a plant replacement value of \$260 billion.²⁴ The service spends just over \$7 billion annually to operate, sustain, restore, modernize and develop its installations, funding just 65% of the FSRM requirement.²⁵ When additional costs of running installations are considered, this expense nearly doubles.²⁶ This is certainly a significant cost, but it only comprises 6.5% of the AF's \$109.3 billion FY15 baseline budget request.²⁷

The AF asserts it could better use resources spent on excess infrastructure to sustain and recapitalize weapons systems, improve readiness, and invest in quality of life needs. ²⁸ In truth, the AF must manage and reduce installation capacity so it can adequately sustain its mission critical infrastructure. The service is currently 35% below the funding level required to adequately sustain infrastructure and prevent premature failure. As the AF manages its excess infrastructure and draws down capacity, at a minimum it must maintain current FSRM funding levels to close the infrastructure-funding gap. Divesting infrastructure does not generate savings; it eliminates assets the AF cannot afford to operate and sustain. The AF repeatedly states it must create installation efficiencies to invest in sustainment and recapitalization of weapon systems; arguably, its most critical weapon systems are its installation power projection platforms. Innovation and Installation Efficiency Initiatives

The AF diligently develops innovative ways to reduce installation operation costs and improve infrastructure management. Many initiatives have produced notable savings, but efforts have been largely incremental and limited by rigid base structure and alignment. Over the last decade, the AF centrally invested in the consolidation and demolition of underutilized and inefficient infrastructure. Since 2006, the service

demolished 44.2 million square feet of antiquated and excess infrastructure created by aircraft fleet reductions. The effort saved over \$300 million, eliminating recurring operation and sustainment costs on unneeded infrastructure.²⁹ Since 2003, facility energy conservation efforts have avoided over \$1.7 billion in energy costs, and these efficiencies continue to lower annual operation costs.³⁰ Through housing privatization, the AF invested \$500 million to garner \$7.5 billion in private sector funding. Private companies contributed 15 times more than the AF investment to provide quality base housing much quicker than the MILCON process.³¹

Housing privatization is just one example of using innovative partnerships to manage infrastructure. Other initiatives include utility privatization and energy service contracts, and there is significant potential to leverage partnerships even more. Public-public and public-private partnerships (P4) enhance the efficiency and improve the installation value, as they share burdens and adjust to reductions. Successful partnerships build upon common goals and share investments, risks, and rewards.³² They are diverse and have a full range of application; most important, the AF has broad authority to use partnerships to manage its excess infrastructure.

The most common partnerships are local support agreements between installations and their host municipalities. Common examples are mutual aid agreements providing fire and emergency service support. A traditional infrastructure partnership is the combined use of airfields. Numerous AF base locations share airfield infrastructure with their host municipality, and the partners split the cost burden. Many bases provide additional opportunity to use existing infrastructure and underutilized land to build efficiency partnerships. For example, Houston County in Georgia is currently

working a partnership with Robins AF Base (AFB) to allow dual civilian-military use of Robbins' airfield and surrounding developable land.³³

Infrastructure use agreements, like Enhanced Use Leases (EULs), enable infrastructure sharing while parties split the risk and cost burden.³⁴ EUL partnerships create mutually beneficial projects on AF real estate; the AF receives cash or in-kind consideration for property leased for private use or development, and the revenue generated helps bridge budget shortfalls and fund infrastructure requirements.³⁵ The AF Civil Engineer Center recently completed two examples. At Nellis AFB, the AF leased land to the city of North Las Vegas to develop a municipal water reclamation facility. In return, Nellis received \$35.8 million of facilities providing a new fitness center and water supply infrastructure.³⁶ At Eglin AFB, the AF leased 17 acres of beachfront property to a hotel developer. The developer constructed a 152-room resort and provided a rooftop setting for antennas owned and operated by Eglin's test wing. In return, the installation completed infrastructure projects with over \$30 million of in-kind payments.³⁷ In both examples, each partner met their need, the installations developed infrastructure they otherwise could not have, and the relationships strengthened community bonds.³⁸

The Monterey Model is another progressive partnership model pioneered by the Army. It developed from a community's response to the threat of losing its military installation because of unsustainable operating costs. In response to BRAC closing Fort Ord in 1994, the city of Monterey sought an innovative partnership with the Presidio of Monterey garrison that kept the Defense Language Institute in Monterey. The garrison and the city worked with local Congressmen to develop legislation to allow the military-municipality partnership. The mature partnership enables the municipality to provide the

garrison full fire protection, police, public works, and other municipal services.³⁹ The partnership decreased the garrison's service support costs by 41%, and it allowed the community to retain the Presidio's socioeconomic support.⁴⁰ The successful partnership helped lead to the development of legacy legislation providing service secretaries broad authority to enter into and capitalize on public-public partnerships, and it authorized the services to replicate military-municipality efficiencies demonstrated by the Monterey Model.⁴¹

