

USAWC STRATEGY RESEARCH PROJECT

**COMPREHENSIVE, INTEGRATED RECONSTRUCTION OPERATIONS:
WE NEED A MASTER PLAN**

by

Lieutenant Colonel Brian L. Dosa
United States Army

Colonel Philip M. Evans
Project Adviser

This SRP is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 30 MAR 2007		2. REPORT TYPE Strategy Research Project		3. DATES COVERED 00-00-2006 to 00-00-2007	
4. TITLE AND SUBTITLE Comprehensive, Integrated Reconstruction Operations We Need a Master Plan				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Brian Dosa				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army War College, Carlisle Barracks, Carlisle, PA, 17013-5050				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT See attached.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 23	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

ABSTRACT

AUTHOR: Lieutenant Colonel Brian L. Dosa

TITLE: Comprehensive, Integrated Reconstruction Operations: We Need a Master Plan

FORMAT: Strategy Research Project

DATE: 2 February 2007 **WORD COUNT:** 6437 **PAGES:** 23

KEY TERMS: Stability Operations, SSTR, Infrastructure Assessments, Master Planning

CLASSIFICATION: Unclassified

The U.S. military has historically played a critical role during post-conflict stability operations, contributing to the overall goal of achieving long term security and securing our strategic interests. With the potential for commitment of billions of dollars to infrastructure reconstruction in the future, we should apply the lessons of Operation Iraqi Freedom and take a comprehensive, integrated approach to reconstruction operations. After the investment of nearly four years and \$24 billion in Iraq, it is clear that the U.S.-led rebuilding effort has fallen short and not contributed enough to accomplishing U.S. strategic objectives. This cannot be attributed to a lack of security alone. Our failure to conduct an initial assessment of Iraqi infrastructure; develop a master plan for rebuilding; and set benchmarks to gauge progress hamstrung the coalition's rebuilding efforts. Although the recently issued NSPD-44 gives the Department of State responsibility to lead and coordinate reconstruction activities, the military will play a critical role. This paper outlines specific reconstruction goals and tasks that the military, along with other USG agencies, must accomplish during the stabilizing, securing, transitioning and reconstructing phases of stability operations. Essential to long term success is the involvement of host nation engineers and officials in the rebuilding of their country, developing a sense of ownership.

COMPREHENSIVE, INTEGRATED RECONSTRUCTION OPERATIONS: WE NEED A MASTER PLAN

Based upon our national experience in reconstruction operations since World War II, it is clear that the U.S. military plays an essential role during post-conflict operations in nation building and restoring basic services, contributing to the overall goal of achieving long term security and securing our strategic interests. Although our terminology has evolved over time from occupation to peace keeping, stabilization, reconstruction, and most recently stability operations, our Nation has looked to the military to underpin the process of democratization in at least eight nations in the past 60 years, including current operations in Iraq and Afghanistan.¹

With the potential for commitment of billions of dollars to infrastructure reconstruction and restoration of basic services, the actual selection of projects is critical. But in the aftermath of combat operations, how can the military identify and prioritize needed construction? How can commanders balance competing demands and make the best use of limited resources? What is the role of the host nation and other governmental agencies? This paper will address these questions by reviewing stability operations in Iraq, focusing on infrastructure reconstruction. It will analyze what went wrong and propose a better approach, including a method to measure progress.

Although the term infrastructure is widely used, it is not always clearly understood. It is best defined by the National Research Council:

...both specific functional modes--highways, streets, roads, and bridges; mass transit; airports and airways; water supply and water resources; wastewater management; solid-waste treatment and disposal; electric power generation and transmission; telecommunications; and hazardous waste management--and the combined system these modal elements comprise. A comprehension of infrastructure spans not only these public works facilities, but also the operating procedures, management practices, and development policies that interact together with societal demand and the physical world to facilitate the transport of people and goods, provision of water for drinking and a variety of other uses, safe disposal of society's waste products, provision of energy where it is needed, and transmission of information within and between communities.²

Reconstruction of Iraq

At the conclusion of combat operations during Operation Iraqi Freedom (OIF), initial funding for reconstruction was provided by the United Nations (UN) under the Development Fund for Iraq (DFI) program. Monies from Iraqi oil sales, Oil-for-Food Program deposits, along with captured and frozen assets, were made available to the Coalition Provisional Authority (CPA) for day-to-day operations and initial rebuilding efforts.³ From May 2003 until 28 June

2004 the CPA spent more than \$3.5 billion on a wide range of reconstruction projects, including oil, electricity, and funding for the Commander's Emergency Response Program (CERP).⁴ CERP provided funds for brigade and battalion commanders to use in immediate economic assistance for trash pickup, water, sewers, and electricity in conjunction with local security operations.

Later in 2003, the U.S. Congress earmarked \$20.44 billion to Iraq in two successive Iraq Relief and Reconstruction Fund (IRRF) appropriations.⁵ These funds were allocated to seven sectors: security and justice; electricity; water; oil and gas; economic and societal development; health care; and transportation and communications.⁶ Thus, the total investment in Iraqi reconstruction since the overthrow of Saddam Hussein has been nearly \$24 billion.

In its October 2006 Quarterly Report, the Special Inspector General for Iraq Reconstruction (SIGIR) provided a sector-by-sector review of progress to date. The contracting phase of IRRF is near complete: with 98% of funds obligated and 74% expended, approximately 88% of the projects have been finished. But what are the tangible results of this major investment? Specifically, what impact has the more than \$8.11 billion of U.S. appropriations spent on the basic infrastructure sectors (electricity, water, and oil and gas) had?

