

Strategy Research Project

A Capabilities Based Assessment of the Future Installation Management Enterprise

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Abstract

The future operating environment for the Army is increasingly volatile and uncertain characterized by increasing threats, competition between great powers, rapid technological advances and uncertain resources. Army installations will continue to be a key enabler of Army missions and readiness. Future Army installations will be challenged by increasing urbanization, expanded missions at an increased pace and, with reduced resources. The Army's current installation management capabilities suffer from deliberate choices to underfund infrastructure, lack of common understanding and guiding principles, ad-hoc career development, and uncertain authorities to streamline installation services. Applying an abbreviated capabilities-based assessment process identifies areas that require better alignment between the Army's current capabilities and future installation management needs. Once the capability gaps are identified and prioritized by risk, this paper proposes potential solutions to mitigate them across Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P). The Army must act now to ensure the installation management enterprise has the correct capabilities to be effective.

A Capabilities Based Assessment of the Future Installation Management Enterprise

Every aspect of generating, projecting and sustaining combat power needed to train, fight and win occurs on Army installations.

—LTG Gwen Bingham¹

The Army, as part of the Joint Force faces a volatile, uncertain, complex and ambiguous (VUCA) future environment.² This future environment will feature persistent competition, challenges posed by adversaries, rapid technological change, and increasing regional instability.³ The Army will be called upon as part of the United States response to those challenges because they all have one thing in common, they all occur on land.⁴ The Army's success will depend on flexible and adaptive leaders along with efficient and capable formations. The requirements of successful Army installations are no different. Installations support all Army missions both within the United States and overseas, from enabling training and deployment to supporting mobilization and support to civil authorities.

In the more than twenty-five years since the establishment of the Army's installation management enterprise, Army installations have developed a highly complex system of services and infrastructure in support of the Army.⁵ Army installation managers are the integrators and synchronizers of those infrastructure and services on Army installations. Installations and the organizations that manage them will require the same adaptability and innovation to be successful in the future environment. How will Army installation management transition from current formations and capabilities to flexible and adaptive installations able to integrate and respond effectively to unexpected threats and transitioning missions?

Installations are recognized as integral to the success of the current and future Joint Force. Unfortunately, installation management still lacks approved future operating concepts and doctrine. There are a few installation strategies and tasks in current Joint and Army functional concepts. This paper applies an abbreviated capabilities-based assessment (CBA) process to identify areas that require better alignment between the Army's current capabilities and future installation management needs.

The Army's CBA is a four-phased process consisting of defining the future operating environment, conducting a functional area analysis (FAA), completing a functional needs assessment (FNA) and, finally performing, a functional solutions analysis (FSA). The CBA can be appropriately applied to installation management.

Describing the future operating environment for Army installations is essential to providing the framework for follow-on analysis.⁶ The FAA translates Joint and Army future operating and logistics functional concepts to identify potential problems faced by Army installation management and to establish future approaches to a range of problems.⁷ Next, the FNA documents the Army's current installation management capabilities then analyzes their performance against future tasks. The FNA results in a prioritized list of capability gaps and associated risks.⁸ Finally, the FSA provides an assessment of the prioritized list of installation management gaps and develops potential solutions across Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P).⁹ Applying the CBA framework to the Army Installation Management Enterprise identifies gaps between current and future requirements and allows for better alignment of current resources to achieve success in future Army missions.

Future Environment for Army Installation Management

The first step in the CBA process is defining the future operating environment for Army installation management. The future operating environment will be increasingly VUCA, that is rapidly changing, difficult to understand and predict, highly interconnected, and defying analysis.¹⁰ This future environment will present several challenges to the Army installations. Joint and Army studies define several persistent and anticipated trends characterizing the future operating environment. Understanding the impact of these future characteristics on Army installation management is critical to establishing the conditions and metrics defining successful future installation management operations.

