

**STRATEGY  
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**CURRENT ARMY TRANSFORMATION POLICY:  
THE ANSWER AND DEPLOYABILITY CHALLENGES  
IN THE 21<sup>ST</sup> CENTURY?**

BY

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**LIEUTENANT COLONEL JAMES F. BOWIE  
United States Army**

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USAWC STRATEGY RESEARCH PROJECT

**Current Army Transformation Policy: The Answer and Deployability Challenges in the 21ST  
Century?**

by

Lieutenant Colonel James F. Bowie  
United States Army

CDR Robert O. Kedney, USN  
Project Advisor

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

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## ABSTRACT

AUTHOR: LTC James F. Bowie

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This project examines the current Army Transportation policy and associated strategic deployability challenges. An analysis of the current policy is provided to determine if it is the answer to countering and defeating the likely future asymmetric threats on U.S. soil and abroad in the 21st century. Finally, the project identifies and examines significant deployability challenges affecting Army Transformation that senior leaders must acknowledge as significant, provide firm support and sufficient investment to resolve early in the 21st century.

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## **CURRENT ARMY TRANSFORMATION POLICY: THE ANSWER AND DEPLOYABILITY CHALLENGES IN THE 21ST CENTURY?**

### **PURPOSE**

To support the Nation's efforts in satisfying future national security requirements at home and abroad, this strategy research project will analyze the current Army Transformation policy, examine two potential alternatives, and conclude with a recommendation. In addition, this document will identify and examine significant deployability challenges affecting Army Transformation in the 21st century that senior leaders must acknowledge as significant, provide firm support, and sufficient resource investment.

### **BACKGROUND**

The current Army policy, effective October 1999, mandates "the Army's course over time to evolve into the Objective Force while remaining trained and ready to meet its National Military Strategy requirements."<sup>1</sup>

Since the end of the Gulf War, U.S. strategic leaders have indeed recognized that the security needs of America have changed.

At the end of the 1990s, senior military and civilian defense officials also began to stress the concept of asymmetry. According to Secretary of Defense Cohen, U.S. dominance in the conventional military arena is encouraging adversaries to seek asymmetric means for attacking U.S. forces and interests overseas and Americans at home.<sup>2</sup>

Strategic leaders acknowledge that the Army must change to meet and defeat asymmetric warfare (a range of threats) resulting from the complex and uncertain global security environment of the 21st century. This is in accordance with fulfilling the intent of Congress and the requirements of section 3062, title 10, United States Code. "The Army is a dynamic organization that must constantly change to adapt to changing threats to the nation's security and to the assignment of new missions that promote our country's interests at home and abroad."<sup>3</sup>

The Army Chief of Staff thus endorsed the current policy for change (Transformation) in his 12 October 1999 annual speech to the Association of the United States Army (AUSA). The National Security Strategy (NSS) defines transformation as "taking prudent steps to position us to effectively counter unlikely but significant future threats-particularly asymmetric threat."<sup>4</sup> The transformation initiative began at a time of relative global peace and stability. The Army Chief of Staff then proposed transformation of the entire Army into the Objective Force (final phase of transformation) while maintaining a Legacy Force to respond to current missions. The Legacy

Force will transform directly to the Objective Force and the Interim Force will follow over the course of 15 to 20 years.<sup>5</sup>

## **CURRENT ARMY TRANSFORMATION POLICY: THE ANSWER?**

### **ANALYSIS**

The Army Transformation concept is to sustain the Legacy Force with modernized systems and ensure this force guarantees our near-term warfighting readiness. The transformation concept began with the fielding of two Initial Interim Brigade Combat Teams (IBCT) as the first step toward the Interim Force. This will give the Army an enhanced capability for operational deployment, meanwhile transforming the remaining Legacy Forces directly into a strategically responsive Objective Force (endstate). To support this policy, "Congress provided initial funding of over \$7.6 billion in defense spending for six of the eight IBCTs needed out through fiscal year 2007."<sup>6</sup>

Is the Army's current Transformation policy the answer to countering and defeating the likely future asymmetric threats on U.S. soil and abroad, such as, nuclear, chemical, biological, information operations, operational concepts, terrorism? The last asymmetric threat, one analyst points out, "is the one that we cannot even envision: the wildcard,"<sup>7</sup> perhaps most risky. The Army's core competency remains fighting and winning our Nation's wars; however, it must also be capable of countering and defeating asymmetric threats.

What decisions must our senior leaders make to ensure the Army is best positioned in the near-term (2001-2006), the mid-term (2006-2012), and the long-term (2012-2032)?

The U.S. will benefit from reexamining the current policy and then considering option #1, to eliminate transformation and option #2, to reduce the scope of transformation and redirect resources.

The current policy advocates continuing America's investment in Army Transformation. This process will modernize, sustain and recapitalize a Legacy Force, while transforming the rest of the Army into the Objective Force, one capable of meeting a greatly accelerated deployment timeline.

Developing the Interim Force, Initial/Interim Brigade Combat Team, ensures mid-term investment while organizing and equipping to operate in the long-term with the Legacy Force. "The Interim Force is the centerpiece in the balanced process of getting it right."<sup>8</sup> The IBCT will be the backbone of the Interim Force. The IBCT will provide rapid deployment anywhere in the world within 96 hours, a full division in 120 hours and five divisions on the ground within 30 days. Mid-term to long-term, the IBCT will provide the CINC's with an increased warfighting

capability that they do not possess today. The IBCT will off set the aging shortfall of the Legacy Force, which is its inability to deploy ground forces in a timely manner. Consider the lengthy 150-day build-up of combat power during Desert Storm. The IBCT will bridge the gap, as well as provide for the current Legacy Force.<sup>9</sup>

The Legacy Force comprises major combat and support systems that were developed and built in the 1970s and 1980s and includes Active and Reserve components. The Legacy Force guarantees our near-term warfighting readiness to support the National Military Strategy. The current Army forces must be prepared and able to supplement the capabilities of the Objective Force until 2032. However, since deploying systems of the Legacy Force are aging, U.S. focus is sustaining and recapitalizing aging combat and support systems to extend their service life.<sup>10</sup> Equally important is recapitalizing the right equipment to improve efficiency and readiness. Recapitalization is a significant challenge in Army Transformation. It involves selective identification of aging equipment in the Legacy force that will continue to provide a necessary capability in the long-term future. Then through coordination with industry, the Department of Defense will implement a rebuild or remodeling program to extend service life of the aging equipment for another 15 to 20 years. The advantage to this recapitalization process is overall cost reduction (research, development, testing, evaluation, operation, and maintenance) in the near and long-term for sustaining and maintaining aging equipment. Simultaneously, while the rebuilding process is on going, new technology can be added to enhance it capability. Essentially, the force aging equipment is transformed into new equipment with several more years of service life remaining and at the least cost to the government. Other improvements entail technology development involving Force XXI that networks various systems to enable information sharing, called digitization.<sup>11</sup>