Finally, DoD has full flexibility to manage overseas installations, because it does not require Congressional authority to realign and close overseas bases. Since 1990, the AF has reduced aircraft and associated personnel stationed in Europe by 75% and cut main operating bases from twenty-five to six. DoD's recently completed European Infrastructure Consolidation assessment identified further opportunities to trim European infrastructure and save \$500 million annually. The AF portion realigns all missions from three airbases and returns the real property to the host nation, saving \$200 million annually. With basing flexibility, the AF can efficiently align long-term mission capability with right-sized, sustainable capacity.

Current Strategic Installation Management Guidance

The 2007 Defense Installation Strategic Plan (DISP) provides strategic installation management guidance, outlining broad ways and means to realize DoD's strategic vision and installation end state. The DISP guides the implementation of Executive Order 13327, which directs "the efficient and economical use of Federal real property resources in accordance with their value as national assets and in the best interests of the Nation." The DISP outlines six goals toward the achievement of DoD's installation strategic vision to ensure, "Installation assets and services are available

when and where needed, with the joint capabilities and capacities necessary to effectively and efficiently support DoD missions."46 The first two goals, right size and place, and right quality, are particularly relevant to provide the right capacity of high-end installation capability. Right size and place ensure individual installations are custom fit to the unique mission they generate. The goal strives to tailor corporate installation capacity to ensure the total base inventory matches the AF's required collective capabilities. Right quality ensures the availability of safe and effective facilities to work from and to project capabilities. Installation quality requires stable and consistent resources at a level adequate to sustain infrastructure across its lifecycle.

As national strategy translates down through DoD installation strategy, AF basing guidance must align infrastructure capability and capacity with AF strategic vision. The AF's strategy outlined in *America's Air Force: A Call to the Future* articulates its top three priorities: develop and care for Airmen and their families, balance readiness and modernization, and make every dollar count to ensure a credible and affordable force.⁴⁷ Installations are pivotal to meeting all three priorities. They provide the infrastructure to ensure quality of life for Airmen and their families, as well as the training, maintenance and force projection facilities required to enhance mission readiness. Last, the AF applies progressive asset management principles to ensure every dollar invested in infrastructure goes to the most important corporate need at the most affordable cost.

The strategic path calls for a ready, agile and inclusive total force organization that is full-spectrum capable and high-end focused. Installation infrastructure is not inherently agile or flexible. It is effectively static as its investment and development cycle (plan, program, design and construct) takes years to decades. In light of this, strategic

basing guidance must boldly forecast future mission capability requirements so today's infrastructure investment, development and divestiture plans align with the AF's long-term strategic priorities.

Recommended Strategic Basing Plan Framework

AF basing guidance must ensure installations meet the minimum capabilities for today's risks while strategically investing in capabilities required for future threats.

Strategic basing guidance should focus on the 30-year path, framed by *America's AF: A Call to the Future*. Installation planning must look past current challenges and known near-term changes. The AF must identify desired long-term installation end states and plan, program and advocate for resources to achieve enduring interests. A basing plan framework starts with determining the aggregate mission capabilities installations will have to generate, and it concludes by identifying the composition of future airbases defined by the core capabilities they must provide.

Installation Mission Capabilities Requirement

Strategic force planners should conduct a 30-year portfolio analysis and forecast operational data on the type and magnitude of air and space mission capabilities. The AF's five core missions will likely remain enduring, but the ways the AF delivers these missions will evolve as the service pursues high-end capabilities required to maintain superiority across all five missions. ⁴⁸ The strategic effort to identify future AF capabilities does not require exact numbers of mission assets, rather, it requires broadly predicting force structure requirements based on desired future capabilities and the current path and procurement of air, space and cyber assets.

Because strategy and policy changes much faster than infrastructure, the AF must ensure it maintains appropriate infrastructure capacity to respond to an increased

demand.⁴⁹ As argued, maintaining excess infrastructure taxes limited resources, but there is value in redundancy that ensures national security. Redundancy provides options when threats compromise capabilities and surge capacity for emergent requirements. Planners should balance excessive duplicative capacity with preserving sufficient capability and reliability to ensure national security interests.⁵⁰ Although the service must reduce, it must do so without introducing unacceptable risk.