The Capstone Concept for Joint Operations defines persistent trends that will continue into this future environment, including proliferation of weapons of mass destruction (WMD), rise of competitors, regional instability, transnational criminal and violent extremist organizations, and competition for resources.¹¹ These persistent threats shape the way the Army operates and builds programs for its installations. The proliferation of WMD and competition for resources drive regional instability as neighbors seek to ensure their own economic and territorial security, thereby increasing the volatility of the world. The interaction between transnational criminal and violent extremist organizations and the nation-states like Russia and Iran, which are willing to use them as proxies are an example of the uncertainty and complexity of the future operating environment. Finally, competition for natural resources will be a key driver of instability for the foreseeable future.

Anticipated future trends include adversaries seeking to attack the Army asymmetrically, increasing urbanization, competition for natural resources, increasing pace of technological change and constrained funding for the Department of Defense.¹²

While these future trends will cause rapid changes to some Army organizations and missions that are part of the Operating Force, most will have less impact on Army installations which are part of the Generating Force.¹³ The three future trends of increasing urbanization, asymmetric competition and declining DOD resources have the greatest potential to significantly influence Army installation management.

First, installations will face increased competition for natural resources, especially access to land and water both domestically and overseas. Increasing urbanization and the growth of civilian communities outside our installations present challenges to the Army's ability to utilize training land.¹⁴ For example, the expansion of Army ballistic missile defense missions in South Korea and increased training at Pinion Canyon Maneuver Site in Colorado resulted in opposition from the respective communities.¹⁵ At the same time, community growth outside installations, also presents opportunities to increase partnerships to find efficiencies through municipal services with surrounding local governments.¹⁶

Second, adversaries will increase asymmetric attacks on the Army. Future threats to our installations are infrequently addressed in Joint and Army doctrine. Most asymmetric threats to Army are in the context of its forces deployed to contingency locations. While the threat of kinetic attacks on Army installations is relatively low, especially those inside the United States, installations remain increasingly vulnerable to cyber-attacks and disruptions.

Finally, uncertainty over future DoD funding will hamper the Army's installation managers' ability to adapt to changing missions and future requirements. The uncertainty over future DOD budgets results in aging infrastructure and outsourcing installation management functions to reduce costs to maintain and operate Army installations.¹⁷ Technology presents some opportunities for installation managers to streamline operations and reduce costs but will not offset reductions in Army installation management budgets. Addressing the challenges of the future environment is likely to require installations to perform their expanded missions at an increased pace, confronted by diverse challenges, and reduced resources.

Functional Area Analysis

Given the characteristics of the future environment, how can the Army develop the required capabilities for installations and the organizations that operate them to support the Army and Joint Force? The Army does not have a current approved concept for installation management, but the Joint Concept for Logistics (JC-L), Army Functional Concept for Sustainment (AFC-S) and other concepts offer a proposed concept for the Army's future installation management capabilities.¹⁸ Together the JC-L and AFC-S frame a proposed future military problem, required capabilities, performance standards, and risks for future installation management. Utilizing military problems proposed by the JC-L and AFC-S, the question the CBA needs to answer is--How does the Army enable future operations through flexible and adaptive installations while integrating and synchronizing support for joint, intergovernmental and multinational objectives?¹⁹ Now that the military question is set, the JC-L and AFC-S may be used to identify three primary future required capabilities of installation management:

- Flexible and adaptive leaders and workforce

- Cost effective and scalable infrastructure and services
- Protected and robust data systems that enable decision making

First, future installation management professionals must be able to think critically, communicate effectively, make data informed decisions, understand their functional roles, and enhance the missions of the supported units on or serviced by the installation.²⁰ Future installation management must prioritize installation support functions to maximize support to critical Army missions like mobilization, deployment, protection and personnel support.²¹ Understanding statutory responsibilities and authorities to modify and adapt installation support functions will enable the success of the installation and the missions of its tenants. Future installation management professionals will continue to function as critical liaison with surrounding communities. Given the future environment remains resource constrained and the communities around our installations continue to urbanize, integration with surrounding communities will be critical for successful installation management. Understanding the capabilities, capacities, and needs of the communities around our installations will allow future installation management professionals to mitigate challenges while recognizing and exploiting opportunities for collaboration and cooperation. Additionally, the ability to communicate effectively will enhance all aspects of installation management. Inevitably, modifying or adjusting functions creates gaps between expectations and delivery. Future installation management professionals must create a climate where a trained and ready workforce is able to ensure mission success through flexible and adaptable application of limited resources to achieve desired results.