Continuing the current policy may allow successful development of the Legacy and overall Objective Forces in the long-term.<sup>12</sup> But under the current policy, the nation is not likely to be positioned to meet near and mid-term threat of primarily homeland security (HLS) at home and other asymmetric threats abroad. Strategic leaders must be willing to accept that risk. Leaders must be willing to accept near and mid-term risk while Army Transformation (Objective Force, the ultimate Army product) unfolds resulting in low to minimum risk in the long-term. The comprehensive transformation plan, during its implementation, will not be without challenges. "Being engaged in many regions of the world in many different ways can cause weaknesses in other places. Dispersion always brings risk. Using the U.S. military in small-scale contingencies (SSC)...risks weakening its ability to fight major wars."<sup>13</sup> Another risk or perhaps "the primary risk of a counter-asymmetry approach is guessing wrong. Ultimately preparing for

the wrong kind of asymmetric threat could be just as dangerous as not preparing at all."<sup>14</sup>  
"Perhaps the solution will be to retain the current strategy, or even enlarge its scope, while better tailoring the future posture to support it."<sup>15</sup>

## OPTIONS.

### Option #1

The tragedy of 11 September does not mean Army Transformation is not the answer. It does mean that the 30-year process has not been in place long enough to establish an effective force to reduce near-term risk.

An alternative to current policy would be eliminating part of the implementation plan for Army Transformation to the Interim and Objective Forces and retaining the viable Legacy (heavy and light) Force with modernized versions of today's system and equipment.

"Right now our heavy forces have limited strategic deployability and our light forces have limited tactical utility,"<sup>16</sup> General Dubik has pointed out. But with increased funding for modernization, recapitalization, carefully selected heavy and light force formations, and increased strategic lift, the Legacy Force will meet the current deployment goal while ensuring the necessary warfighting capability to regional CINCs. The deployment goal for the current Legacy Force deploys 5 1/3 divisions with combat service support to any theater within 75 days. With Department of Defense (DoD) selective decisions when to employ U.S. military forces,<sup>17</sup> the Army can accomplish this without a complete overhaul and without exceeding the defense budget. It is no understatement that, "one the Army's most significant challenges in Transformation is recapitalizing Army systems, but not without huge investments."<sup>18</sup>

The major argument for this option is that despite careful DoD and Quadrennial Defense Review (QDR) 2001 staff planning, transformation will not succeed without an expanded defense budget to remain strong militarily. "Because DoD is not likely to get all the money it wants and arguably may need,"<sup>19</sup> that agency as well as the President and Congress must be careful not to exceed the defense budget ceilings established by the House Concurrent Resolution 84, says a recent guest speaker of the U.S. Army War College, Class of 2002. The House Concurrent Resolution 84 outlines "what the Defense Department and other government entities could spend every year for the next five years, fiscal 1998 through 2002."<sup>20</sup> "If the budget ceiling is exceeded, a disservice is done to other quality projects...one analyst has observed in this regard...they are cancelled or delayed due to Congressional reallocation of resources to maintain the momentum of Army Transformation."<sup>21</sup>

In short, Army Transformation, if completed, will drain the budget. Since October 1999, billion of dollars have been allocated to Army Transformation. As noted in *How the Army Runs: A Senior Leader Reference Handbook (2001-2002)* eight interim brigades are required out through FY 07. To this date, the Army has funded six of the eight. To further the momentum of transformation, 96 percent of Science and Technology (S&T) spending through FY 07 was reprogrammed. This was necessary in order to develop the Objective Force platform and equipment. Eliminating transformation will make available billion of dollars already reprogrammed and appropriated for transformation. For example, research, development, and not to mention the initial procurement cost of over 2700 Interim Armored Vehicles (IAV) for the Interim Force along is in the billions of dollars, per a 29 Oct 2001 presentation on Acquisitioning the IAV. Department of Defense's initial investment was huge and even the General Accounting Office (GAO) has their concerns. The GAO is concerned that this well crafted Army Transformation plan will face many challenges due to the lack of an overarching Defense Department transformation strategy. The most current National Security Strategy published is dated, Dec 1997 and the National Military Strategy, Nov 1997. In the absence of more current documents, the Quadrennial Defense Review 2001 seems to be driving the efforts and actions of senior leaders in the interim. Meanwhile, the department is proceeding solely on the basis of broad guidance rather than a clear understanding of how transformation efforts will fit into an overall scheme, according to a recent General Accounting Office report.<sup>22</sup> In terms of defense spending, these are billions of dollars that could be diverted toward maintaining and sustaining the Legacy Force and defining homeland security as they are under option #2.

In the years ahead, the defense budget will need to grow...pressures for added spending are rising faster than the defense budget is likely to grow...the emerging situation calls for a careful examination of trade space: the realm where difficult yes and no decisions are taken, some improvements are pursued rather than others, and shortfalls are accepted when the risks are deemed tolerable.<sup>23</sup>

This option will be risky in the long-term, but it will free up funding to support near-term and priority investments in HLS using the U.S. Army current Legacy Force.

## **Option #2**

A second alternative to the current policy would be to maintain the on-going Army Transformation, but scale back the concept and redirect resources. This option would focus priority of efforts and resources first on transforming the Army National Guard (ARNG) and Reserve Forces to carry out the primary HLS mission. As second priority, it would continue

technology enhancement to modernize and recapitalize the Legacy Force and develop the Interim Forces.

Since 11 September, the war on terrorism has compelled U.S. senior leaders to focus on more pressing issues than transformation. However, the Department of Defense will be remiss in not pursuing the Army Vision of transformation. This option assumes that, despite current pressures, the Department of Defense and the Army will continue on its road to the Objective Force in the long-term.

In the mean time, "it is both timely and appropriate, therefore, for the U.S. Army to reexamine the issue of homeland defense and to assess whether it possesses the necessary resources to perform its HLS missions while carrying out its other responsibilities under the national security and national military strategies."<sup>24</sup> The Bush administration can no longer cling to the status quo. It needs to seriously consider this option, focus on HLS requirements and changes needed for defense strategy, force posture, and budget. One possible solution is to free up Army Transformation funds, divert those funds towards HLS, and ultimately resource the ARNG and Reserve Forces for the new mission.

