



# TESTIMONY

CHILDREN AND ADOLESCENTS  
CIVIL JUSTICE  
EDUCATION  
ENERGY AND ENVIRONMENT  
HEALTH AND HEALTH CARE  
INTERNATIONAL AFFAIRS  
POPULATION AND AGING  
PUBLIC SAFETY  
SCIENCE AND TECHNOLOGY  
SUBSTANCE ABUSE  
TERRORISM AND  
HOMELAND SECURITY  
TRANSPORTATION AND  
INFRASTRUCTURE  
U.S. NATIONAL SECURITY

This PDF document was made available from [www.rand.org](http://www.rand.org) as a public service of the RAND Corporation.

[Jump down to document](#) ▼

The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world.

## Support RAND

[Browse Books & Publications](#)

[Make a charitable contribution](#)

## For More Information

Visit RAND at [www.rand.org](http://www.rand.org)

Explore additional [RAND Testimony](#)

View [document details](#)

## Limited Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law as indicated in a notice appearing later in this work. This electronic representation of RAND intellectual property is provided for non-commercial use only. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use.

# TESTIMONY

---

## Toward an Expeditionary Army

### New Options for Combatant Commanders

ERIC PELTZ

CT-223

March 2004

Testimony presented to the House Armed Services Committee on March 24,  
2004

This product is part of the RAND Corporation testimony series. RAND testimonies record testimony presented by RAND associates to federal, state, or local legislative committees; government-appointed commissions and panels; and private review and oversight bodies. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.



Published 2004 by the RAND Corporation  
1700 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138  
1200 South Hayes Street, Arlington, VA 22202-5050  
201 North Craig Street, Suite 202, Pittsburgh, PA 15213-1516

RAND URL: <http://www.rand.org/>

To order RAND documents or to obtain additional information, contact  
Distribution Services: Telephone: (310) 451-7002;  
Fax: (310) 451-6915; Email: [order@rand.org](mailto:order@rand.org)

## **Statement of Eric Peltz<sup>1</sup>**

### **Before the Committee on Armed Services U.S. House of Representatives**

**March 24, 2004**

Mr. Chairman and members of the subcommittee, I would like to thank you and the committee for inviting us to testify today on Army prepositioning. RAND's Arroyo Center is the Army's Federally Funded Research and Development Center (FFRDC) for studies and policy analyses. Over the last few years, the RAND Arroyo Center has provided research on concepts for transforming the capabilities the Army offers the joint force for prompt power projection. Within this research, we have examined how prepositioning might be leveraged as part of a three-pronged strategy for improving the strategic responsiveness of our nation's ground forces. I appreciate the opportunity to take part in this dialog today.

#### **Introduction: The Case for Change**

Today, I will focus on developing future strategic response strategies for early entry ground forces. During the Cold War, the United States Army evolved into a powerful force designed primarily for the preeminent mission and threat: the defense of Europe against the Soviet threat. Heavy ground forces were positioned forward to guard against this threat, with equipment for additional heavy forces prepositioned in Europe. Similarly, mechanized infantry and tank units have been maintained forward in Korea prepared to face a specific threat. While light ground forces provided some strategic mobility, they were without much firepower or ground mobility. They were, and continue to be, capable of fulfilling a range of missions well,

---

<sup>1</sup> The opinions and conclusions expressed in this testimony are the author's alone and should not be interpreted as representing those of RAND or any of the sponsors of its research. This product is part of the RAND Corporation testimony series. RAND testimonies record testimony presented by RAND associates to federal, state, or local legislative committees; government-appointed commissions and panels; and private review and oversight bodies. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

in concert with heavier forces or in more specialized roles. Thus the Army was optimized to provide forward-positioned power, rather than the flexible power projection capability desired today.

Operations Desert Shield and Storm against Iraq epitomized that Army. Relatively light infantry brigades from the 82<sup>nd</sup> Airborne Division were able to move to Saudi Arabia rapidly, but the limited power of these forces was considered by many to pose a high level of risk. The first heavy division, the 24<sup>th</sup> Infantry Division, did not close for approximately seven weeks, and then it took several more months to bring the Army's heavy power to bear. However, once in place, the Army with the other Services, demonstrated its dominant power, power that has only grown since.

In the years following Desert Storm, the Army's units were adapted to execute a series of what have been called small-scale contingencies, such as in Haiti and the Balkans, and operations other than war, while remaining a mix of powerful but strategically ponderous heavy forces and strategically mobile but light forces. In concert with the Department of Defense (DoD), the Army recognized that the misalignment between national security demands and the structure of the force could not continue and embarked on a broad transformation effort in 1999 designed to reshape the nation's military. Among other key goals of this effort is radically improving strategic responsiveness to create a force that is capable of true power projection—dominant, rapid, and flexible. The two words of the phrase “power projection” are both key. To be strategically responsive, the military must be able to *rapidly move or project* forces that have *sufficient power and capabilities* to execute a broad spectrum of missions. Embedded in this thinking is extending the mindset of *employing while deploying* (from *deploying before employing*) from the Army's traditional early entry forces, such as the 82<sup>nd</sup> Airborne Division, to the total Army, which has critical implications for deployment flows and sustainment capabilities.

Events since the transformation effort began have only reinforced calls for improved response at multiple levels. Rapid global response of small but highly capable force packages may be needed to respond to strategic surprise or to take advantage of fleeting opportunities. For other events rapid response of larger forces, or even the credible threat of such response, can dynamically change a situation and increases the flexibility that our nation's leaders have to respond.