In the electricity sector, the results have been disappointing. The average national generation peak capacity has only recently surpassed pre-war levels- 4770 vs. 4500 megawatts (MW). Iraqis living outside of Baghdad continue to receive more hours of electricity (11.3 hours daily) as compared with before OIF I. However, Baghdad residents are receiving significantly less than before the war, with power dipping to 2 hours a day as recently as October 2006. Although there are certainly several contributing factors to the low levels of electricity availability, including sabotage and increased demand, it is clear U.S. goals and Iraqi expectations for this area have not been met, and that the return on a \$2.21 billion electricity investment is questionable. In addition, the SIGIR reports that almost 25% of distribution and transmission projects - work required to get power from generation plants to people's homes - have yet to start because they were not identified until late in the planning process.⁷

Progress in the oil and gas sector has also lagged expectations. In spite of a \$1.66 billion allocation, oil production is still lower than pre-war levels- 2.5 vs. 2.8 million barrels per day (BPD). In terms of both capacity and actual production, reconstruction efforts have failed to meet U.S. and Iraqi targets. Oil exports have only recently reached the Iraqi government's objective of 1.65 million BPD. The SIGIR report warns that Iraqi bureaucracy and lack of funding for operations and maintenance (O&M) may cause a setback in oil production in the near future.⁸ As

in the electricity sector, sabotage has certainly detracted from greater success, but efforts to rebuild this sector, which is the lynchpin of the Iraqi economy, have fallen short.

Analysis of quarterly SIGIR reports along with other antidotal evidence demonstrate that in spite of significant funding and efforts in Iraq, the U.S.-led rebuilding effort has not met expectations and has not contributed enough to achieving the goal of a safe and secure Iraq. In a December 2005 press conference, President Bush acknowledged that the multi-billion dollar reconstruction was “uneven and hobbled by corruption, misplaced priorities and insurgent attacks.” He went on to acknowledge that “our approach was not meeting the priorities of the Iraqi people” because we put too much emphasis on major rebuilding, rather than local projects.⁹ Iraqis in Mosul and Baghdad, interviewed for a recent Washington Post article, expressed frustration with many promises of improved services going unfilled: “What reconstruction? Today we are drinking untreated water...The electricity only visits us two hours a day...We cook on the firewood...because of the gas shortage.”¹⁰ The recent Iraqi Study Group (ISG) report may have said it best: “The Iraqi people have a democratically elected government, yet it is not adequately advancing national reconciliation, providing basic security, or delivering essential services.”¹¹ It is clear that U.S. reconstruction effort in Iraq has not accomplished most of its goals with respect to restoration of essential services.

What Went Wrong?

The lack of progress in rebuilding Iraq is a function of several factors, but it cannot be blamed on the lack of security alone. A recent Center for Strategic and International Studies (CSIS) report on Iraqi reconstruction concluded that the “inefficiency of the U.S. has been due to significant problems inherent in the structure and execution of the U.S. aid effort that would render reconstruction inefficient even in the absence of a violent insurgency.”¹² Although anti-Iraqi forces deserve credit for intimidating contractors, conducting successful attacks on critical infrastructure, and creating conditions harmful to rebuilding, it can be argued that the lack of progress in restoring essential services actually contributed to the general support for the insurgency.

During OIF II, where operations were aimed at building a stable and secure Iraq, the 1st Cavalry Division (1CD) Commanding General, then-MG Peter Chiarelli, identified the operational center of gravity as the undecided constituency. This included those who did not support the terrorists or the coalition: “They are the bulk of the populace, and they are waiting to decide who will get their support... the fence-sitters are waiting on clear signs of progress and direction before casting their support.”¹³ The Division thus directed operations at influencing

these fence-sitters in order to keep them from supporting the insurgency. The centerpiece of the Division's full spectrum operations was restoring essential services to create conditions where the people saw hope for a better future and would not be willing to hide or detonate an improvised explosive device (IED), or help support other terrorist activities. In retrospect, our ultimate inability to meet Iraqi expectations was undoubtedly used successfully by anti-Iraqi forces (AIF) to recruit hundreds, if not thousands, to their ranks.

In addition to these security issues, other problems with the coalition's rebuilding efforts in Iraq included poor interagency coordination, corruption, and mismanagement. This paper, however, will focus on three root causes that deal specifically with the engineering aspects of the rebuilding effort: failure to conduct an initial assessment of Iraqi infrastructure; the lack of a master plan for rebuilding; and the absence of benchmarks and well defined metrics to gauge progress.

The failure of the U.S.-led coalition to perform an initial survey of the actual conditions of the Iraqi utilities and infrastructure across the country got the rebuilding effort off to a poor start and led to a disjointed and unsynchronized approach to reconstruction. Without performing this assessment, the coalition could not validate the assumptions that underwrote the rebuilding plan. For example, in the electricity sector, Department of Defense (DOD) and United States Agency for International Development (USAID) made an early choice to award indefinite-delivery- indefinite quantity (IDIQ) contracts. This decision "did not assess the existing Iraqi electricity infrastructure and gave priority to mega projects with high costs and long term impact, without setting targets for electricity generation, while the country was in serious need of electricity generation boost."¹⁴

The failure to conduct an initial evaluation also was a missed opportunity to involve Iraqis in the rebuilding of their country. The Iraqi ministries were staffed with engineers and other public officials who were well aware of the neglected condition of their nation's infrastructure. These experts could have been teamed with CPA and DOD officials and tasked with performing a comprehensive assessment of their nation's infrastructure, identifying the areas of immediate need, facilitating priorities for spending, and confirming coalition planning assumptions. This would also have fostered ownership of reconstruction.

When I arrived in Baghdad in April 2004, as commander of the 8th Engineer Battalion, 1CD, I was surprised to discover the general lack of situational awareness of the condition of infrastructure in our districts of the city. Armed with clear priorities from then MG Chiarelli for essential services- sewer, water, electricity and trash collection- we spent our initial weeks in the city conducting local assessments. Through leader reconnaissance, interviews with local and

city engineers, and feedback from neighborhood and district councils, we were able to develop a pretty clear picture of the horrendous living conditions in most of our neighborhoods. The situation was far worse than we had expected, and I was surprised that not only did the CPA and coalition forces lack an integrated plan for improvement, we did not have good situational awareness or understanding nearly a year after the end of major combat operations. The failure to conduct an initial assessment did not allow key leaders to see the real condition of Iraqi infrastructure and understand the root causes for the wretched state of public services.