Second, Army installation management must provide cost-effective and scalable infrastructure and services. In the rapidly changing and volatile future environment Army installations in the future will need to provide a range of options to support units, Soldiers, and their Families on both contingency and enduring bases. Future installation infrastructure needs to be tailorable to the missions of the units assigned, but also scalable to ensure efficient use and to reduce operating costs. Future installations may also consist of many geographically dispersed sites--either Army-owned, contracted, or with limited access--all under the management of a single organization. Assuming less money is budgeted to sustain repair or replace infrastructure with new construction, it is prudent to seek innovative ways to expand installation capacity and capabilities. The Army must consider contracted facilities and dual-use facilities for administration, research and development, troop housing, and feeding activities.²² Likewise, future installation managers must be able to deliver services in the most cost-effective manner blending organic capabilities with inter-service and community partnerships all while ensuring units, Soldiers, Civilians, and Families receive the required support.

Finally, Army installation management of the future must have integrated and robust information systems to inform decision making.²³ The Army needs visibility over the status of all infrastructure assets and performance of all critical enabling services. The Army needs to invest in technology and data systems that monitor performance in real or near real time enabling more efficient management and utilization.²⁴ Similar to civilian smart cities, the Army must expand the integration of sensors in its infrastructure to monitor energy and water consumption as well as the performance of critical building components like electrical, plumbing, waste-water, climate-control and ventilation

systems.²⁵ This autonomous reporting capability is necessary to achieve improved infrastructure readiness by enabling preventive maintenance and preventing cascading failures of building components that increase repair costs.²⁶ Likewise, the Army needs to develop information systems to monitor performance of the services it provides. Flexible and responsive services driven by data on manpower, inventory and other cost factors will establish more accurate baselines for installation support services. Data analytics will also allow installation managers to accurately forecast requirements and adjust resources to optimize support based on mission requirements and fiscal constraints.

Functional Needs Analysis

Understanding the future needs of installation management allows evaluation of current installation management capabilities and capacities to determine their ability to meet the future needs of the Army. As the Chief of Staff of the Army (CSA) General Milley states “Readiness for ground combat is--and will remain--the U.S. Army’s #1 priority.”²⁷ “The Army currently has 156 installations and over 1,100 community-based armories and Army reserve centers.”²⁸ These installations are positioned across the United States and overseas. The installation management workforce is a mix of military, civilian, and contractors performing base operations support for the Regular Army, Army Reserve, Army National Guard, and Joint Bases. The Army’s installation management enterprise operates a mix of Army-owned and commercially leased infrastructure comprising approximately fifteen percent of the Army’s total budget.²⁹

Neither the Joint Force nor the Army have a comprehensive or coherent set of doctrine for installation management. Doctrine provides fundamental principles to guide actions in support of national security objectives by providing organizations a common

language to understand missions and functions while serving as the basis for unit organization and equipment as well as leader and workforce training.³⁰

Unfortunately, the current installation management enterprise does not have a common language. Multiple Joint and Army doctrine and concepts use the words installation, base, camps, base camps, sites, stations, and post interchangeably.³¹ Likewise, most of the current doctrine is intended to cover installation management functions conducted in contingency environments.³² The organization responsible for developing installation management doctrine for the Army is the Assistant Chief of Staff for Installation Management (ACSIM). Department of the Army General Order Number 2017-01 states the ACSIM, “[serves] as the ARSTAF proponent for installation management doctrine and the professional development of installation and garrison commanders and other installation management professionals.”³³ As of fiscal year 2017, installation management doctrine appeared on the ACSIM’s list as the eleventh priority.³⁴ The placement of installation management doctrine in the ACSIM’s priorities indicates the Army recognizes the need for doctrine, but it is not as important as current support to Army readiness, internal reorganization, and building the annual *Program Objective Memorandum (POM)*.³⁵

