



GUAM MILITARY GROWTH & INTEGRATION CHALLENGE STATEMENTS



31 OCTOBER 2007

Contents

Background	3
Physical Infrastructure	4
Social Infrastructure	10
Early Impact Requirements and Roadmap	10

Background

The U.S. Military Expansion and Integration on Guam is scheduled to relocate the Third Marine Expeditionary Force (III MEF) currently on Okinawa, Japan to Guam beginning in 2010, and in addition will serve to facilitate a larger and more multidimensional U.S. military presence and preparedness in the Pacific. This is already leading to extensive planning, assessments, and budgeting by the U.S. military, as well as many federal agencies with responsibilities and direct alignment to issues and needs within their jurisdiction on Guam.

For the United States, the Guam military build-up also represents an unprecedented opportunity to recognize that improving the lives of the citizens of Guam is an integral part of the U.S. national security strategy on Guam. While Guam is already an island of proud Americans who see themselves as the “tip of the spear” of U.S. in the Pacific, the goal of the U.S. military expansion and integration activities can best succeed through the mutual success of the military, and for the people of Guam and its government.

In the near and long term, Guam must do more than witness military growth and expansion. It must participate, and where necessary receive the training and support to do so. The Guam people, and their economy, culture, and life on the island intersects directly with the military goals. The Government of Guam will assume roles and responsibilities for greater regional leadership across Micronesia. It will be charged with protecting homeland security, facilitating international trade and commerce, strengthening education and the workforce, and protecting the environment.

The key factors and guiding principles to achieving mutual success by the U.S. military, the Federal Government, and Guam are:

- Respect and recognition
- Collaborative planning and partnerships
- Communication and dialogue
- Investment and accountability

A preliminary assessment would indicate that these guiding principles are not being applied by the military as it plans and initiates the military expansion. However, it would not appear that the military can succeed on its own, and that the military, Federal agencies, and the people and government of Guam must succeed together. Furthermore, central to many plans and expectations by the military are examples of unfunded expansion and modernization of Guam’s infrastructure, systems, and programs; uncertain risks to natural resources and the environment; and the impact on the people and culture of Guam.

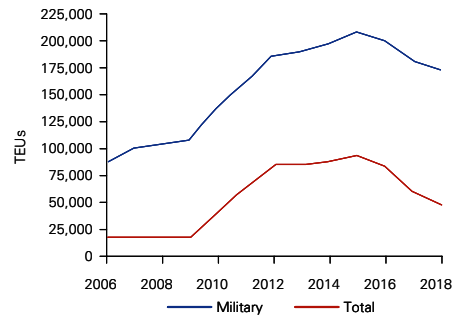
Illustrating unmet needs that exist on Guam at this first stage of the Military Expansion and Integration Activities on Guam are the cornerstone challenges that are visible on Guam in the areas of: Physical Infrastructure, Health and Human Services, Labor, Environment, Economic Development, and Master Planning. These challenges reflect the need for a stronger foundation to leverage and support the intensive and diverse activities which will take place on Guam during the expansion. Can success of the U.S. national security mission and strategy on Guam be achieved without it?

Physical infrastructure

The physical infrastructure on Guam is capacity constrained in providing the Department of Defense the service levels required for its new missions and increased force structure. Resolving capacity with isolated interim solutions could mean significant rate increases.

Challenge – Port

The Guam Port is the economic engine and an enabler to military expansion and sustained economic growth on the island but has current capacity constraints with pier berthing space, crane operations and container storage locations.