In addition to not conducting a preliminary evaluation, the CPA and coalition forces also failed to develop an integrated master plan for restoration of essential services. With the first omission leading to the second, we dove headlong into rebuilding, awarding contracts and spending billions of dollars, without a clear picture and understanding of the root causes behind the general lack of basic services across the country. In the absence of a master plan, well intentioned commanders and leaders across Baghdad and Iraq awarded contracts in an attempt to improve local conditions, while CPA officials focused on large, high profile projects. Former CPA administrator Paul Bremer recently reflected that he “put too much emphasis on large scale projects when smaller ones would have shown quicker results to the average Iraqi.”¹⁵ Without a master plan, the result was a haphazard and unsynchronized approach to reconstruction.¹⁶

As an example, consider the delivery of electricity. In order for residents to receive power, electricity must be created at large generation plants, where fossil fuels such as coal, oil or natural gas are burned to transfer energy to turbines, which in turn convert the energy into electricity. The power is then moved to towns and city districts over high-voltage transmission lines, and then distributed to homes and businesses over local distribution networks. If any of these three - generation, transmission, or distribution - fails, then the people do not receive power. It is clear that the coalition did not address all three components in efforts to rebuild the electricity infrastructure in Iraq. Resources were clearly weighted toward repair and restoration of large generation plants, with little attention paid to local distribution.¹⁷ This approach had two negative consequences: local residents did not see any sign of visible progress, and even when generation capacity was increased, they did not receive any improvement in electricity because their decrepit networks could not get it to their homes.

This was exactly the situation in Baghdad in spring 2004, when 1CD began its yearlong tour. Residents of our districts were receiving an average power schedule of two hours on, four hours off - far less than the days under Saddam Hussein when Baghdad enjoyed nearly full electrical service at the expense of the rest of Iraq. While large construction projects at Baghdad

South and Taji generation plants moved forward, the people did not see any improvement or progress in their neighborhoods, and a year after the liberation began to question the coalition's intent. It took until late 2004 to develop, fund, and award contracts for local power distribution in the worst parts of our districts, and therefore the power schedule still had not improved by the time we left Iraq in March 2005. Clearly, the lack of an integrated master plan for power generation, transmission and distribution is one of the root causes that Baghdad residents have not seen appreciable improvement in their power in the nearly four years since the liberation.

A synchronized master plan, with flexibility to incorporate foreign assistance, would have allowed senior leaders to make sensible decisions on where to spend money. The rebuilding of a nation as large as Iraq, with years of neglected infrastructure investments, requires incredible financial resources. A master plan would have facilitated informed decision making. In Iraq, coalition leaders were faced with competing demands for allocation of available funds, with local commanders, Iraqi leaders, ministry officials and even U.S. politicians vying for funds.¹⁸ The lack of an integrated master plan hampered decision making and led to inefficient use of available money.

Finally, the reconstruction of Iraq was hindered by the lack of benchmarks and metrics to accurately measure progress. As in most post-conflict situations, progress in Iraq was difficult to evaluate in light of continued hostilities, political upheaval and ethnic divisions. However, as the CSIS/Association of the United States Army (AUSA) bipartisan commission on post-conflict reconstruction found, it is critical to establish measures of success "at the beginning of a mission and evaluate progress constantly in order to manage expectations and facilitate transitions from one phase of an operation to the next."¹⁹ Efforts to judge progress in Iraq have been lost somewhere between rumors and exaggerated lists of accomplishments. The failure to establish a systematic method of measuring progress at the outset caused an almost total reliance on the media and individual reports. U.S. government assessments tend to focus on inputs into the rebuilding, such as the amount of money spent on a project.²⁰ Although the SIGIR, established in late 2003, has certainly provided objective analysis and evaluation, their relatively small staff is no substitute for a comprehensive program of benchmarks and metrics to measure progress of reconstruction.

Thus, nearly four years after the liberation of Iraq and the investment of nearly \$24 billion, the reconstruction of critical infrastructure and restoration of essential services across Iraq has fallen far below goals and expectations. While there have been individual successes and definite progress, the failure to conduct an initial assessment of Iraqi infrastructure, the lack of a master plan for rebuilding, and the lack of a system to gauge progress seriously hampered the

coalition's efforts. Although insurgents and terrorists have been successful in creating an environment that has significantly detracted from rebuilding efforts, the lack of security alone cannot be blamed for the lackluster reconstruction. More disturbingly, the lack of real progress in improving the basic services and quality of life for Iraq citizens has undoubtedly contributed to the popular support for the insurgency, as the people lost faith in the coalition and their new government, and cast their support elsewhere.

A Better Way

Our recent experience in the reconstruction of Iraq holds many lessons for the conduct of stability operations in the future. When and where the United States government (USG) is called upon to help rebuild another country we would be wise to learn from our mistakes in OIF. A lesson is not learned until specific changes are made to doctrine, organization, training, leader development, materiel, and/or Soldiers. The goal of this paper is to assist future leaders in learning the reconstruction lessons leading to specific changes now that will result in greater success in restoring essential services in the future.

The recently published DOD Directive (DODD) 3000.05 defines stability operations as a core military mission, meriting a priority "comparable to combat operations."²¹ Stability operations follow combat operations, starting after military control and dominance are achieved. The initial goal of these operations is to establish order- providing the population with security, restoring essential services, and meeting humanitarian needs. In the long-term, stability operations must foster a nation's self reliance in delivering basic services, developing a viable economy, and governance. Joint Pub 3.0 describes stability operations as: "missions, tasks, and activities to maintain or reestablish a safe and secure environment and provide essential governmental services, emergency infrastructure reconstruction, or humanitarian relief," and directs Joint Force Commanders to integrate and synchronize these activities with offensive and defensive operations.²²

In order to organize reconstruction tasks and activities, and present logical recommendations, this paper will utilize the framework of stability operations introduced in DODD 3000.05 and further developed in the AUSA Torchbearer National Security Report on the U.S. Army's role in stability operations. Joint and Army doctrine on stability operations, outdated and in need of rewrite in light of recent experiences in Iraq and Afghanistan, do not provide enough detail for a useful construct.²³ The AUSA report, however, provides an excellent framework in its development of the four phases of stability operations given in DODD 3000.05: stabilizing, securing, transitioning and reconstructing (SSTR).²⁴