The biggest risk from the lack of doctrine is inefficiency. The U.S. Army Installation Management Command (IMCOM), the largest installation management organization admits, “Human capital management structural components/processes (e.g., Table of Distribution and Allowances management; Management Decision Evaluation Package actions, Standard Garrison Organization, Common Levels of Service) are not well integrated or aligned.”³⁶ The lack of common terminology, along

with different organizations, and under-resourced career development, means the Army's installation management enterprises' adaptation to the future environment risks inefficient application of limited resources to achieve current mission success and to develop required capabilities in preparation for the future operating environment.

The current Installation Management workforce is comprised primarily of a mix of civilian functional experts, senior enlisted, and field grade officers. The civilian workforce is comprised of a wide variety of functional experts representing several Army Civilian career programs (CP) including engineers (CP 18), comptrollers (CP 11), scientists (CP 16), housing managers (CP 27) and installation management (CP 29).³⁷ Career development training for majority of the installation management workforce falls under the purview of non-installation management organizations with the exception of the installation management career program, CP 29. This career path begins for mid-career civilians (GS-9) and prescribes standard Army Civilian leader development training such as the Army Civilian Education System (CES), Supervisor Development Course, and Lean Six Sigma programs.³⁸ CP 29 also offers a Developmental Assignment Program (DAP) to allow short-term career development opportunities for motivated employees.³⁹ The CP 29 DAP does not centrally manage employees identified for development and relies on the organizations that comprise the Installation Management Enterprise to identify developmental assignments.⁴⁰ This arrangement results in potential gaps to getting the right developmental experience to the proper employees at the appropriate point in their career to prepare them for future leadership positions.

Like their civilian counterparts, there is no career progression for officers selected for installation management leadership positions. Garrison command is a centrally

selected command billet considered a generalist assignment available to Lieutenant Colonels (O5) and Colonels (O6).⁴¹ Similarly, Sergeants Major (E9) also typically have no prior background in installation management. The IMCOM estimates ninety-eight percent of military personnel entering their installation leadership positions have no prior installation management experience.⁴² Military members assigned to installation management positions, much like their civilian counterparts, are experts in one of the Army's branches or functional areas, but receive little preparation for integrating and synchronizing the full range of installation support for Senior Commanders.

The Army installation management community is attempting to address this gap in capability by establishing installation management training programs. The most mature installation training program is the College of Installation Management (CIM) under IMCOM College of Installation Management's goal is to provide the single source of career development training for the installation management community.⁴³ The CIM's foundation is the Training and Doctrine Command (TRADOC) accredited Family, Morale, Welfare and Recreation (MWR) Academy which has a long and established track record for educating non-appropriated fund employees to run Army MWR and Family support programs. Also in 2010, CIM took over several installation focused training programs from the Army Management Staff College after it consolidated and realigned to Fort Leavenworth.⁴⁴ Unfortunately, CIM's mission growth did not come with required resources and the plan to expand CIM appears to have stalled.⁴⁵ College of Installation Management's goal to be fully TRADOC certified and to expand the CIM staff by the second quarter of fiscal year 2017, or by March 2017, has not happened.⁴⁶ The CIM still offers courses that span the breadth of installation management functional

expertise, but very little formal instruction on how to coordinate, synchronize and direct an entire installation.⁴⁷ Most training for senior installation management professionals remains informal “on the job training.” The risks to the success of trained and ready installation managers is again the lack of doctrine to guide training, career development, and constrained resources which contribute to the Army’s institutional risk to operate successfully in an increasingly complex environment.