Composition of the Objective Airbase

Once planners frame the strategic mission capability requirement, the AF can determine the required composition of future airbases by identifying the fundamental capabilities installations must provide. This task involves categorizing the direct mission, mission support, personnel support and community support activities comprising today's base communities. AF Civil Engineers recently executed a comparable prioritization effort at the installation level. They categorized installation facilities in priority asset lists to inform infrastructure-resourcing decisions. The AF should complete a similar effort at the strategic level to identify less critical non-mission functions and activities. One method would have the AF categorize each functional activity and associated infrastructure as core, important or peripheral. Table 1 defines recommended functional categories with examples. Most activities and facilities fall neatly into these categories, but facilities like dorms, dining facilities, child development centers, and chapels are less clear and require difficult evaluation and decisions.

Categorizing activities as peripheral does not minimize their importance to the AF's enduring culture. Airmen of all ranks justifiably argue that peripheral support functions create the bluing culture required to recruit and retain high quality Airmen. Evaluating the functions prioritizes them relative to mission critical activities. Most

importantly, it facilitates the difficult dialogue needed to assess and analyze what functions are most critical to future capability, a dialogue acknowledging the reality of the current unsustainable infrastructure capacity. The AF could begin the dialogue with a detailed survey asking Airmen what community support and service compensation is most important and foundational to being an Airman.⁵¹

Communities supporting AF installations have developed significantly from what they were 65-years ago. They have grocery stores, superstores, libraries, recreation facilities, and a full list of personnel and community support facilities, most of which are duplicated and subsidized on installations. Government supported facilities may provide commodities and services at marginally reduced prices and convenience, but the total cost of service suggests there may be more efficient ways to provide quality of life

Table 1. Functional Activity Categories (by author)

FUNCTIONA L CATEGORY	ACTIVITY PROVIDED	INFRASTRUCTURE EXAMPLES
Core	Vital direct mission accomplishment	 Airfield pavements and hangars Maintenance facilities Munitions, fuel and logistics storage Command and control facilities Launch pads & missile silos Communication infrastructure/facilities Direct mission admin facilities
Important	Mission support and essential personnel support	Training facilitiesEquipment storage facilitiesSupply storage facilitiesMission support admin facilities
Peripheral	Community support and Morale, Welfare and Recreation (MWR)	 Lodging facilities Exchanges and Commissaries Libraries Club facilities Education centers Other support and MWR activities

benefits. It is critical to evaluate options to reduce installation capacity to the essential capabilities required; this will ensure the highest quality and most ready installation weapon systems. It is a question of affordability and risk, and funding 65% of required FSRM will not keep installations ready and relevant.

Reducing community service functions for savings is not new. DoD and subordinate services continuously evaluate efficiencies and cut back on subsidized services when resources demand. For example, the Defense Commissary Agency (DeCA) manages grocery stores on nearly all major military installations, and they provide at-cost plus 5% surcharge groceries to active and retired service members. DoD established commissaries decades ago, when there were few near-by, low-cost grocers. Today's grocery and superstore chains are readily accessible near most installations, and they often compete with DeCA's at-cost rate. The true cost of the commissary benefit must include the \$1.4 billion direct DeCA subsidy DoD funds annually, a subsidy DoD proposes to reduce by \$1 billion over three years.⁵² For perspective, \$1 billion is 44% of the AF's fiscal year (FY) 15 FSRM budget for its entire \$260 billion infrastructure plant.

The AF should define the composition of its objective airbase and corporately determine which peripheral functions to retain and which to accept as severable, rather than continue incremental and reactive change. In their FY15 posture statement, the AF Secretary and Chief of Staff recognized budget constraints drive required MWR program reductions; to this end, they identified fitness, childcare, food services and warfighter family support programs as required peripheral functions.⁵³ Divesting non-essential peripheral support allows the AF to focus scarce resources on core and

important infrastructure. In the same vein, identifying an objective installation composition more focused on mission generation ensures the AF sustains relevant and affordable installations.

Over several decades, this paradigm shift would gradually transform AF installations toward a mission base structure (bases as a place to work) verses a community base structure (bases as a place to live). Once the AF defines its required installation capabilities and the composition of its objective base structure, it should empower installation management leaders to determine how best to deliver the required functions. Every installation's mission and composition is unique, and the surrounding support communities are just as diverse. The solutions will vary based on the capability and capacity of community support, and every base will reside at different levels on the mission base verses community base spectrum.