The initial phase of stabilizing includes activities taken to manage underlying tensions; to prevent or halt the deterioration of security, economic and/or political systems; to establish stability in a nation or region; and to establish the prerequisites for reconstruction efforts. The securing phase includes establishing a safe and secure environment for the local populace, indigenous military and civilian organizations and the U.S. agencies that are performing operations. Transitioning is the phase when lead responsibility and authority for helping provide or foster security, essential services, humanitarian assistance, economic development and political governance changes from the U.S. military to the U.S. civilian agencies, and then from the U.S. civilian agencies to the indigenous government. Transitions are event-driven and will occur at that point when the group assuming the lead responsibility has the capability and capacity to carry out the relevant activities. The final phase of reconstructing is the process of rebuilding degraded, damaged or destroyed political, socioeconomic and physical infrastructure of a country or territory to create the foundation for long term success and development. This is preferably a civilian-led effort and includes addressing the root causes of the conflict to achieve sustainable peace.²⁵

Numerous organizations and players have an important role in stability operations, including the military, host nation, USG agencies, international organizations (IO), coalition governmental organizations, non-aligned governments, and non-governmental organizations (NGO). As shown in Figure 1, the military plays the dominant role during the initial phases of stabilizing and securing a nation or region, but then ideally begins to transfer responsibilities to USG agencies and NGOs during the transitioning phase and ultimately the host nation assumes primary responsibility during the reconstructing phase of stability operations. Although “U.S. military forces shall be prepared to perform all tasks necessary to establish or maintain order when civilians cannot do so,” the long term goal is to develop within the host nation the “indigenous capacity for providing essential services, a viable market economy, rule of law, democratic institutions, and a robust civil society.”²⁶

Within the USG it is essential to know who is responsible for stability operations and reconstruction. The ISG concluded that not only was interagency coordination of assistance programs in Iraq poor, but that there were “no clear lines establishing who was in charge of reconstruction.”²⁷ In December 2005, the Bush administration issued National Security Presidential Directive 44 (NSPD-44) to improve the management of U.S. efforts for reconstruction and stabilization. It gave the Secretary of State responsibility to lead and coordinate these missions with other agencies, including DOD, and created the State Department’s Office of the Coordinator for Reconstruction and Stabilization (S/CSR). The

S/CSR's mission is to lead, coordinate and institutionalize U.S. government civilian capacity to prevent or prepare for post-conflict situations, and to help stabilize and reconstruct societies in transition from conflict or civil strife, so they can reach a sustainable path toward peace, democracy and a market economy.²⁸

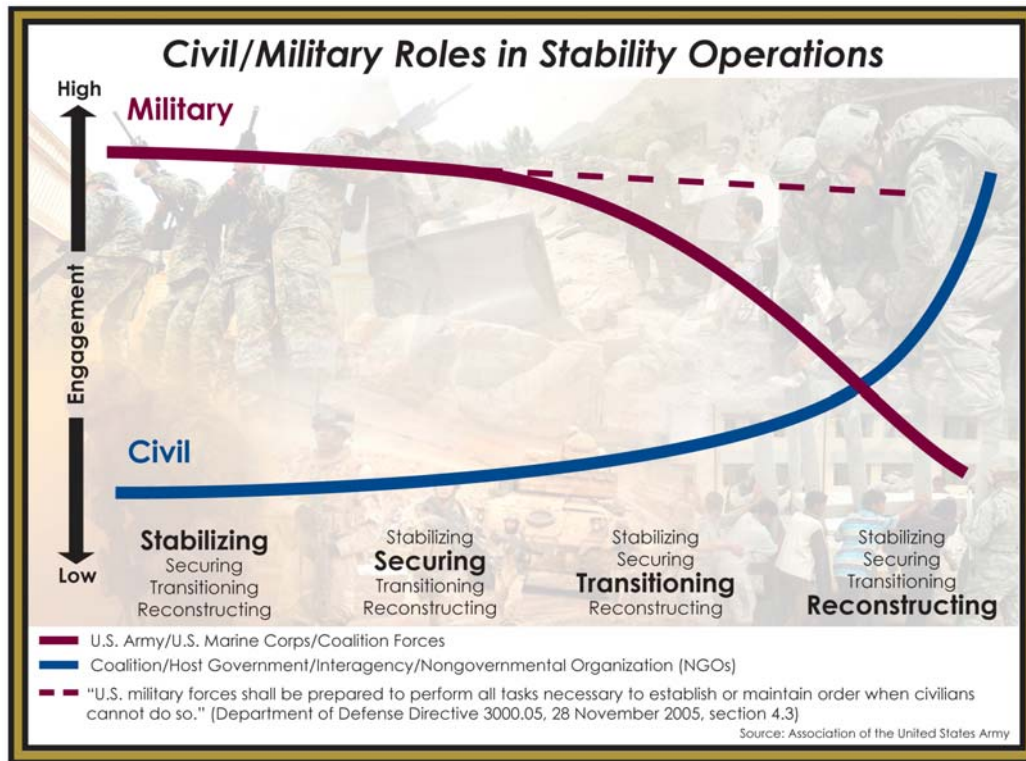


Figure 1: Four Phases of Stability Operations²⁹

Thus, it is now clear that the military will pass lead responsibilities for reconstruction to the Department of State (DOS), and then assume a supporting role. The exact timing of this transition will be determined by the Commander-in-Chief and will certainly be a direct function of the military's success at stabilizing and securing the nation or region during the initial phases.

In considering how to best restore essential services as part of stability operations, there are key tasks and functions that the military, USG agencies, NGOs, and host nation must perform in each of the four phases. Initially under DOD leadership, and then transitioning to DOS, it is critical that all players are synchronized and work together to set the conditions for successful reconstruction.