"The ARNG's mission and responsibilities must be centered on the protection of homeland critical infrastructure, i.e., political, information/ intelligence, military, and economic."<sup>25</sup> In terms of the role of the ARNG, consider the following: protect the Nation's sovereignty and welfare, respond to chemical, biological, radiological, nuclear, and high-yield explosives, provide military assistance to civil authority, combat terrorism, and counter cyber attacks. To enhance their ability to execute the mission, roles, and responsibilities, it may be necessary to increase troop strength to maintain a primary force for HLS as well as adequate forces to support smaller-scale contingencies and MTW(s) abroad. This will greatly impact an already rising defense budget.

"Senior leaders must initially invest a substantial amount of funds to conduct strategic level wargaming, studies and analysis to further define HLS, threats of the future security environment, and associated military missions."<sup>26</sup> In addition, missions related to local civil authority must be further defined and how to integrate them with military missions. Congress will also need to allocate additional funding to ensure sufficient manning, equipping, training, and facilities are in place for the Reserve and National Guard Forces.

It is conceivable that "long-term DoD support for local and state agencies for consequence management (CM) can come primarily from the Reserve Components, and over time, elements of the Army National Guard may be restructured to reflect this."<sup>27</sup> Consequence management is measures taken to protect public health and safety, restore essential government services, and provide emergency relief to local governments, businesses, and individuals affected by the

adverse consequences of a serious incident. However, "the single recommendation having the greatest potential domestic political volatility, as well as significant fiscal impact, is the recommendation to retool elements of the Army National Guard for the domestic consequence management (CM) threat."<sup>28</sup> But senior leaders must remain open minded, optimistic and consider this option as a viable alternative.

## **RECOMMENDATION.**

Option #2 is the best choice for adoption by the current Bush Administration and the Department of Defense senior leadership. As its primary mission, the Army National Guard and Reserve Forces can best assist civil authorities to provide near-term homeland security. The current Legacy Force, while simultaneously enhancing technology, modernizing and recapitalizing aging systems, will provide increased combat readiness for near-to mid-term asymmetric threats and major theater wars at home as well as abroad.

The 11 September 2001 event has confirmed the need for near-term security. For long-term security, we must continue planning for a transformed Army (Objective Force) to carry this nation throughout the 21st century and beyond.

This option will significantly reduce near-to mid-term risk in homeland security and will thus restore the American people's confidence in the nation and its senior leaders. Senior leaders must continue to emphasize the importance of homeland security in the development of national security and national military strategies. But also reassess current Army Transformation policy, especially as a result of recent events and the uncertain security environment of the future.<sup>29</sup> The paramount objective of Army Transformation should remain to fight and win the Nation's wars, but also with a greater focus at home, as well as abroad. During the reassessment process, senior leaders must consider other essential characteristics and potential challenges requiring firm support, investment, and resolution such as deployability of U.S. armed forces.

## **DEPLOYABILITY CHALLENGES IN THE 21ST CENTURY?**

The Army's most comprehensive transformation plan does not diminish the challenges senior leaders will face in its implementation. "Army Transformation is the most significant change for the Army since World War II, and 11 September 2001 verified the demand for Army Transformation (increased strategic responsiveness) but with a lighter and more lethal force."<sup>30</sup> Whether the U.S. senior leadership's decision is to continue the current Army Transformation concept (status quo) or continue it with adjustments, as previously recommended, significant

deployability challenges lie ahead. These are challenges that require investment today to ensure they are in place when needed tomorrow.

Over the past ten years, the Department of Defense (DoD) and the Army have made significant progress towards increasing strategic responsiveness. However, with the volatile, uncertain, complex, and ambiguous strategic environment of today and the future, dramatic improvements are still required.

Areas of improvement identified in the Army Vision are as follows: deployable, agile, versatile, lethal, survivable, and sustainable. From a logistician perspective, deployability is the most essential for providing the strategic edge, and enhancing strategic responsiveness to ensure forces on time arrival and with the right capability.

Based on the congressionally mandated 1992, Mobility requirements Study (MRS), the U.S. Army has been programming to meet the current "deployment goal to project 5 1/3 divisions with support, in 75 days to the theater of operations."<sup>31</sup>

The Army Vision for Transformation accelerated the current deployment goals. It requires that the Army be able to deploy an Interim Brigade Combat Team (IBCT) anywhere in the world within 96 hours (after lift-off of the first aircraft) to meet and defeat asymmetric warfare, stability and support operations (SASO), and major theater wars (MTW). That capability will be built into a momentum that generates a combat division on the ground within 120 hours and five divisions within 30 days. Due to this greatly accelerated schedule, and the results of several studies and analysis, the Army cannot meet the Vision's deployment goal with its current deployment capability. Therefore, senior leaders must endorse several enhancing challenges to ensure the necessary deployment capability is attained and in place within the next 15 years.<sup>32</sup>

This section will now address specific deployability challenges that strategic leaders can expect to face in the 21st century that will require firm support, decisive decision-making and resolution in the near-term to ensure mid-to long-term success of Army Transformation. This is necessary for the Army's rapid response and support across the full spectrum of the world to fight and win the Nation's wars.

No one challenge provides the solution to ensure attainment of the Vision accelerated deployment goal. Achieving the goal will depend on the following six significant deployability challenges: continuous Joint Infrastructure Working Group efforts, increase maximum on ground at destination Aerial Ports of Debarkation, define and resource a new Army Strategic Mobility Program, procure additional airlift assets, reduce deployment requirements, and improve technology development.

## EXPAND JOINT INFRASTRUCTURE WORKING GROUP EFFORTS.

The Joint Infrastructure Working Group (JIWG) is an Office of the Directorate of Logistics (ODCSLOG) initiative established in October 2000 to improve deployment infrastructure in support of Army Transformation.

The JIWG was lead by Chief, Plans and Operation, Strategy Mobility Division and comprised representatives from the Department of the Army, Air Force, and MACOM staffs. Its charter was to conduct a quick look (two to three days) site survey of the Continent of the United States (CONUS) Power Projection Platforms and Aerial Ports of Embarkation (APOEs). Power Projection Platforms are Army installations that strategically deploy one or more high priority active component brigades or larger and/or mobilize and deploy high priority Army Reserve component units.