Recommendations for a Strategic Basing Plan

Once the AF determines the components of the basing plan framework, it can apply the framework to develop a strategic basing plan. The first step is identifying enduring airbases based on their potential for future development. Next, the AF should bucket enduring installations into basing models and use the models to develop and align an installation's infrastructure to its mission.⁵⁴

<u>Identify Enduring Installations</u>

The AF should use the basing plan framework to analyze its installation inventory and establish a list of enduring bases. Enduring bases should exhibit future mission capability potential and physical characteristics that indicate long-term relevance and suitability. Installations selected as enduring would receive priority for infrastructure investment. The AF used this approach in the early 1950s as it selected its initial basing

structure. The AF Development Board, later the AF Installations Board, established basing criteria based on guidance from the Truman administration. The board used the criteria to identify and recommend 85 permanent bases. In December 1952, the AF Secretary and Chief of Staff approved the list, and the installations were then eligible for long-term construction investment. The process successfully identified enduring installations and prioritized development resources toward permanent locations.⁵⁵

Identifying enduring installations requires objective basing criteria to evaluate long-term potential. Because principal basing criteria remains relatively constant, the standards used in the 1950s are relevant today: location consistent with mission, airspace opportunity, access to ranges, proximity to logistics and community support, expansion potential, and level of local support. ⁵⁶ Installation locations have not changed, but their surrounding environments have evolved and altered the capability and capacity of some sites. Additionally, aircraft technology has changed and created new physical and environmental demands: higher speeds require more training space, long-range weapons need larger ranges and Federal Aviation Administration restrictions constrain remotely piloted aircraft. ⁵⁷ Planners must consider factors like encroachment, energy opportunity and risk, cyber capacity, community relationships, installation operating costs, and environmental and climate change impacts. Identifying enduring bases allows the AF to prioritize limited resources to the most important long-term installation investments.

AF Basing Models

Next, AF planners should bucket bases into basing models to shape their future development. The proposed basing models include traditional base, mission base, hybrid base, city-base, joint-base, total force integration association base, and warm

base.⁵⁸ This range of models, summarized in Table 2, accommodates all installations coupled with their supporting communities.

Traditional Base Model

The traditional base internally provides all core, important, and peripheral functions. This model is the community base many installations evolved into over time. It provides the least opportunity for reducing infrastructure; however, an objective base structure creates the ability to divest traditional bases of infrastructure associated with non-required peripheral functions. To achieve savings, installation leaders must have discipline and not spread other functions into vacated space. Installation managers should either divest unused facilities or minimally maintain them in mothball status as unused capacity. Traditional bases best fit in isolated locations with limited external community support.

Mission Base Model

The mission base utilizes the minimum infrastructure required to deliver mission requirements. It only provides infrastructure for core functions and the required important and peripheral functions determined by the AF. A mission base relies on innovative ways to deliver peripheral support functions to Airmen and families. One option is to leverage host municipalities to provide common personnel and community support. Another way is to maximize P4 partnerships like the Monterey Model or EULs. The AF should use partnerships to leverage underutilized property created by divesting non-mission functions.

The mission base model will be most successful for installations supported by well-established municipalities with a mutual interest in sustaining the military presence.

Table 2. Basing Models (by author)

MODEL	KEY COMPONENTS	CHALLENGES	SUGGESTED USE	POTENTIAL CANDIDATES
Traditional	 Provides core, important and peripheral functions 	Minimal infrastructure reduction or efficiencies	Host municipality has limited community support capability	Altus AFB Cannon AFB Laughlin AFB
Mission	 Provides core and required important and peripheral functions Relies heavily on community support 	Requires culture change from community bases	Host municipality provides highly developed support capability	Kirtland AFB MacDill AFB Peterson AFB Travis AFB Davis-Monthan AFB
Hybrid	Blend between traditional and mission base models	Model largely represents statusquo	Host municipality's community support capability does not meet mission base requirement	Goodfellow AFB Moody AFB
City-Base	 Infrastructure sold or conveyed to P4 partner AF leases back facilities required to execute mission 	Requires legislative support and strong community interest	Highly developed support communities with shared interest in use of installation infrastructure	Hanscom AFB Robins AFB
Joint	 Supporting service provides installation support for combined installation Supported service is tenant 	Optimal for colocated installations; otherwise requires realignment authority	Co-located installations and installations with infrastructure capacity compatible to joint service use	Colorado Springs; realignment to many candidate installations
Total Force Associatio n	 Combined AC and ARC units Share personnel, equipment, aircraft and infrastructure 	Some opportunities require BRAC authority	Locations where AC mission-type can be aligned with existing ARC structure	Opportunity in numerous states
Warm	Vacate and minimally maintain unused installations and infrastructure	Limited to partial installations without BRAC authority	Apply principle at every installation through maximum facility consolidation	All installations to limited degree