Issue

Military expansion requires a Port of Guam with double the current capacity. This is required to support the expansion itself, as well as enable the larger and more multidimensional U.S. military program on Guam to operate and succeed. The time frame for these needs continues to accelerate, while the development of the commercial Port of Guam is at a standstill. This includes assessing and planning to meet future demand requirements including: skilled labor, construction management, engineering, and other technology and mechanization. Military cargo is expected to increase six fold during construction. Long-term growth is expected to stabilize at three times current capacity. Port capacity expansion is estimated to cost \$98 million, including cargo handling equipment (e.g. cranes), additional storage areas and a review/improvement of the channel and wharf depth. The expansion required is unfunded. PB Ports and Marine, a division of Parsons Brinkerhoff, Quade and Douglas, Inc. (PB) has been contracted to prepare the Port Authority of Guam Master Plan updates and is currently developing demand estimates. Once the cost of expansion has been established, and potentially in concert with a review of port tariffs and charges, The Governor of Guam will review resources required for port capacity expansion, including redevelopment options.

Recommendations

- Provide interim bridge funding to expand current pier, replace cranes and establish a container staging area (estimate \$98M)
- Consider how to achieve short-term capacity enhancement (6x) and then stabilize (3x)
- Facilitate private investment into future excess port capacity

Challenge – Power

Guam Power Infrastructure is aging and currently supplies power to the Military Bases (largest customer). Capacity will support initial build-up but will become capacity constrained with the growth on the island. Transmission and distribution facilities are aging and need to be replaced. Loss of the largest customer (the military) could result in increased power rates to the island.



Issue

Guam Power Authority (GPA) is the sole power provider on the island, however its generation and transmission facilities are aging, unreliable, and need to be replaced. A collaborative Guam Power Authority/DoD partnership would enable an integrated development program, creating economies of scale to achieve maximum benefit at minimum costs for the civilian and military communities. If this approach is sidestepped by the DoD in favor of building its own power generating facilities several unfavourable results are easily predictable: the opportunity to achieve a mutually successful solution for the military and Guam will be lost, GPA will lose its largest customer and the associated revenue, likely forcing rate increases upon its existing customer base, and heighten the pressure resulting from debt services on capital assets and energy supply.

Recommendations

- Enhance transmission and distribution network prior to military build-up
- Facilitate the development of a new power plant to support future growth for both the island of Guam and Military.

- Assess applicability of alternative power generation facilities and capabilities

Challenge – Water and wastewater

Water and wastewater infrastructure struggles to meet environmental standards and needs a large capital investment to support military growth on the island.



Issue

The Guam Waterworks Authority (GWA) is the provider of water services to the entire civilian population and provides wastewater collection and treatment services to 58% of the civilian population and most military facilities on Guam. 70% of the fresh water supplied by GWA is obtained from groundwater sources, however this supply is considered susceptible to contamination from septic systems and salt water intrusions. Continued environmental pressures on the groundwater sources caused by demand and population increases reflect the need for consideration of desalination and other facilities in the future. Additionally, the water distribution system and the wastewater collection and treatment systems require substantial refurbishment.

A Capital Improvement Program is underway, but cost control and funding issues require resolution. There is a preliminary funding gap estimate of \$200m. Military expansion will increase demand by at least 25% on already limited resources.

Recommendations

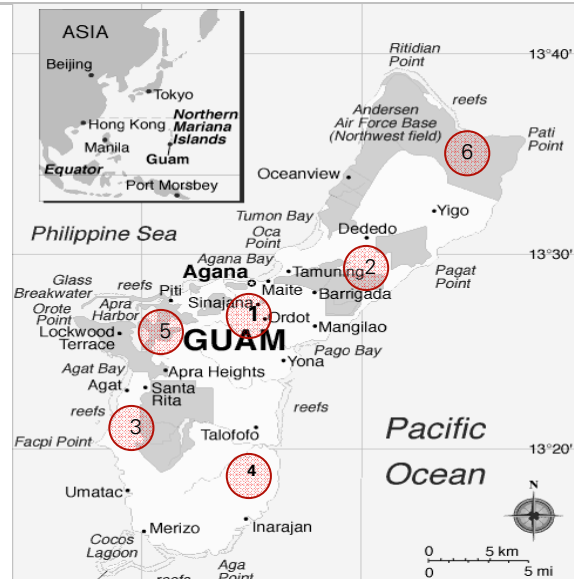
- Bridge funding to support enhancement and initial capital investment to support construction period
- Prioritize and expedite refurbishment of the water distribution system and wastewater collection and treatment system to reduce leakage, waste and inefficiencies
- Conduct environment impact study on Guam, outside the military fence
- Evaluation of possible alternative water resources

Challenge – Solid Waste

Solid Waste facilities are inadequate but can be solved with partnership arrangements with DoD and/or private sector providers.