In advance of the Army's Interim Brigade Combat Team (IBCT) stationing decisions, the JIWG objectives were to:

- "Assess Army installation and airfield deployment infrastructure requirements for the IBCT,
- Identify, prioritize, estimate cost, and recommend to the Power Projection Council of Colonels infrastructure projects to improve deployment capability, and
- Use estimate cost to establish a new Army Power Projection Program (AP3)<sup>33</sup> to fund deployment requirements in support of Army Transformation. The stated objectives were to ensure a cooperative effort to synchronize Services and Joint programs to support Army Transformation.

It is important that the JIWG efforts be continued, but expanded to include surveying and gathering information from other potential Outside Continent of the United States (OCONUS) APODs.

## INCREASE MAXIMUM ON GROUND AT DESTINATION APODS.

Maintaining a sufficient maximum on ground (MOG) for parking and working at CONUS APOE and a lesser MOG at the destination APOD will limit deployment capability to meet the new deployment goal. Arrival/Departure Airfield Control Group operations at the APOD will be much slower.

A Joint Force operation will require multiple APODs to maintain a continuous flow of scheduled aircraft. This type of operation will require an increase work force on the ground for MOG operations, and possible delays in the commencement of combat operation because some form of Reception, Staging, Onward Movement and Integration must occur for

assembling, organizing and consolidating combat power. There are two types of MOG and both are important to the military's mission. Parking MOG is the total number of aircraft that can be positioned on the ground at an airport at any given time depending on the availability of space. Working MOG is the total number of aircraft that the Air Force has sufficient personnel and equipment to process (load and offload) at an airport at any given time. If the JIWG efforts are expanded, it will provide facts necessary for Army planner's during IBCT stationing decision-making in the future (IBCT #7 possible positioning in the Europe theater), and perhaps preclude delays in deployment and combat operations. It will also provide a credible cost estimate for deployment infrastructure improvements and enhance the probability of obtaining resource allocation in future years Program Objective Memorandum (POM).

#### DEFINE AND RESOURCE A NEW ARMY STRATEGIC MOBILITY PROGRAM.

The Army Strategic Mobility Program (ASMP) is the Department of the Army comprehensive and CONUS-based program funded by the POM to improve deployment readiness. Since 1994, the Department of the Army has invested over \$5 billion in the ASMP program for procurement of containers, railcars, watercraft development, equipment prepositioning, deployment automation systems, doctrine upgrade and Sea Emergency Deployment Readiness Exercises. Over \$800 million was invested in Military Construction Army funds to enhance deployment infrastructure upgrade at CONUS power projection platforms (15 installations, 14 airfields, 17 strategic seaports, and 11 ammunition plants and depots). Upgrades focused on deployment command and control centers, departure airfields, road network, railheads, storage and container handling and seaport facilities. ASMP funding is scheduled for completion in fiscal year 2003.

Army Transformation and its long-term transitioning process identified the need for a new ASMP like program to support newly developed requirements beyond 2003. In April 2001, the Army Power Projection Program was developed in name only to succeed ASMP. There was no funding allocated to this program, but it will require significant investment focusing initially on the IBCT deployment, and ultimately on the mobility of Objective Force units. This program is required to sustain Army Transformation deployment requirements through the next 15 to 30 years. It is paramount that senior leaders and Army staff planners thoroughly examined this new program to identify the necessary components or funding lines and establish approved projects for funding consideration in the future POM 04-09.<sup>34</sup> The following components are recommended for the new Army Power Projection Program: deployment outload requirements to support Transformation that consist of infrastructure upgrade for road and rail networks, Army

Airfields, and Ammunition and seaport facilities. These components should also include CONUS as well as OCONUS requirements to improve deployment capability.

It is imperative that this new program be closely coordinated with the following agencies: Major Subordinate Commands (MACOMs) for Transformation projects, the Office of the Assistant Chief of Staff for Infrastructure Management (OACSIM) for military construction guidance, the Office of the Deputy Chief of Staff for Programs for requirements and prioritization, and the Office of Army Program, Analysis and Evaluation (PA&E) for funding guidance.

The recommended metrics or future actions involving the Army Power Projection Program are the following: FY03, obtain Army funding for the "initial cost estimate (\$136 million) identified by the JIWG"<sup>35</sup> and JIWG complete additional installation survey and assessments, FY04, obtain funding approval in POM 04-09 for all deployment enablers, FY10, recommended deployment infrastructure completed or in place to support IBCT 96 hours deployment, and FY14, sufficient funding in approved in the new Army Power Projection Program to support one division deployment in 120 hours and 5 divisions in 30 days.

The current ASMP program is not resourced for Army Transformation. It is essential that the new Army Power Projection Program receives dedicated support, investment, and obtains validated requirements to ensure appropriations in the next POM 04-09. It is also important that the new program support OCONUS as well as CONUS deployment requirements. If investments are not provided today to posture the Army's transforming force to meet the Vision's deployment goal, the Army will find itself with a transformed force that cannot rapidly deploy. Subsequently, rendering the Department of the Army's efforts in vain and the Interim and Objective Forces irrelevant.

#### **PROCURE ADDITIONAL AIRLIFT ASSETS.**

Sufficient strategic airlift assets in support of the current Army Transformation concept is indeed a deployability challenge and a shortfall that the nation's senior leadership must resolve in the 21st century.

Army Transformation is the most significant change for the Army since World War II, and September 11, 2001 verified the demand for Transformation-an agile and lethal force with increased strategic responsiveness.

Over the past ten years, the Department of Defense (DoD) and the Army have made significant progress towards increasing strategic responsiveness by enhancing the capability of the Army Strategic Mobility Triad (airlift, sealift and preposition). For a CONUS based Power

Projection Army, airlift is most essential in the initial stage of any conflict to provide the strategic edge by projecting decisive combat power to ensure forces on time arrival into the theater(s) of operation.

However, due to the Vision's accelerated deployment goal and constantly increasing deployment requirements, insufficient airlift assets exist to support Army Transformation.

The Army's initial efforts toward successfully meeting the Army Transformation deployment goal began by supporting the Mobility Requirement Study-2005 (MRS-05) recommendation to expand C-17 acquisition. But additional analyzes are required as the Department of Defense better define and validate total Services deployment requirements for transformation. MRS-05 was not conducted in support of the new Vision and Transformation requirements. The Mobility Requirement Study is a comprehensive Department of Defense analysis conducted every four years to review estimated mobility deployment requirements to move forces from initial locations in the CONUS to designated theaters. Its charter was to determine mobility assets and supporting infrastructure requirements for FY05. One of the study's major conclusions revealed that there are insufficient airlift assets to support 2005 deployment requirements.