Many Air National Guard (ANG) bases provide good mission base examples since they have less community support infrastructure than active component installations, and ANG Airmen depend on their community for common support requirements.⁵⁹

In addition to creating infrastructure efficiencies, the mission base model promotes deep cooperation. Municipalities hosting AF installations benefit from positive economic impact from the base; from jobs to direct local spending, bases inject significant resources into communities. Correspondingly, supporting communities provide peripheral community support and MWR activities so mission bases no longer have to own and operate them. Community partnerships strengthen relationships critical to navigating development challenges. Bases located in developed municipalities routinely negotiate encroachment and compatible land use issues. By developing a strong, mutually beneficial dependence, AF and civic leaders will strengthen relationships required to manage issues and solidify shared interests.

Hybrid Base Model

The hybrid base falls between the traditional and mission base; the installation and its supporting municipality share the provision of peripheral support functions. The degree of sharing varies, and the base and support community often duplicate services. Most airbases have evolved to some degree of the hybrid model as installations have transitioned previously organic support functions to the surrounding economy. One example is housing; less than one-third of military members now reside in military or privatized housing. DoD determines the level of military or privatized housing at an installation based on the deficit of suitable, available housing in the community. As communities developed, private-sector housing increased, decreasing the military's requirement to augment housing gaps. This same trend exists across many other

support activities. AF bases should maximize support from host municipalities and transition from the traditional to the mission base end of the spectrum.

City-Base Model

The city-base model is a large-scale P4 partnership where the AF sells or conveys its infrastructure to a public or private partner and leases back facilities required to execute the mission. The AF and the investing partner can structure the agreement in many ways. Ideally, the partner assumes responsibility for all infrastructure operation, sustainment and modernization costs, to include utility systems. The AF transitions to tenant and saves resources by eliminating base operating support costs and associated overhead. The AF retains mission capability and can structure the agreement to share revenues generated from future real property development.

Additionally, the AF can establish mutual aid agreements to lessen city service costs like law enforcement, fire protection, and emergency response. The city-base model is most applicable to installations located in established communities with a strong desire to support and retain the military mission and willingness to invest long-term. Specific missions are better suited to the city-base model, and bases with desirable and developable property have the strongest potential to attract investment partners.

The Brooks City-Base project in San Antonio, Texas, is this model's case study. Through special legislation in 1999 and amended in 2000, Congress authorized the AF to carry out a demonstration project intended to reduce installation support costs through P4 partnerships. San Antonio established the Brooks Development Authority (BDA) to serve as landlord and oversee the management and development of the Brooks City-Base property. On July 22, 2002, the AF conveyed all of Brooks AFB real property to the BDA, and it leased back the property required to accomplish its mission.

The AF transferred the property at fair market value and applied the value to future rental costs. The AF entered a 20-year lease and maintained flexibility to manage property as necessary. Additionally, the AF and the BDA split net revenues from future development.⁶³ The partnership significantly reduced the AF's infrastructure risk and saved an estimated \$8 million a year.⁶⁴

The city-base model proved successful; it enabled AF mission capability at a significantly reduced cost and spurred economic development for San Antonio. BRAC 2005 realigned the AF mission from Brooks City-Base, and the AF closed operations in September 2011. 65 Although the AF terminated its mission, the city-base partnership established the community and enabled its successful transition to an independent community. Brooks City-Base continues to develop and thrive under BDA management. 66

The city-base model presents great potential. Because of its unique transfer of installation real property ownership, future city-base arrangements require Congressional support. Fortunately, Brooks City-Base pioneered the precedent, demonstrated benchmark success and established example legislation for future city-base efforts.