- Key:**
- 1 Ordot Dump Facility
 - 2 Dededo Transfer Station
 - 3 Agat Transfer Station
 - 4 Malojloj Transfer Station
 - 5 Navy facility
 - 6 Andersen AFB facility



Issue

Solid waste disposal is a serious problem on Guam, requiring maximization of land use, minimization of environmental damage, and capital intensive investments in new facilities. Capacity and environmental concerns have brought Guam's solid waste facilities to the end of its useful life. The Department of Public Works/Solid Waste Disposal have identified \$230 million of new facilities, including \$183 million related to a new landfill – however the Government of Guam has not been able to take the steps necessary to meet the approved Federal Consent Decree schedule.

Guam is facing challenges with regard to the source of funding for new facilities and solid waste management, approved plans for a new site, plans to ensure the environmental feasibility of solid waste management, and work with the military to accommodate the significant increase in solid waste stemming from the military expansion and additional temporary population increases attributable to the build up.

Recommendations

- Bridge funding to support enhancement and initial capital investment to support construction period. Quantification of funding sources for proposed capital investment.
- Conduct environment impact study, outside the military fence, including land use impact
- Negotiate partnership agreements with DoD and private sector providers on investment in and use of a new modern green technology landfill

Challenge – Transportation

Transportation System includes a large capital investment for a new road (Naval Base (port) to the Joint Air Base).



Issue

Guam's roadway system was built after World War II, and is in various states of disrepair. Weather and environmental factors make road maintenance difficult; and slippery surfaces and weather combine to create dangerous and disruptive conditions. Public transportation requirements are not being met, and additional challenges exist with regard to the Guam Public Transit System. The military expansion on the island will increase the need for a more dependable, safer, and stable road system.

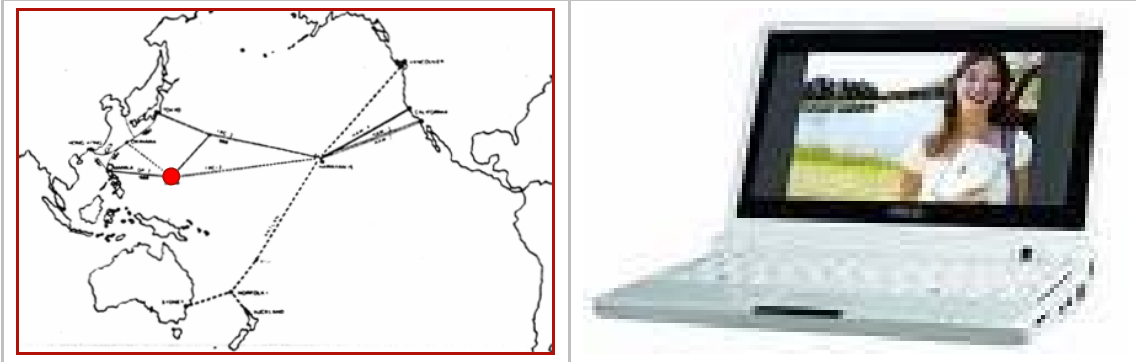
Large capital investments are required to address these needs, and the opportunity exists to improve the Guam roadways for the military, the public, and overall long term improvement to the island. However, future civilian and military transportation requirements are not yet defined. The Guam Department of Public Works is anticipating a three point plan to scope overall requirements, identify available funding sources, and to engage the private sector for the preparation, implementation and execution of the transportation development program.