The Army Chief of Staff has raised the bar by stating a deployment goal for deploying anywhere in the world a brigade within 96 hours, a division in five days, and five divisions within 30 days. Based on several DoD sponsored studies, a combination of civilian and military aircraft are required. Do we have enough military strategic aircraft (C-17s) in the Air Force inventory? According to General Ryan (former Chief of Staff, Air Force), the demand for lift is a constant issue, and we will never have enough aircraft. The demand for airlift continues to increase and based on a June 2000 General Accounting Office study, the Air Force is already short about one-third of the organic airlift necessary to meet national strategy requirements for two major theater war scenarios.

Today, the C-17 Globemaster III aircraft is the newest airlifter in the inventory, it will replace the aging C-141 fleet in the year 2006. There are 80 C-17 aircraft in the U.S. Air Force's inventory available to support strategic deployment requirements and operations.<sup>36</sup> In the early 1990's, the Secretary of Defense supported the C-17 acquisition program that directly led to the final decision to procure a total of 135 aircraft<sup>37</sup> by FY 2005. Of the 135 C-17s programmed in the last defense budget, only 120 are procured to date. "The Army strongly supports the continued acquisition of the Air Force C-17 aircraft."<sup>38</sup>

According to Air Force Officials (Aerospace Daily, November 19, 2001) the current contract calls for C-17 production of 15 per year. But BG Ted Bowlds (Air Force program

executive officer for airlift and trainers) says that there have been some wargaming and simulation excursions to increase C-17 procurement to a total of 222.

Furthermore, in the MRS-05 final conclusions and recommendations, the Chairman Joint Chief of Staff (CJCS) endorsed an increase ranging from 21 to 41 more C-17 aircraft. This decision was based on analysis using a wide variety of priority airlift missions involving current Services forces and current deployment million-ton miles per day requirement figures. The report used FY05 million-ton miles per day deployment requirements and programmed force structure for all Services (including Reserve components) that were reflected in the current Defense Planning Guidance and Program Objective Memorandum 02-07. Unfortunately, the MRS-05 database did not include updated million-ton miles per day requirements for all Services transformed forces necessary to support Transformation. This omission warrants additional study and analysis.

Meanwhile, wargame simulations, studies, and analysis conducted over the past two years (1999-2001) revealed that MRS-05 recommended increase C-17 range for procurement is still not sufficient to move deployment requirements in the accelerated deployment timeline in a Joint operational environment.<sup>39</sup> In a joint deployment scenario, the Army competes for airlift assets with other worldwide missions and other Services (Air Force, Navy/Marines, to include U.S. Special Operations Command). Analysis identified that for Army Transformation to be successful, HQs Joint Forces Command must dedicate approximately 80 C-17 aircraft (between 230 and 250 sorties) in support of the Army's initial deploying forces to adequately meet the Vision deployment goal of closing an IBCT (100 percent by air) in 96 hours.<sup>40</sup> This analysis included missions ranging from major theater wars to smaller scale contingencies, asymmetric warfare, as well as peace enforcements, peacekeeping, and humanitarian assistance operations. Other factors considered in the analysis were joint priority, deployment distance to the theater, size of the IBCT, and physical constraints of the deployment network (airfield throughput requirements and capabilities). Therefore, as Joint Forces Command factor in airlift requirements of other worldwide missions and other Services transformed forces, the Department of Defense will require more than twice the number of C-17s that would be allocated to the Army under the current programmed acquisition of 135 aircraft.

Consequently, the recommended range for increased C-17s is unsubstantiated for Army Transformation. "The demand for lift is an issue that will always be there. We will never have enough airlift, ever...We can't afford to go there."<sup>41</sup> In spite of General Ryan's (former U.S. Air Force, Chief of Staff) comment, DoD must continue striving to attain the appropriated number of C-17s for acquisition by the following means:

- Refinement and validation of Services deployment requirements for Transformation, and
- Establishment of airlift modeling metrics that are needed to ensure a more thorough analysis when addressing programmatic and operational issues.

These actions are essential and must be completed prior to the next Mobility Requirements Study for its consideration. By this, senior leaders can ensure the necessary facts and assumptions are considered.

As far as Army and Air Force operations, as envisioned under the Army Transformation concept, there is no question that airlift is the key “enabler.” It is apparent that the C-17 aircraft adds a new dimension to strategic and theater airlift, thus the Army forces cannot get to the fight in time without adequate airlift capability. The Army fully supports the C-17 acquisition program as a key element of the Army’s Strategic Mobility Triad and as the optimum solution to support intra and inter-theater airlift deployment requirements. It is essential that senior leaders adequately resource the C-17 program to enhance lift capability that will reduce the deployment timeline and enable the transformed force to meet the Vision deployment goal of 96 and 120 hours, and 30 days.

#### REDUCE DEPLOYMENT REQUIREMENTS.

Is acquiring additional mobility assets the only answer to improving the Army’s ability for rapid deployment? Perhaps it is not. What other senior leader consideration and decisions are necessary to improve the Army’s strategic responsiveness to meet the Army Vision’s requirements? Today senior leaders must continue investment in wargame simulation, study and analysis to reduce the force structure of the Interim Force, and subsequently the Objective Force. This also includes force structure modification to the current Legacy Force. Additionally, they must continue investment in examining the acceptability, suitability, and feasibility of establishing strategically positioned Intermediate Staging Bases (ISB), temporary and permanent.

Continuous refinement and reduction in the size of the Interim Brigade Combat Team force structure and its logistics footprint will have a positive affect on reducing deployment requirements and meeting the accelerated deployment goal. According to the Interim Brigade Combat Team’s Operational and Organizational concept, the intent is to deploy with logistics sustainment for 72 hours, except for class IX repair parts (96 hours). HQs Training and Doctrine Command, HQs Combined Arms Support and other agencies conducted studies and

analysis (in the year 2000) using an estimate and notional 13,000 short tons as the deployment requirements of an IBCT, including its logistics. If this quantity can be reduced, it will greatly enhance rapid deployment of the Army's Interim Force.