The third area for examination is the current flexibility of delivery of infrastructure and installation services by the Army. For several years, the Army has prioritized force structure, training, and material readiness over sustaining and modernizing its infrastructure.⁴⁸ The current challenges of reduced resources, excess infrastructure, and degraded infrastructure puts support to Army readiness at risk. The Army current has approximately twenty-one percent excess infrastructure capacity and is petitioning Congress for authorities to study another round of potential Base Realignment and Closure (BRAC).⁴⁹ Congress has been unwilling to grant new BRAC authority, but understands the Army’s costly excess infrastructure and has granted the Army expanded authorities to mitigate this challenge. As the ACSIM recently testified before Congress,

Although a new authority in *National Defense Authorization Act for Fiscal Year 2017* (Public Law 114-328) allows conversion of existing buildings to new functions, the Army still requires authorization for another round of Base Realignment and Closure (BRAC), which will enable the Army to re-station forces and missions for future requirements.⁵⁰

The cost of maintaining this excess infrastructure is approximately five hundred million dollars annually.⁵¹ The excess infrastructure continues to sap resources away from both current readiness and future requirements.

Additionally, the Army's military construction investment remains historically low and focuses on replacing failing and obsolete training, operations, and maintenance facilities, as well as footprint consolidation.⁵² The Army funds sustainment, restoration and modernization (SRM) funding for existing facilities at only seventy-five percent of required funding. Underfunding SRM means Army installation infrastructure deteriorates at an accelerated rate, thus reducing the installations ability to effectively support current missions or modify to adapt changing conditions. As the CSA recently testified before Congress, "Deterioration of our installations adversely impacts Soldier and Family quality of life, maintenance of equipment, deployment of forces, and our ability to mobilize reserve component."⁵³ The risk to ensuring flexible, adaptable, and effective infrastructure support to the future Army is that the infrastructure will be in the wrong location, in poor condition or be unsuitable to support the future missions of the Army.

Likewise, Army installation services are not flexible enough to support the Army in the projected future environment. Congress and the Army recognize the need to deliver cost-effective and flexible services. Beginning in 1983, the Office of Management and Budget issued *Circular A-76*, which directed all federal agencies to examine all organizational functions and where applicable conduct competition between government service providers and the commercial sector to ensure the tax payers were getting maximum value for resources expended.⁵⁴ This began a process of examination of installation services for potential efficiencies resulting in increasing contract support for installation operations including public works, personnel services, and housing services.

Competitive Sourcing Directives like A-76 began Department of Defense initiatives to privatize even more services and the infrastructure used to deliver them resulting in programs to privatize Family housing, temporary lodging and utilities. These privatized services don't really save the Army resources for operating costs, but they do free the Army from investing in recapitalization of the infrastructure.⁵⁵ Unfortunately, in 2007 Congress issued a moratorium on A-76 in the wake of the scandal over conditions at Walter Reed Army Medical Center for servicemembers receiving medical treatment.⁵⁶ The moratorium on A-76 competitions remains in place today, preventing installations from exploring changes in service delivery.

In 2013, Congress passed legislation allowing the Army to enter into inter-governmental support agreements (IGSAs) for services already being provided by local governments. Inter-governmental support agreements are a way for installations and their partner communities to create economies of scale for public services that benefit both organizations. Unfortunately, there is some ambiguity between the authorities suspended by the moratorium on A-76 competitions and the authorities to enter IGSAs with local governments.⁵⁷ Army installations will lose flexibility to adapt installation service delivery in the future if the moratorium on A-76 competitions is not lifted and the various interpretations of authorities between A-76 and IGSAs are not clarified.

The final area of analysis is the ability of the current installation management enterprise to provide integrated and robust data systems that enable decision making. The current Army systems that provide installation managers with data for decision making are designed for planning and programming installation resources. Those data systems are unconnected, and data is entered into these systems manually. The

primary system for monitoring the status of Army installations is the Installation Status Report (ISR). The ISR has four components that measure the quality and capacity of infrastructure, services, natural infrastructure and mission capacity. These measurements cover the breadth of an installations ability to support Army, but they are only measured once per year.⁵⁸ The frequency of reporting this data makes ISR only good for macro-level assessments of programs--not on the spot corrections--to enable efficient and flexible service delivery.⁵⁹ The ISR is also not linked to other Army systems; thus, meaning assessments of total Army programs are done manually. Manual analysis has the consequence that program adjustments may not occur in a timely fashion to ensure the most effective and efficient delivery of services.