Recommendations

- Bridge funding to support enhancements and initial capital investment to support construction period requirements
- Determine future civilian and military transportation requirements and define funding sources and alternatives
- Conduct environment impact study on Guam, outside the military fence

Challenge – IT / Telecoms

IT/Telecoms use Guam as a hub for the Pacific Rim which will require enhanced facilities to support economic growth



North America – Pacific Cables

Issue

Guam is the hub for the Pacific US telecommunication channels, however new technologies (wireless and fiber-optic networks) are not meeting current service level requirements. Information and communications service provisions limitations will constrain the ability of Guam to grow as a result of the military expansion.

The challenge for Guam is to channel the growing private sector interest in the local telecom market and to create competition and stimulate investment. Fourth generation technologies present a significant opportunity, and Guam will only be able to maximize this opportunity by attracting investment and a skilled workforce. A sustainable local technical skills base could support the development of small businesses.

Recommendations

- Bridge funding to support enhancement and initial capital investment to support construction period
- Provide private sector investment incentives in building a modern IT infrastructure
- Establish IT communication and training programs beginning in the Guam Public School System and culminating in the Guam Community College and University of Guam

Social infrastructure

The social infrastructure of the people of Guam, “living outside the fence”, will be significantly impacted by the construction activities and military build-up. The social infrastructure must support the build-up with an educated and skilled workforce, adequate healthcare, housing and schools for the people that will make the build-up a success and sustain the economic growth and cultural identify of the island of Guam.

Challenge – Environment

Environmental protection of island resources and habitat are critical to the quality of life and sustained growth on the island



Issue

Sustainable development is crucial in order to maintain Guam’s natural environment, while creating long-term social and economic opportunities and structure. A sustainable development approach encourages comprehensive, integrated and innovative planning, design, and construction in order to meet the needs of the present, without compromising the ability of future generations to meet their own needs. Sustainability and appropriate environmental management practices need to be embedded into every project and program to help ensure a stable natural environment and quality of life. The DoD has provided an assurance that it will incorporate sustainability and “green technology” in its construction program. The Government of Guam has a unique opportunity to successfully integrate sustainable development practices into its Development Plan.

Recommendations

- Augment environmental monitoring and permit staff support for military construction
- Consider environmental impact of all development areas on Guam (integrated approach)
- Conduct environment impact study on Guam, outside the military fence

Challenge – Labor

Labor capacity and skills are a constraint for sustained economic growth



Issue

There is a shortage of skilled workers in Guam, particularly in the areas of health, education, IT, and construction. Education and training infrastructure on Guam face constraints including capacity, quality and funding. Immigrant labor will be required to offset the need for skilled labor during the military expansion, but the result of the expansion and job creation is an opportunity to begin improving training and education to provide more jobs to the people of Guam.

Additional near term challenges include attracting and retaining skilled labor to the island (and the steps this may require, such as “H” visas and short-term inducements), and expanding the training available on the island, so that over-time a highly-trained, skilled home-grown workforce will be in place.

Recommendations

- Bridge funding to support apprenticeship and training program for construction and other critical skill necessary for military build-up
- Removal of caps on “H” Visas
- Support of critical skill recruitment to Guam

Challenge – Health

Health system is already overstretched and under-resourced



Issue

The current healthcare system appears to be under-resourced and under capacity from medical, financial, and administrative perspectives. This is reflective of a shortage of qualified personnel on the island. Medical training capacity is insufficient to address this shortfall. Funding does not appear to be adequate. The civilian and military healthcare systems operate independently, however public health issues affect both populations. The challenges are to identify if and where joint provision of healthcare services may be possible and to comprehensively scope the healthcare requirements of the civilian population. This scoping should include detailed funding requirements and availability. A plan should then be developed to leverage additional federal grants, if appropriate, or engage the private sector to some degree in the provision of healthcare.