During the initial **Stabilizing Phase**, the military, in conjunction with the host nation, must identify, protect, and repair critical infrastructure while conducting preliminary assessments of the condition of essential services. Key infrastructure to be evaluated includes important sewer, water, electricity, and trash collection (SWET) facilities and nodes, along with hospitals, police

and fire stations, transportation hubs, and oil facilities. The initial priority for this phase is to identify infrastructure that was damaged during combat operations, and repair it with military engineers, civilian contractors, or host nation capabilities. Next, specific steps must be taken to protect critical sites from looting and sabotage using military manpower or civilian security forces. Preventing damage to important infrastructure will save time and money later and help prevent the interruption of basic services to the people.

Since military units may be technically limited and also responsible for a myriad of other important tasks, it is imperative to enlist the help of local officials. These experts will have a much greater knowledge on the location and criticality of key facilities, and can provide invaluable support. This will also serve as a first step in developing their ownership of reconstruction. Maximum effort must be made in this phase to identify and meet these key leaders. Military forces should also begin initial assessments of the condition of essential services as early as possible in SSTR, harnessing the host nation expertise. Co-opting local engineers and officials, along with military engineers and civil affairs (CA) teams, leaders should begin the important work of assessing the condition of the local infrastructure.

S/CSR and DOD should pre-identify an assessment team, comprised of engineers and technical experts, to conduct infrastructure assessments. The USG can` move this team into the host nation as soon as possible after the conflict, but no later than the end of the stabilizing phase. As in previous U.S. reconstruction efforts in Bosnia, Kosovo, and Afghanistan, one of our downfalls was the inability to quickly assess the condition of Iraqi infrastructure, due to the lack of a pre-organized assessment team.³⁰ The U.S. Corps of Engineers (USACE) is an excellent source of this expertise, with many who served in Iraq and Afghanistan during the past several years. USACE is also well suited to provide command and control for assessment teams, as well as oversight for reconstruction. The engineers may also be provided by other nations if stability operations are conducted under the UN.

The USG must conduct detailed infrastructure assessments during the **Securing Phase** of stability operations, while working to demonstrate visible progress to the host nation population. It is imperative that the S/CSR and DOD engineers, who arrived into theater during the stabilizing phase, link-up with military units and the host nation officials, in order to conduct a thorough evaluation of the nation's infrastructure. The full participation of local engineers and officials is vital to a successful assessment. This evaluation will lead directly to a strategic master plan for rebuilding, so it must be comprehensive and detailed. As USAID administrator Anthony Natsios aptly states in a 2005 Parameters article on reconstruction and development, beginning to rebuild without proper assessments is "comparable to initiating a major military

campaign against a determined adversary with no military intelligence: it is a recipe for failure.”³¹
The evaluations will also be used to validate pre-war planning assumptions.

The military’s role in this phase is to support and assist the assessment process, while continuing to protect and repair critical infrastructure. Military leaders will play an important role in facilitating the success of the assessment team. They must orient the engineers to the host nation’s infrastructure, share results of initial evaluations, and link them up with local and national officials for the comprehensive assessments. The linkage with host nation engineers and officials will lead to a successful reconnaissance and further develop the sense of ownership in the host nation.

Maximum effort should be made during this phase to show progress to the local population. There is no doubt that the people’s expectations for reconstruction will be high, as they have probably suffered with insufficient basic services, and they will look to the U.S. and/or coalition forces for quick results. As we learned in Iraq, the inability to deliver visible improvements in quality of life may set the conditions for insurgency. The use of host nation contractors and workers on projects to repair critical infrastructure started in the stabilizing phase, as well as careful integration of information operations, will serve to demonstrate progress to the people.

The primary goal of the **Transitioning Phase** is to develop, vet, and fund a strategic master plan for reconstruction. Based on the assessments completed in the securing phase, S/CSR and DOD engineers, working in cooperation with host nation officials, must develop an integrated and synchronized master plan. This plan should include national priorities and projects, as well as nested regional and local priorities and tasks. The master plan is the most critical component of reconstruction and restoration of essential services; it must be comprehensive and thoroughly vetted with host nation leaders, elected officials, engineers, and bureaucrats; U.S. and coalition commanders; as well as U.S. political leadership. Agreement and buy-in by all parties will facilitate funding and will avoid the inefficiencies associated with reprogramming and changing priorities. What is needed is a clear vision, with national priorities, that leads to a synchronized plan for reconstruction spending and investment. Other nations, as well as the U.S. Congress, will be much more willing to allocate funding when they are able to see the strategic master plan.

During the Transitioning Phase, the military will continue in its support role, assisting in the development of a master plan, while transitioning responsibility of protecting and repairing critical infrastructure to S/CSR and to the host nation, if possible. The military must fully cooperate and assist in the formulation of the strategic master plan. This will certainly include

review and feedback by local commanders, as well as facilitating cooperation and partnership between the USG and the host nation for reconstruction.

It is in the **Reconstructing Phase** of stability operations that the majority of infrastructure rebuilding is performed. In accordance with the strategic master plan, projects are funded and contracted for construction. The goal of this phase is to fully develop a sense of ownership in the host nation officials, building the capacity to transition and sustain the work after completion.

Careful consideration must be taken in the contracting process with regard to who is awarded the rebuilding projects. One of the lessons from our recent experience during OIF is that giving contracts to U.S. and other non-Iraqi companies proved counterproductive in our reconstruction and counterinsurgency operations. Contracting decisions served to make the Iraqis nothing more than “an audience to the massive U.S. efforts at reconstructing their country,” resulting in the loss of potential jobs, the flow of profits out of Iraq, and minimizing the “potential for Iraqi ownership of reconstruction.”³² Although this is a controversial subject, particularly when U.S. appropriated funds are being used, our experience in Iraq teaches us that maximum effort should be made to award rebuilding projects to host-nation contractors that will employ host-nation workers. This approach will support reconstruction by putting people to work, making them less likely to support an insurgency, and by improving the economy by keeping profits in the nation. The ISG reported some recent progress in the use of Iraqi contractors, which resulted in “employment of more Iraqis in reconstruction projects.”³³