The Army is making slow progress towards automating its installation management data systems to enable decision making with programs such as the Army metering program and the General Fund Enterprise Business System (GFEBS). The GFEBS is the Department of Defense's accounting system of record that tracks all expenditures and real property. The GFEBS gives installation management professionals at all levels a comprehensive view of financial status and projected expenditures. The Army Utilities metering program suffers from the same lack of resources as other parts of the installation management enterprise and is well behind in its goal to meter all Army facilities by 2012.⁶⁰ Even if all installations had the required meters in place, the data they collect is distributed among several unconnected data management systems.⁶¹ If the Army does not improve the automation of installation data gathering and have the ability to understand the relationships between that data in

a timely fashion risks, then it will have missed opportunities, as well as inefficient and ineffective delivery of installation services.

The risks between the capabilities of installation management of today and those required for future success represent significant institutional risk to the Army. The biggest risk is the uncertainty of the sufficiency of future Army funding and its allocation across the operating and generating force. Lack of resources impacts the ability of the Army installation management enterprise to ensure current support and enable future support to Army missions. The next greatest risk is the lack of codified guiding principles to ensure common understanding of installation management functions and priorities, as well as, future requirements for capabilities and leader development. The third priority of risk is that personnel must spend critical time learning the business of installation support without adequate formal training, which will increase the time required to achieve peak efficiency and recognize opportunities to improve flexible and adaptive delivery of infrastructure and services. The fourth risk is the suspension or confusion over the authorities granted to the Army to pursue cost effective and efficient support to Army missions with flexible and scalable infrastructure and services. The final priority of risk is the lack of timely data and integrated data management systems that enable timely decisions by installation management leaders. The capability gaps in order of priority are:

- Lack of sufficient funding
- Lack of Installation Management Doctrine
- Holistic Career Development Program
- Inadequate authorities to streamline installation operations

- Lack of integrated data to enable timely decisions

Functional Solutions Analysis

Identifying the gaps and prioritizing their risks to achieving future capabilities of the installation management community now allows examination of potential solutions across the DOTMLPF-P to help manage those risks. The biggest risk to the future capabilities of Army installations is the availability of funding for Army installations to sustain support for the Army's missions today while transforming for success in the future. Congress delayed implementation of the *2011 Budget Control Act (BCA)* that requires sequestration of federal discretionary spending through bi-partisan budget agreements in 2013, 2015, and 2018. The 2011 BCA has not been repealed, meaning sequestration will return in 2020, if another budget agreement is not reached. If BCA spending cuts return, the reduction of resources will likely affect the installation management enterprise disproportionately, meaning the Army will ensure force structure and readiness of its combat formations at the expense of capital investments. The Secretary of the Army and CSA as strategic leaders must continue to articulate to the President, Secretary of Defense, and Congress the risks to the Army posed by inadequate resources through direct leader engagements, congressional testimony, and the annual budget process. A mitigation strategy for this risk is outside the scope of this paper, but the remaining proposed solutions must account for this overarching institutional risk.

The second proposed solution addresses the problem of lack of guiding principles to establish comprehensive installation management doctrine to ensure unity of effort for current Army installation management missions and inform development of future Army installation management capabilities. Installation doctrine establishes the

foundation for standardizing current installation management operations across the regular Army, Army Reserve, Army National Guard, and contingency base operations. The existing doctrine for installation management in contingency environments is a good start.⁶² The Army installations as part of the generating force can certainly benefit by leveraging the current installation management doctrine for contingency basing since most functions performed are the same. The Army can also revisit previous installation management doctrine such as Field Manual 100-22, *Installation Management*, first published in 1994, and rescinded back in 2009.⁶³ Standardizing installation operations will allow the Army to focus current resources against Army priorities and streamline current installation operations.⁶⁴