Recommendations

- Bridge funding to support enhancements to clinic facilities and a new hospital to support the military growth requirement for military dependents and temporary workers
- Support recruitment of critical healthcare skills and training programs including combined training programs with and within military medical facilities
- Comprehensive health needs and funding assessment
- Identify and actively pursue potential new healthcare funding sources (federal, grant and commercial investment) and consider federal legislation as it applies to Guam

Challenge – Housing

Housing shortages in low cost housing and temporary worker housing is resulting in escalating housing and rental prices.



Issue

There is a supply shortage of low-to-moderate income housing on Guam. Housing prices are growing disproportionately compared to the average household income on Guam, and this situation is expected to be exacerbated by the Military Expansion; many service personnel may purchase accommodation on the island, driving prices even higher. The challenges for Guam are to ascertain the impact of the expansion on the Guam housing market, to solve the problem of accommodation for temporary labor, and to ensure that the increase in house prices will not result in a situation where the local population is priced out of the market.

Recommendations

- Temporary funding for additional public safety requirements (e.g. police, fire departments, customs etc)
- Comprehensive assessment of impact of expansion on Guam housing market, including impact on low-to-moderate price housing market
- Identification of areas suitable for housing development
- Transition of temporary labor housing to other uses

Challenge – Education

Schools are overcrowded and the infrastructure requires modernization



Issue

Low graduate diploma rates, an aging and inadequate infrastructure, a shortage of teachers and support staff and overcrowding in the Guam Public School System (GPSS) characterize the problems faced by the Guam education system. Deferred maintenance and the lack of sufficient preventive maintenance, renovation of existing facilities and equipment, and completion of additional schools have impacted student learning. Limited incentives for teaching staff combined with a shortage of qualified staff make attracting and retaining staff difficult. The key challenges faced by the education sector are to modernize the educational infrastructure (including IT systems) and to attract and retain certified professional teachers and support staff. In order to do this, funding needs must be identified in order to permit objective assessment of any funding gaps. Once this is done, ways of bridging these gaps can be considered.