But what if essential Army logistical items with other Services commonalties were strategically prepositioned to support future contingency deployment operations? Perhaps the senior leadership should strongly examine the ideal of establishing Joint Intermediate Staging Bases that will ultimately reduce deployment requirements not only for the Army, but total deployment requirements for all Services that are operationally involved. Emerging from an ongoing Department of the Army and Logistics Integration Agency study, "an Intermediate Staging Base is a tailorable, secure command and control, combat support, and combat service support staging, support, and sustainment base and transportation node established by the Joint Force Commander and located rear, but not in, the theater area of operations."<sup>42</sup>

If this concept materialized, staff planners and analysts at the senior leader level should focus on and examine the following criteria for all Services transformation forces:

- Army Logistic items with other Services commonalties for prepositioning,
- Strategic preposition locations to support potential hot spots worldwide,
- Host nation available infrastructure and support agreements,
- Joint ISB command and control, composition, capabilities, doctrine,
- Services role and responsibility, and
- Temporary and permanent establishment or both based on the scenario.

Efforts of the logistics community must work closely with the intelligence community as they collect intelligence and gain valuable knowledge of operational areas where U.S. Joint Forces will most likely be called to respond during crisis or conflict. The results of these efforts will assist greatly in determining potential Joint Intermediate Staging Bases locations.

Establishing sea-based Joint Intermediate Staging Bases is another viable option for strong consideration by the U.S. senior leadership. Forces sustainment through sea-based logistics reduces threat to critical land-based logistics nodes and furthermore, it reduces the requirement for dedicated forces to protect land or shore-based logistics build-up. The use of Joint Intermediate Staging Bases will allow the Army as well as joint forces to reduce strategic deployment lift requirements and minimize intra-theater logistics footprint, thus enhancing overall forces rapid deployment to meet the mission.

Whatever methods are used to reduce deployment requirements, it is crucial that they are integrated with those of the other Services during future wargames, studies, and staff planning sessions to attain realistic and validated deployment requirements. Army staff planners must be mindful of requirement integration and consideration as they strive to make a sizeable reduction in deployment requirements. If not considered, other Services deployment requirements will offset Army efforts to deploy faster.

Senior leaders must support reducing deployment requirements by reducing the IBCT force structure (along with associated logistics) and establishing Joint Intermediate Staging Bases. Both will provide deployment flexibility while improving the Army's ability to deploy more rapidly and with sufficient initial and follow-on sustaining capabilities.

#### IMPROVE TECHNOLOGY DEVELOPMENT.

Technology will provide the opportunities to meet the Army Vision's strategic responsiveness goals. For technological success in the 21st century, it is essential to have strong presidential leadership and strong support by the new Bush Administration over-time, as well as, strong strategic policy consensus. Technology is most critical for Army Transformation and...we have the support of the new Administration. The Army has state-of-the-art technology today that is ahead of adversaries, but what about the future? We must maintain the technological edge. Systems must be interoperable and information integrated for maximum communication and visibility across the full spectrum of operations. No Joint Requirements Oversight Council (JROC) issues get through the Joint Warfighting Capabilities Assessment (JWCA) process without meeting criteria for interoperability.<sup>43</sup>

The current Defense Planning Guidance (DPG) FY02-07 identifies readiness, sustainability, modernization, force structure, and infrastructure as overarching resources programming priorities. To support long-term planning objectives necessary for Army Transformation, and more specifically the Objective Force, it is crucial that the next Defense Planning Guidance list and emphasize innovative technology developments.

Technology improvements are definitely required to accelerate rapid deployment and to dissuade adversaries from taking bold actions against the U.S., for example the bold and tragic event of September 11, 2001. Technology that worked yesterday will no longer provide the necessary capability for U.S. forces in the future, hence, U.S. senior leadership continuously scans the environment to research and develop new technology. "Unfortunately, reality is that the U.S. can expect to work with a smaller defense budget or funding level in the future, thus, dependent on technology to do more with less."<sup>44</sup> The Department of Defense must provide

sufficient investment in Science and Technology to meet evolving military needs and to ensure technological superiority over potential adversaries, and provide the foundation for the transformation of U.S. forces.

Perhaps, it is necessary for the defense department to establish a centralized Strategic Mobility Science, Technology, Research and Development Program. A program that focus and centralize efforts to oversee, prioritize, and fund projects while assist in discovering advance air and sealift enablers, as well as, enhancing the development of deployment automation capabilities.

The Department of the Army has been struggling with deployment automation over the past several years, specifically, in getting Transportation Coordinator-Automated Information for Movement System (TC-AIMS) II totally interoperable and user friendly, and information fully integrated in support of all Services. The Transportation Coordinator-Automated Information for Movement System II will have a tremendous impact on near-real-time Total Asset Visibility, information flow and awareness, therefore, improving rapid strategic deployment. The system was an initiative that began several years ago to provide integrated (to all armed services) information transportation system capability for deployment and redeployment. TC-AIMS II is a joint system that is still under development to support rapid deployment of U.S. forces and provide accurate and timely data to manage the deployment process.

“TC-AIMS II combines the best of the current systems into a single automated information systems capable of meeting both multiple and individual Service requirements as a Department of Defense source movement information system. TC-AIMS II also will provide data for In-Transit Visibility (ITV) and control over cargo and passenger movement.”<sup>45</sup>

It will eventually replace current systems such as Transportation Coordinator- Automated Command and Control Information System (TC-ACCIS) and the Department of the Army Movement Management System (DAMMS).

Today, the Department of the Army still provides 100 % funding and lead Service oversight for the development of TC-AIMS II. If the Department of Defense is successful in establishing a centralized program, as previously mentioned, involving prioritizing, managing, tracking, and funding, they will be faced with the major challenge of developing and maintaining viable DoD metrics for meeting TC-AIMS II long-term objective. The long-term objective is to achieve milestone “C” (full-rate production and full fielding decision by 2nd quarter, FY02) per the Defense Transportation Journal, April 2001 and the ODCSLOG Strategy Mobility Enablers FY01 Rating Status, May 2001. Metric or future actions to be considered may include the following:

- Fixing the remaining Priority 1 and 2 problem change requirements,
- Synchronizing schedule of individual Services Software Qualification Test
- Coordinating adequate timeline between combined Software Qualification Test and Operational Test,
- Continuous testing and evaluating TC AIMS II linkage to Joint Forces Requirements Generator (JFRG) II and Joints Operating Planning and Execution System (JOPES) for validating 72-hours Time Phase Force Deployment Data, and
- Seeking available funding to continue Research, Development, Testing and Evaluation for software development, and subsequent full rate production for full fielding.