During my recent experience in leading and coordinating reconstruction efforts in Baghdad, our battalion developed some useful techniques for involving Iraqis in the rebuilding efforts. All rebuilding projects were widely publicized for proposals, which typically produced several Iraqi and foreign bids. Bid proposals were then reviewed by a selection committee, comprised of U.S. military, Iraqi engineers, and locally elected officials using selection criteria previously agreed upon. The committee voted in order to make a recommendation to the brigade or division commander, who had final approval authority based upon project cost and funding source. Once the construction was started, the same committee provided project oversight, holding regular meetings to review progress and solve such problems as local security, public relations, and hiring of local laborers.³⁴

In order to improve the sustainability of newly repaired and rebuilt infrastructure, USG and host-nation leaders must plan for turnover and transition during this final phase of stability operations. This critical task may involve the creation or reorganization of the essential service bureaucracy - those key people who will operate, maintain and oversee basic services at the city and local level. It also includes training these people to keep the water running and respond

when the electricity goes out. Host nation officials must also allocate adequate funds for operation and maintenance, including employee salaries, and repair parts. A potential solution would be to create partnerships between host-nation cities and U.S. or European cities in public utility and basic services areas.

It is also important that all funds spent on construction projects follow the vision and priorities articulated in the master plan. There will be many good ideas and opposing opinions on how to best spend limited reconstruction funds. Leaders and officials should establish a process to periodically review and modify the master plan, but the vast majority of available funds must be used to support the strategic plan. This recommendation should not preclude funding for local leaders under CERP, a flexible and responsive tool that the ISG found to be highly effective in Iraq.³⁵

Ideally, the military will play a minor role in the actual reconstruction, with USG agencies and the host-nation assuming most of the responsibilities during this phase. If security is good, the military will only assist and support the reconstruction efforts, while continuing to facilitate partnership in reconstruction and ownership by the host nation. If security deteriorates, however, the military will play a more active role, in coordination with local security forces, to maintain conditions favorable for rebuilding and in protecting critical infrastructure.

In summary, success in stability operations and reconstruction is a shared responsibility amongst the military, USG agencies, NGOs, and the host nation. Together, they must accomplish the key tasks and functions shown in Table 1 in order to protect, repair, and rebuild the infrastructure and provide essential services for the people. Initially under DOD leadership, and then passing to DOS and finally to the host nation, it is critical that all players are synchronized and work together to achieve a successful reconstruction during the four phases of SSTR.

Measuring Progress

The final shortcoming in efforts rebuilding Iraqi infrastructure was the lack of a systematic way of gauging progress. Leaders and officials have tended to judge progress based on projects started, funds committed, and even work completed, rather than on improvements seen by locals.³⁶ With the exception of electricity, where the number of hours of power received each day was a useful metric, other essential services lacked a comprehensive way to measure the impact of reconstruction on Iraqi people.³⁷ When and where the USG is called upon to help rebuild another country we should learn from this error and establish a system of metrics that

will allow leaders to measure progress based on improvements to basic services, both at the local and national levels, in cooperation with host nation officials and engineers.

	Stabilizing
GOAL	Protect and repair critical infrastructure
CRITICAL TASKS	Identify critical infrastructure Repair damaged infrastructure Protect critical infrastructure Move infrastructure assessment team into theater Identify and meet key HN engineers and officials
	Securing
GOAL	Conduct detailed infrastructure assessments
CRITICAL TASKS	Repair damaged infrastructure Protect critical infrastructure Enlist help of key HN engineers and officials in rebuilding Conduct detailed infrastructure assessments Show visible progress to HN Maximize jobs for HN
	Transitioning
GOAL	Develop and vet strategic master plan
CRITICAL TASKS	Protect critical infrastructure Involve HN officials in project development Develop strategic master plan for infrastructure reconstruction Vet master plan with key US and HN leaders to gain concurrence Show visible progress to HN Maximize jobs for HN Fund strategic master plan Develop metrics to measure progress
	Reconstruction
GOAL	Execute reconstruction master plan
CRITICAL TASKS	Protect critical infrastructure Establish project contracts Maximize contracts and jobs for HN Involve HN officials in contractor selection Involve HN officials in project oversight Plan for project transition to HN Establish process to review/modify master plan Establish process to review progress using metrics

Table 1. Reconstruction Goals and Critical Tasks by Phase³⁸

Research by International Security Program fellow Craig Cohen and the U.S. Institute of Peace, as well as Frederick Barton and Bathsheba Crocker, co-directors of the CSIS Iraq Post-Conflict Reconstruction Project, were considered. Both offer solid methodologies for measuring progress in reconstruction. Cohen recommends building metrics around four central tasks: governance and participation; security; justice and rule of law; and social and economic well-being. He urges the USG to invest in building its capacity to measure progress; to be public and transparent in assessments, using a mix of independent agents and internal staff; and for decision makers to periodically review progress and make course corrections as required.³⁹