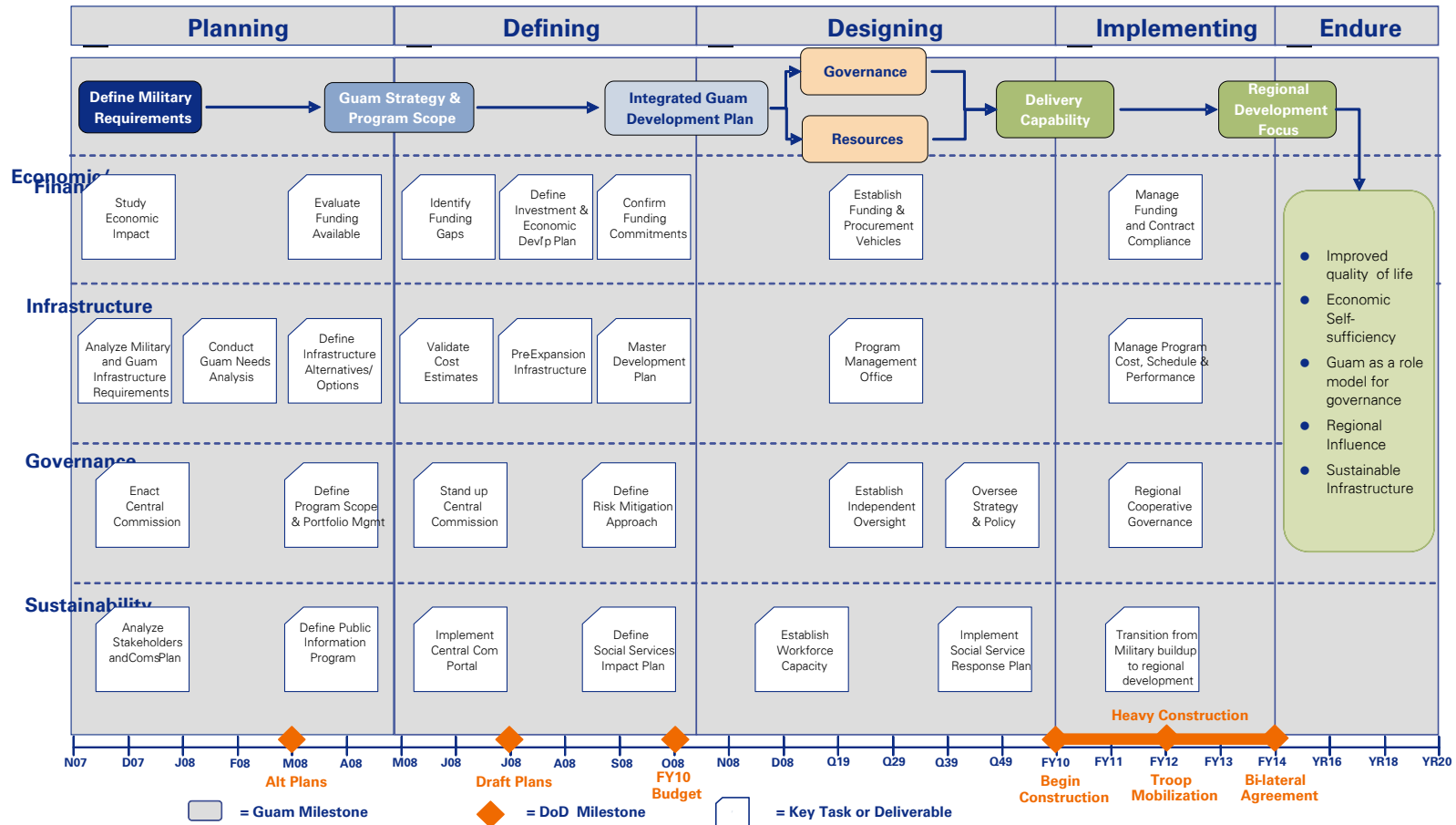
Recommendations

- Bridge funding to support enhancements and capital investment for new schools to support additional island growth and families of temporary workers
- Identify population growth including the areas of growth and timeline to properly assess the impact on the education system.
- Support recruitment of critical education and training skills requirements
- Modernization of school bus fleet and redistricting to address overcrowding in Guam Public School System (GPSS)
- Early impact Requirements and Roadmap

Guam is optimistic regarding the economic growth opportunities presented by the Military Expansion. However, there is likely to be a lag in economic growth and there are both key physical and social infrastructure improvement required to support growth and the military build-up. Unfortunately, Guam currently has a significant budget deficit and will require bridge funding for early impact items.

	PHYSICAL INFRASTRUCTURE	SOCIAL INFRASTRUCTURE
<i>Bridge Capital investment Support</i>	<ul style="list-style-type: none"> ■ Port pier and cranes ■ Water and waste water processing ■ Solid waste processing ■ Road improvements ■ Power generation support 	<ul style="list-style-type: none"> ■ Hospital ■ Schools ■ Housing
<i>Additional resources requirements</i>		<ul style="list-style-type: none"> ■ Health care practitioners ■ Educators and other workforce employment ■ Environmental monitoring
<i>Studies and analysis</i>	<ul style="list-style-type: none"> ■ Guam needs analysis vs. military requirements (basing alternatives) ■ Guam Environmental impact analysis 	<ul style="list-style-type: none"> ■ Economic (impact) analysis

Guam Roadmap



This Report is provided to the Government of Guam (GovGuam) and is for release only to those determined by GovGuam. The analysis in this Report is based upon work conducted in an abbreviated ten week period and is based on information and data provided by GovGuam and Island industry officials.