Power projection in the information age needs TC-AIMS II or a like system that is interoperable. TC-AIMS II must therefore, be fully developed and fielded in the near-term (2001-2006) to become a part of the interoperable communications network of the future. This capability will allow all elements of U.S. forces to “plug-and-play” in this interoperable knowledge base during pre-deployment, deployment, employment and redeployment. Indeed this is important for rapid information accumulation, near-real-time information sharing, and timely dissemination as knowledge is needed for decisive decision-making, and improves overall efficiency of deployment and sustainment operations.

One aspect of measuring deployment success must be when critical enablers and systems are in place to provide sufficient capability. TC-AIMS II (joint deployment automation system-planning and execution tool) is one of those capabilities necessary to satisfy Interim and Objective Forces rapid planning and deployment requirements for Transformation.

Key technological challenges will impact transformation throughout it implementation, because there are so many uncertainties about the maturity and feasibility of key technologies required for transformation. Given the uncertain state of key technologies needed to equip the future Objective Force, acquisition plans seem to be optimistic. But, because of tough resource competition, senior leader’s dedicated support and investment is urgent. In a recent GAO article, auditors stated that in the area of funding, “the Army will have to retain support of military and civilian leaders [and] Congress over a period of 30 years.”<sup>46</sup> Adequate and firm investments are the driving forces for success of the defense department’s efforts and programs. Department of Defense must provide near-term and sufficient investment to establish a centralized Science, Technology, Research and Development program to support Transformation. The program must specifically focus on state-of-the-art strategic mobility technological enablers to ensure the U.S. forces possess the necessary capability in the future.

## **SUMMARY AND CONCLUSION.**

This project analyzed whether the current Army Transformation policy is the answer to satisfy near-to mid-term security threats at home and abroad?

Yes, but with recommended adjustments and senior leader's decisive decisions. It is recommended that senior leaders (military and civilian) maintain the on-going Army Transformation concept, but scale it back in order to redirect resources toward homeland security. First, this recommendation focuses senior leaders priority of efforts and resources on reexamining issues of homeland security (homeland defense and civil support) and associated military missions, and transforming the Army National Guard and Reserve Forces to carry out the primary homeland security mission, roles, and responsibilities. As second priority, Department of Defense and the Department of the Army should continue enhancement of technology to modernize, sustain, and recapitalize the Legacy Force and develop the Interim Forces.

The senior leadership of the Department of Defense and the Army's has made significant progress over the past ten years towards increasing strategic responsiveness. However, based on recent war games, studies and analyses, the Army cannot meet the accelerated deployment goal with its current deployment capabilities. This document also identified and examined deployability challenges associated with Army Transformation that are necessary for the Army to increase strategic responsiveness and meet the new accelerated deployment goal. These strategic mobility and deployment enhancement challenges are as follows: expand Joint Infrastructure Working Group efforts, increase maximum on ground at destination Aerial Port of Debarkations, define and resource a new Army Strategic Mobility Program, procure additional airlift assets, reduce deployment requirements, and improve technology development.

Transformation is doable and is being done. Successful resolution of several major deployability challenges will indeed require senior leader's decisive decision-making, firm support and investment early in the 21st century. This commitment is critical to the Department of Defense and the Army's ability to successfully satisfy homeland security requirements and to meet the accelerated deployment goal of Army Transformation.

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## ENDNOTES

<sup>1</sup> Association of the United States Army, Army 2000-01 Green Book (Virginia: Association of the United States Army, 2000), 28.

<sup>2</sup> Steven Metz, American Strategy: Issues and Alternatives for the Quadrennial Defense Review (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, September 2000), 30-31.

<sup>3</sup> Michael A. Pearson et al., How the Army Runs: A Senior Leader Reference Handbook, 2001-2002 (Carlisle, PA: U.S. Army War College text), 2001, 1-1.

<sup>4</sup> William J. Clinton, A National Security Strategy for a Global Age, Washington, D.C.: The White House, December 2000, 30.

<sup>5</sup> Association of the United States Army, Army 2000-01 Green Book (Virginia: Association of the United States Army, 2000), 30.

<sup>6</sup> Requirements are on the rise and the defense budget is not growing. There is a widening gap between resources and requirements creating imbalance among ends, ways and means. An IBCT estimated cost is \$1.3 billion. See, Thomas L. Polmateer, "Army Transformation," briefing slides, notes and discussion, Logistics Action Officers Course, Fort Belvoir, VA, Army Force Management School, 31 October 2000. Also, see, Michael A. Pearson et al., How the Army Runs: A Senior Leader Reference Handbook, 2001-2002 (Carlisle, PA: U.S. Army War College text, 2001), 1-5.

<sup>7</sup> Michele A. Flournoy, "QDR 2001: Strategy-Driven Choices for America's Security" (Washington, D.C.: National Defense University press, December 2000) 95. For more information, see, John M. Shalikashvili, National Military Strategy, (Washington, D.C.: Department of Defense, 1997), 10.

<sup>8</sup> David Jablonsky, "Army Transformation: A Tale of Two Doctrines," Parameters 31 (Autumn 2001): 46.

<sup>9</sup> See, James F. Bowie, "AUSA Deployment Story Board and Narration for AUSA Annual Meeting," Washington, D.C.: HQDA, October 2000. Overall, "the Interim Force concept is a revolutionary bridge to the future Objective Force." See, David Jablonsky, "Army Transformation: A Tale of Two Doctrines," Parameters 31 (Autumn 2001): 46.

<sup>10</sup> Michael A. Pearson et al., How the Army Runs: A Senior Leader Reference Handbook, 2001-2002 (Carlisle, PA: U.S. Army War College text, 2001), 1-4.

<sup>11</sup> Critical are Combat and Aviation systems, see, Dennis Steele, "The Army Magazine Hooah Guide to Army Digitization," Army (September 2001): 21.

<sup>12</sup> Objective Force: We are increasing our investment in science and technology to accelerate Army Transformation. For more information, see, Eric K. Shinseki, "Army Transformation," briefing slides short version handout, Carlisle, U.S. Army War College, 10 February 2000, 5.

<sup>13</sup>Steven Metz, American Strategy: Issues and Alternatives for the Quadrennial Defense Review (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, September 2000), 63.

<sup>14</sup>Ibid., xiii.

<sup>15</sup>Michele A. Flournoy, QDR 2001: Strategy-Driven Choices for America's Security (Washington, D.C.: National Defense University Press, December 2000), 136.

<sup>16</sup>James Dubik, "IBCT at Fort Lewis," Military Review, 80 (September-October 2000), 18.