Joint Base Model

BRAC 2005 established the active component (AC) joint base model. DoD combined 26 single-service installations into 12 joint bases. DoD recommended joint bases where two or more installations shared a common boundary or close proximity, and it identified the supporting and supported military services. The supporting service hosts and provides base operating support, and operation and maintenance functions for the combined installation, and the supported service is the tenant. Since joint basing

is a new initiative, its long-term benefits remain undetermined. DoD initially estimated the 2005 effort would save \$2.3 billion over a 20-year period, but the department has since reduced the estimate to \$249 million.⁶⁷

Despite falling short of estimated savings, the services are still working through implementation, and the model has demonstrated efficiencies through reduction of duplicated base support and management overhead, economy of scale, and optimization of service contracts. 68 Additionally, a single space manager has the authority to maximize efficiency of infrastructure use, allowing consolidation to create excess capacity to reinvest or divest. 69 Finally, the model fosters joint service development as supporting and supported services work together on a shared installation. Admittedly, such benefits may be difficult to expand; the 2005 effort joined the majority of installations with shared boundaries and close proximity, so the lack of realignment authority, i.e. BRAC, limits future opportunity.

Total Force Integration Association (TFIA) Base Model

The TFIA model is a host-tenant partnership between the AC and Air Reserve Component (ARC), which includes both the AF Reserve and ANG. As the AF reduces force structure, it plans to push as much capability into the ARC as possible without negatively affecting operation capabilities or response times. The FY15 budget proposal demonstrated this as the AF pushed F-15Es, B-1Bs, and C-130Js into the ARC.⁷⁰ Transitioning missions from the AC to the ARC allows the AF to perform missions with less-expensive, part-time reservists. The AF maintains capability while decreasing AC end strength and saving resources in expensive personnel accounts.⁷¹ In addition, TFIAs provide great opportunity to consolidate missions and generate infrastructure

efficiencies. The TFIAs are combined AC and ARC units that share personnel, aircraft, equipment and infrastructure at a consolidated location. There are three types:

- Classic Association: AC organization hosts one or more ARC organizations;
- Active Association: ARC organization hosts one or more AC organizations;
- Hybrid Association: One component host shares a mission with two or more associates from the other components.

The host has primary responsibility for mission accomplishment and normally owns the preponderance of resources, i.e. aircraft, weapon system equipment and support, and infrastructure.⁷² The TFIAs create facility, personnel, and overhead efficiencies, similar to the joint base model, and because ANG bases tend to resemble mission bases, associations consolidated on them provide maximum efficiency.⁷³

While some TFIA force realignment scenarios require Congressional approval, the National Commission on the Structure of the Air Force believes the AF has the authority to create Active Associations by relocating AC force structure to nearby ARC installations.⁷⁴ Further, the commission identified many AF Reserve bases with infrastructure readily available to absorb additional mission.⁷⁵ Other associations require legislative support, but this should not dissuade the AF from leveraging this model to consolidate mission, decrease infrastructure and improve total force operational efficiency.

Warm Base Model

Finally, the AF could apply warm basing principles to manage excess and underutilized infrastructure. Warm basing is the practice of vacating and minimally maintaining whole or partial installations not needed to execute mission requirements.

The practice preserves infrastructure and allows the service to return it to operation when it requires additional mission capacity. Congress would likely consider warm basing an entire installation a BRAC action, so the practice may be limited to partial installations. As installations create space efficiencies through other basing models, they can harvest those efficiencies by consolidating and converting vacated facilities into warm status. This requires significant leadership support and asset management discipline, but it will demonstrate the true quantity and cost of excess capacity.

The models presented here offer opportunities to tailor base infrastructure to each installation's unique mission requirements. Once the AF identifies enduring installations, they should evaluate individual airbases and determine which model best aligns with an installation and its environment. The AF must then invest strategically to develop installations within their model framework toward the achievement of its strategic basing plan.

Conclusion

Disruptive change is difficult, but the AF must deliberately develop its vast installation enterprise in sync with its long-term force structure strategy to ensure these foundational weapon systems remain viable and meet future capability requirements. The AF has approximately 30% excess infrastructure, and the surplus continues to increase as the AF reduces force structure and focuses its over-the-horizon development on capability over capacity. The excess infrastructure taxes fiscal resources and restricts the ability to effectively maintain and modernize bases. The AF continues to take increased infrastructure risk by funding FSRM at only 65% of modelled requirement, and it must reverse this trend. BRAC is a traditional way to

manage excess infrastructure and generate installation efficiencies, but current political stakeholders clearly do not believe BRAC is the right tool at this time.

The AF should take the initiative to establish a strategic basing plan to maximize the service's existing authorities to manage its infrastructure capacity and reestablish an acceptable level of installation funding. The plan should outline the end state for the AF's installation enterprise and identify the ways to efficiently manage its installation weapon systems while objectively communicating the cost of excess capacity. The AF can then leverage whatever authorities and resources (means) Congress approves to execute the basing strategy.

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