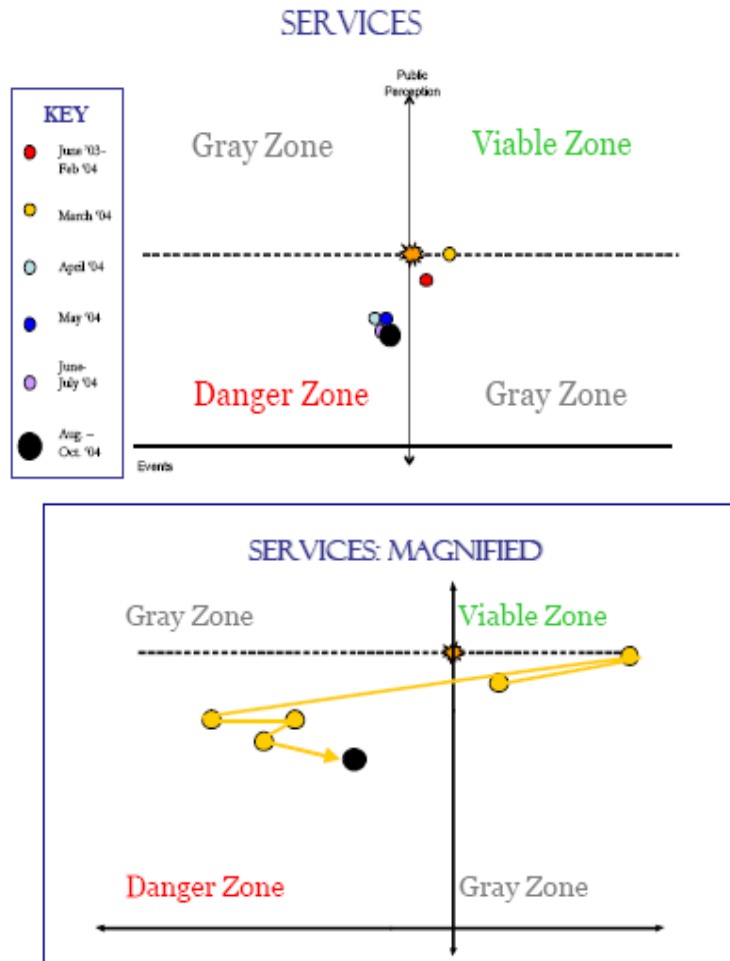


Figure 2. Example of Barton and Crocker's Method to Measure Progress in Iraqi Reconstruction⁴⁰

Barton and Crocker offer a more practical approach, based on their yearlong study in Iraq. Their method centered around five sectors that contribute to a successful end-state: security, governance and participation, economic opportunity, services, and social well-being. In order to evaluate each sector the study group collected data from a wide-range of sources to answer a series of simple questions. In the services area, for example: *I have access to basic services, such as power, water and sanitation.* The research team collected inputs from 60 media sources, 17 public and official sources, 16 polls, and close to 400 interviews over a 12-month period across Iraq. As shown in Figure 2, Barton and Crocker present the results graphically, showing changes over time across quadrants representing viable, gray, and danger zones. In addition, the researchers define a tipping point for each sector which they define from the perspective of the Iraqi citizen: "Where Iraqis themselves could continue to drive their country's rebuilding without continued extraordinary assistance from the international community, particularly the United States."⁴¹ See Figure 3 for a graphical portrayal of this approach.

The methodology developed by Barton and Crocker offers several advantages and is recommended for use in future post-conflict reconstruction efforts. By drawing on a wide range of data sources, this approach provides a high assurance of accurately representing the ground truth. It also relies heavily on feedback from the people - those whose lives reconstruction efforts are focused on improving. The inclusion of tipping points for each sector aids in situational understanding of the real progress in the rebuilding efforts. Regardless of method adopted, however, it is imperative that USG and HN leaders develop a comprehensive way to gauge progress in reconstruction during the transitioning phase of SSTR, leading to regular progress reviews during the execution of the rebuilding effort.

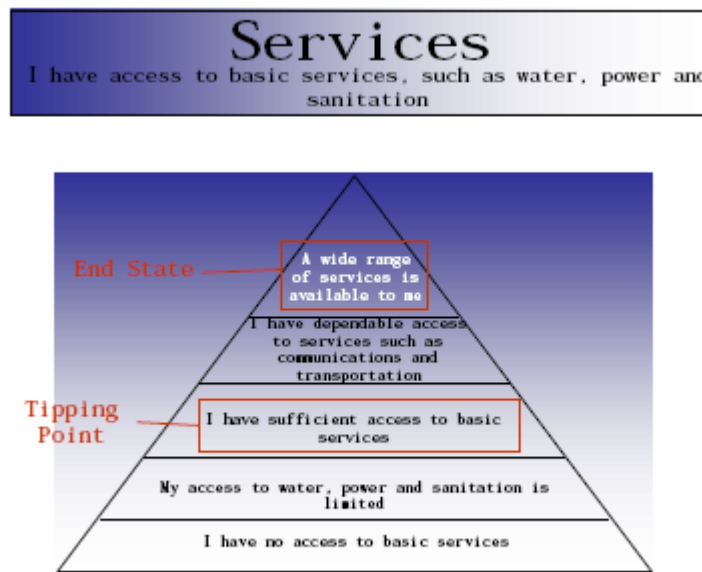


Figure 3. Iraqi Reconstruction- Endstate and Tipping Point for Services⁴²

Conclusion

Nearly four years after the liberation of Iraq and after the investment of nearly \$24 billion, it is clear that the U.S.-led rebuilding effort has fallen short of expectations and not accomplished most of its goals with respect to restoration of essential services, nor contributed enough to achieving U.S. strategic objectives. While the lack of security certainly had a major impact on reconstruction, the lack of progress cannot be attributed to AIF and insurgent activity alone. Our failure to conduct a comprehensive initial assessment of Iraqi infrastructure; the lack of a master plan for rebuilding; and the absence of benchmarks and well defined metrics to gauge progress hamstrung the coalition’s rebuilding effort.

When and where the United States is called upon to help rebuild another country we would be wise to learn from our mistakes in OIF. Recently issued NSPD-44 gives the Secretary of State

responsibility to lead and coordinate reconstruction activities through the newly established S/CSR. Thus, it is now clear that the military will pass lead responsibilities for reconstruction to the DOS, and assume a supporting role. The exact timing of this transition will be determined by the Commander-in-Chief and will certainly be a direct function of the military's success at stabilizing and securing the nation or region during the initial phases.

In conjunction with emerging joint and Army doctrine on stability operations, this paper has identified specific goals and critical tasks that the USG must accomplish during the stabilizing, securing, transitioning and reconstructing phases of stability operations. Essential to accomplishing all of these is an early and sincere effort to get host nation engineers and officials involved in the rebuilding of their country. In order to facilitate long term success and develop ownership in the host nation, these experts must be involved in all aspects of reconstruction, including conduct of initial infrastructure assessments; development of the strategic master plan; execution of reconstruction, to include being given priority in contract awards; and development and application of metrics to review progress.