<sup>17</sup>The National Security Strategy postulates three categories of national interest: "vital, important, and humanitarian," see, William J. Clinton, A National Security Strategy for a Global Age (Washington, D.C.: The White House, December 2000), 4. "The National Military Strategy said that U.S. military forces should only be used when vital American interests were at stake and other means had been exhausted. For more information, see, Ibid, 28 and Steven Metz, American Strategy: Issues and Alternatives for the Quadrennial Defense Review (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, September 2000), 7.

<sup>18</sup>General Keane, "Army Leader's Day Keynote Address," briefing, questions, and discussion, Carlisle, U.S. Army War College, 7 November 2001.

<sup>19</sup>Michele A. Flournoy, QDR 2001: Strategy-Driven Choices for America's Security (Washington, D.C.: National Defense University Press, December 2000) 107.

<sup>20</sup>George C. Wilson, This War Really Matters: Inside the Fight for Defense Dollars (Washington, D.C: CQ Press, 2000), 75-112. Quoted in Kevin R. Cunningham et al., Course 2: War, National Security Policy & Strategy (Carlisle, PA: U.S. Army War College text, 2001), 95.

<sup>21</sup>Stanley Nickels, "Preparing justification for Mini-POM 03-07 submission requesting transformation funding to improve deployment infrastructure at designated Power Projection Platforms" through Military Construction (MILCON) Division, Office of Assistant Chief of Staff for Infrastructure Management, interview by author, 2 April 2001, HQDA, Washington, D.C.

<sup>22</sup>Adam J. Hebert, "GAO: Well-Crafted Army Transformation Plan Faces Many Challenges," The Earlybird, 19 November 2001, sec. Inside the Army, p. 5.

<sup>23</sup>Michele A. Flournoy, QDR 2001: Strategy-Driven Choices for America's Security (Washington, D.C.: National Defense University Press, December 2000), 107-108.

<sup>24</sup>Antulio J. Echevarria II, The Army and Homeland Security: A Strategic Perspective (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, March 2001), 1. The horrific event of 11 September helped to encourage the thought of reexamination. Then pressure by the American people to maintain near-term readiness for HLS.

<sup>25</sup>George Buskirk, "Army National Guard," briefing via outlined notes on chalkboard, Carlisle, U.S. Army War College, Seminar 12, 26 September 2001. The ARNG with the primary mission of homeland security (HLS) will mitigate risk in the near to mid-term.

<sup>26</sup>Kathy Condon, Stephen Sharro, and Janis Robinson, "Homeland Security and Federal Emergency Management Agency," briefings via slides, questions and discussion, Carlisle, U.S. Army War College, 02 November 2001.

<sup>27</sup>Office of the Secretary of Defense, Reserve Component Employment Study 2005, Study Report (Washington, DC: Government Printing Office, July 1999). Quoted in Michele A. Flournoy, QDR 2001: Strategy-Driven Choices for America's Security (Washington, D.C.: National Defense University Press, December 2000), 97.

<sup>28</sup>*Ibid.*, 97.

<sup>29</sup>Antulio J. Echevarria II, The Army and Homeland Security: A Strategic Perspective (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, March 2001), 17. Today, we do not know precisely where the current Army Transformation concept will take us—my personal opinion. But indeed DoD must reverse the readiness decline and selectively recapitalize the Legacy Force.

<sup>30</sup>General Keane, "Army Leader's Day Keynote Address," briefing, questions, and discussion, Carlisle, U.S. Army War College, 7 November 2001.

<sup>31</sup>Chief, Plans and Operations Strategy Mobility Division, James F. Bowie, "Defense Reform Initiative Directive#54 Objective #2: Improve Strategic Mobility to meet Warfighter's Requirements," Memorandum for DCSLOG, Washington, D.C., 25 August 2000.

<sup>32</sup>James F. Bowie, "Army Power Projection Program (AP3)," briefing slide for the ODCSLOG, Washington, D.C., 9 May 2001.

<sup>33</sup>Kelvin Davis, "Moving the Army: Joint Infrastructure Working Group (JIWG)" briefing slides, Washington, D.C., 11 May 2001.

<sup>34</sup>James F. Bowie, "Army Power Projection Program (AP3)," briefing slide for the ODCSLOG, Washington, D.C., 9 May 2001. Also, see "Deployment Outload," briefing slides to Sustainment-Program Evaluation Group (PEG) for Mini POM 03-07, Washington, D.C., March-May 2001.

<sup>35</sup>James F. Bowie, "JIWG Rough Cost By FY (02-04)-Recommended Improvements (Lewis/Alaska/Hawaii/Polk and Drum)," briefing slide, Washington, D.C., 21 February 2001. Also, see Charles Fletcher, Strategic Responsiveness Study a Holistic View (Study #50), briefing slide-Army/Air Force Infrastructure Analysis Results, June 2001.

<sup>36</sup>Sharon Weinberger, "Air Force Considers Ramping Up C-17 Production, Increasing Procurement," The Earlybird, 19 November 2001, sec. Inside the Army, p. 15.

<sup>37</sup>Institute of Land Warfare, Association of the United States Army, Strategic Mobility and Responsive Power Projection, An AUSA Report (Virginia: Association of the United States Army, 1999), 5.

<sup>38</sup>*Ibid.*

<sup>39</sup>Recommendations and conclusion exist from wargame simulations, studies, and analyses conducted by various agencies (Department of the Army, HQ's U.S. Transportation Command, Transportation Corps' Deployment Process Modernization Office, Logistics Management Institute, Boeing, and RAND Corporation).

<sup>40</sup>Ibid.

<sup>41</sup>Michael Ryan, "A Clamor for Airlift," Air Force Magazine, December 2000, 30.

<sup>42</sup>Department of the Army and Logistics Integration Agency, "Intermediate Staging Base Analysis," McLean VA.: Science Application's International Corporate (SAIC), September 2000-2001.

<sup>43</sup>General Keane, "Army Leader's Day Keynote Address," briefing, questions, and discussion, Carlisle, U.S. Army War College, 7 November 2001.

<sup>44</sup>Dr. D. S. Ippolito, "Trends in the Federal Budget," briefing, questions, and discussion, Carlisle, U.S. Army War College, 15 November 2001.

<sup>45</sup>Department of Defense, "Freight Transportation," Defense Transportation Journal Almanac 2001 (April 2001): 14.

<sup>46</sup>Adam J. Hebert, "GAO: Well-Crafted Army Transformation Plan Faces Many Challenges," The Earlybird, 19 November 2001, sec. Inside the Army, p. 5 and 6.

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