Installation management doctrine will help focus limited resources on developing a holistic leader development program for both military and civilian installation managers. The Army needs a cadre of installation management professionals who have experience integrating and synchronizing the range of infrastructure and services required for Army installations--not just experts in their respective functional areas. The Army must continue consolidating training for the installation management professionals (CP 29) under a TRADOC accredited school, while leveraging other established Army schools to train the remaining workforce. In the meantime, the Army should explore expanded partnerships with organizations like the International City Managers Association to leverage industry to supplement career development for installation management professionals while the Army establishes a holistic program. Also, the Army should consider "re-greening" installation management to create a larger pool of military cadre with installation management exposure. Introducing officers (O3/O4) and

enlisted Soldiers (E6-E8) at the mid-career point would allow exposure to the installation management enterprise. Although it would be additional stress on an already stretched force, it would reduce the amount of time for them to be effective in later assignments. “Re-greening” also allows the Army to retain additional mid-grade cadre for future expansibility of the Army if authorized additional force structure.

Third, the Army needs to better manage current and future infrastructure to ensure proper application of limited resources. The Army needs to continue seeking authorization for a new round of BRAC to reduce the costs of operating costs of excess infrastructure. The next BRAC round needs to focus more on realignment rather than outright closure. Preserving available training land should remain a top Army priority and is a proven concept.⁶⁵ Given the current political climate in Congress, it may be a while before those efforts bear fruit. In the meantime, the Army should seek to lift the moratorium on A-76 competitions and clarify IGSA authorities. The Army also needs to build upon past success in privatizing non-governmental functions and their associated infrastructure. Candidates for potential future privatization are child care, retail, barracks, physical fitness facilities, and services. These have significant impact on the Army to perform its missions but are not inherently governmental in nature. These activities have significant stakeholders who will likely resist changes to the delivery of these service. The Army must include a robust and concentrated information campaign to accompany any future adjustments.

Finally, the Army needs to increase investment in “smart infrastructure” and linked data systems for real-time decision support. Not only will this allow the Army better management day to day infrastructure operations and service delivery, but will

facilitate greater integration with partner communities. Where critical data cannot be collected by sensors the Army must change the frequency of reporting to allow for more responsive corrections to critical programs and services. The Army must also invest in methodologies to link the separate installation management data systems into a single system that can aggregate data into information that enables decisions. The Army has many options for accomplishing this requirement through already developed commercial software or the Army's Enterprise Management Decision Support system.⁶⁶

Conclusion

The solutions proposed above are not all encompassing but are a start to ensure Army installation management is better positioned for success in the anticipated future operating environment. The future operating environment for the Army is increasingly volatile and uncertain characterized by increasing threats, competition between great powers, rapid technological advances and uncertain resources. Army installations will continue to be a key enabler of Army missions and readiness. Future Army installations will be challenged by increasing urbanization, expanded missions at an increased pace and with reduced resources. The Army's current installation management capabilities suffer from deliberate choices to underfund infrastructure, lack of common understanding and guiding principles, ad-hoc career development, and uncertain authorities to streamline installation services. Army installation management must at minimum develop comprehensive installation doctrine to provide that common language to guide current operations and leader development. Establishing doctrine sets the stage for the remaining solutions to position future installations to develop a trained cadre, deliver flexible and responsive infrastructure and services, and enable robust data systems that inform decisions for effective and efficient operations. The Army must

act now to ensure the installation management enterprise has the correct capabilities to be effective.

Endnotes

¹ U.S. Congress, House, Committee on Armed Services, Subcommittee on Readiness, *The Current State of U.S. Army Readiness: Hearings before the Subcommittee on Readiness of the Committee on Armed Services*, 115th Cong., March 8, 2017, 6, <http://docs.house.gov/meetings/AS/AS03/20170308/105661/HHRG-115-AS03-Wstate-AndersonUSAJ-20170308.pdf> (accessed December 22, 2017).

² Stephen J. Gerras, ed., *Strategic Leadership Primer*, 3rd ed. (Carlisle PA: U.S. Army War College, 2010), 11-1.2

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