Based upon recent experiences in nation building, it is evident that the U.S. military plays a critical role during post-conflict stability operations, contributing to the overall goal of achieving long term security, and thereby helping to secure our overall strategic interests. With the potential for commitment of billions of dollars to infrastructure reconstruction and restoration of basic services, we should apply the lessons of Operation Iraqi Freedom and take a comprehensive, integrated approach to reconstruction operations: we need a master plan.

Endnotes

¹ James Dobbins, *America's Role in Nation Building: From Germany to Iraq* (Santa Monica, CA: The Rand Corporation), 1.

² National Research Council, *Infrastructure for the 21st Century* (Washington, D.C.: National Academy Press, 1987), 4.

³ Ed Harriman, "So Mr. Bremer, Where Did all the Money Go?" *The Guardian*, 7 July, 2005, 1.

⁴ Development Fund for Iraq Statement of Cash Receipts and Payments for the period from 1 January 2004 to 28 June 2004 with Independent Auditors' Report, KPMG, 30 September 2004; available from <http://www.iamb.info/auditrep/CashReceipt101204.pdf>.

⁵ Iraq Relief and Reconstruction Fund 1 established under P.L. 108-11 (16 April 03) for \$2.48B and Iraq Relief and Reconstruction Fund 2 established under P.L. 108-106 (6 November 03) for \$18.44B.

⁶ Special Inspector General for Iraq Reconstruction (SIGIR) Iraq Reconstruction Timeline, October 2006; available from <http://www.sigir.mil>.

⁷ SIGIR Report to Congress, October 30, 2006, 21.

⁸ *Ibid*, 35.

⁹ Peter Baker, "Bush Cites Setbacks in Rebuilding the US; President's Account is Unusually Candid," *Washington Post*, December 8, 2005, 3.

¹⁰ Griff Witte, "Despite Billions Spent, Rebuilding Incomplete," *Washington Post*, November 12, 2006, 2-3.

¹¹ Iraq Study Group (ISG) Report, 6 December 2006, 6; available from http://www.bakerinstitute.org/Pubs/iraqstudygroup_findings.pdf.

¹² Onur Ozlu, "Iraqi Economic Reconstruction and Development," 21 April 2006, 61; available from http://www3.telus.net/raincoastmarine/060421_onuriraqireconstruct.pdf.

¹³ General Peter W. Chiarelli and Major Patrick Michaelis, "Winning the Peace: The Requirement for Full-Spectrum Operations," *Military Review*, July-August 2005, 6.

¹⁴ Ozlu, 66.

¹⁵ L. Paul Bremer, "The Iraqis Must Step Up To The Plate," *Wall Street Journal*, 11 January 2007, 15.

¹⁶ Frederick Kagen, "Choosing Victory: A Plan for Success in Iraq," American Enterprise Institute, 18 December 2006, 35; available from http://www.aei.org/publications/pubID.25292/pub_detail.asp.

¹⁷ SIGIR Report to Congress, 21.

¹⁸ Major General Ron Johnson, 17 October 2006 presentation, Carlisle Barracks, US Army War College.

¹⁹ Center for Strategic and International Studies (CSIS) and Association of the US Army (AUSA), "Play to Win," Final Report of the Bipartisan Commission on Post-Conflict Reconstruction, January 2003, 8; available from <http://www.ausa.org/PDFdocs/PCRFinalReport.pdf>.

²⁰ Center for Strategic and International Studies (CSIS), "Progress or Peril? Measuring Iraq's Reconstruction," 1 October 2004, 4; available from http://www.csis.org/component/option,com_csis_pubs/task,view/id,499/.

²¹ Department of Defense Directive (DODD) 3000.05, 28 November 2005, 2.

²² Chairman, Joint Chiefs of Staff, *Joint Operations*, Joint Pub 3-0 (Washington, D.C.: Chairman, Joint Chiefs of Staff, 17 September, 2006), V-1.

²³ The Army's doctrine on stability operations, found in FM 3-07, *Stability and Support Operations* (Feb 2003), is outdated. FM 3-0, *Operations* (June 2001) and Joint Pub 3-0, *Joint Operations* (Sep 2006) both address stability operations, but not in sufficient detail.

²⁴ DoDD 3000.05, 2.

²⁵ AUSA Institute of Land Warfare, "The U.S. Army's Role in Stability Operations," October 2006, 14; available from <http://www.ausa.org/PDFdocs/TBSecRpt/TB-StabOps.pdf>.

²⁶ DoDD 3000.05, 2.

²⁷ ISG Report, 23.

²⁸ *The Office of the Coordinator for Reconstruction and Stabilization Home Page*, available from <http://www.state.gov/s/crs>.

²⁹ AUSA Report, 8.

³⁰ Garland Williams, *Post Conflict Reconstruction: On the Critical Path to Long-Term Peace*, Strategy Research Project (Carlisle Barracks, PA, 7 April 2003), 252.

³¹ Andrew S. Natsios, "The Nine Principles of Reconstruction and Development," *Parameters*, Autumn 2005, 12.

³² Ozlu, 78.

³³ ISG Report, 24.

³⁴ Brian Dosa Brian Davis, Brad Morgan, "Rebuilding Baghdad: An Engineer Battalion's Contribution," *Engineer*, April-June 2005, 13.

³⁵ *Ibid*, 59.

³⁶ Craig Cohen, "Measuring Progress in Stabilization and Reconstruction," *United States Institute of Peace Stabilization and Reconstruction Series*, No. 1, March 2006, 1.

³⁷ Ozlu, 75.

³⁸ Table developed by author.

³⁹ Cohen, 9.

⁴⁰ Center for Strategic and International Studies (CSIS), "Progress or Peril? Measuring Iraq's Reconstruction- Iraq Update," 12 November 2004, 3; available from http://www.csis.org/component/option,com_csis_pubs/task,view/id,1231/.

⁴¹ Center for Strategic and International Studies (CSIS), "Progress or Peril? Measuring Iraq's Reconstruction," 1 October 2004, 9; available from http://www.csis.org/component/option,com_csis_pubs/task,view/id,499/.

⁴² *Ibid*, 56.