## Speeding Up Deployment & Employment - Strategic Framework

There are three interlocking levers or approaches for improving strategic responsiveness, by which I mean the potential for the rapid deployment and immediate employment of forces with the necessary capabilities. These are (1) force design, (2) lift and port capabilities, and (3) force positioning.

*Force design:* what has to be deployed to accomplish a mission, both initially and to support the force? This lever has significance at all levels of “forces” from tactical maneuver formations to theater opening and infrastructure assets. It encompasses not only changing what a force needs to fight, but also what it needs to be sustained. Another aspect is whether a force is ready to go when called or whether actions, such as cross-attaching units or cross-leveling personnel, must occur before it can begin moving.

*Lift and port capabilities:* what resources are available to move and sustain forces - or in other words at what rate can they be moved? This lever includes not only actual airlift and sealift assets but also the capabilities of the air and seaports, enroute stops, or other access points, through which forces and supplies must move.

*Force positioning:* how far do forces and sustainment stocks have to be moved and what types of lift assets are required once a final decision for the deployment of forces to a contingency location is made? Forward basing and prepositioning of equipment or supplies are both force positioning strategies. Other methods of positioning, such as training rotations, can provide a temporary “forward position” or sustain a long-term position without permanent forward unit basing.

All three are being leveraged by DoD transformation efforts to improve strategic responsiveness. Maximum effectiveness can be achieved by addressing them together. As has been recognized, particularly with regard to force design, changes in one area can offer or limit opportunities in another. For example, the type of equipment in a force can change the feasible types of lift assets, the expense of procurement can limit prepositioning (but also reduce the need for it), and force design can even affect the throughput capability of ports. In other cases, the three approaches can be considered as the three dimensions of a trade-space. There can be

multiple paths to achieving similar strategic response capabilities, with the three approaches presenting different costs and benefits.

National strategic responsiveness goals define the needed balance among the three. How fast does the nation want to be able to respond to different types of contingencies? Are likely threats well defined in terms of location and type or is uncertainty high? How many concurrent or nearly concurrent contingencies does the nation want the capability to respond to? In some cases, the answers to these questions will greatly constrain the solution set, as only one path to goal achievement will be viable. For example, if rapid, heavy force response speed is required, such forces must either be in place at the likely contingency location or flexibly prepositioned.

## **Force Design**

In the area of force design, I will describe one facet of the Army's drive to transform, the resulting development of the Stryker Brigade Combat Team (SBCT), and the way in which it augments other joint expeditionary capabilities.

### **A. Army Transformation: Development of New Maneuver Forces**

As a key part of its transformation effort, the Army is developing forces that can deploy more rapidly than its traditional heavy forces, yet carry more combat power than its light units. The Army wants to offer national leaders and combatant commanders better Army response options than those the nation faced in August of 1990, just after Iraqi forces had invaded Kuwait. In order to move rapidly both to meet the Iraqi threat and to reassure friends and allies, the nation sent the relatively light 82nd Airborne Division. The initial brigade and then the remainder of the division arrived in Saudi Arabia quickly, but it was seen as vulnerable if Iraq had attacked out of Kuwait into Saudi Arabia. Units of the heavy 24th Infantry Division offered a more robust defense, but came by sea arriving weeks later.

The Army plans for a future force centered around the Future Combat Systems (FCS) that will be mobile, lethal, and survivable, yet deployable globally in just 96 hours -- a goal that, if met, will go a long way toward eliminating the tradeoff between strategic response time and combat power. The first such unit, leveraging substantial new technology, will not be fully

operational until the next decade. However, the Army determined that sufficient technology was already available to apply many of the concepts envisioned for future force tactical formations. Thus, to develop lessons for future forces, to improve strategic responsiveness in the interim, and to provide new tactical capabilities, the Army is fielding SBCTs. SBCTs, which employ the Stryker medium-weight wheeled armored vehicles for protected ground mobility, are based upon new organizational design concepts and built around the best available sensor and communications technologies to enhance situational awareness and employ emerging network-centric warfare concepts.

The Stryker brigades -- two of which already have been built -- fall between the Army's long-standing heavy-light divide, and offer national leaders protected, mobile firepower designed to leverage joint force capabilities that can deploy quickly by air, if necessary, like the 82nd Airborne Division. While somewhat heavier and less capable than envisioned future force units, SBCTs are about half the weight of Army tank and mechanized infantry brigade combat teams yet offer significantly more firepower, survivability, and tactical mobility than light infantry brigades. More importantly, their weight is low enough for air deployment to provide response speed value. Generally, brigade-sized heavy units cannot deploy by air faster than they can deploy by a combination of surface modes of transportation. By contrast, the airlift requirement for a Stryker brigade is small enough for air deployment to be a valuable option as part of a broader rapid response strategy in situations in which it is critical to have an armored ground force somewhere quickly. As an example, a Stryker brigade could get from Ft. Lewis, Washington, to Skopje, Macedonia in about 7.5 days, under certain conditions. Thus, SBCTs offer combatant commanders a new early entry force option for prompt power projection that can quickly follow forced-entry operations conducted by units such as Army Ranger battalions or serve as the initial entry force in more permissive conditions.

Building upon the experience of XVIII Airborne Corps' Division Ready Brigades, which train and deploy as integrated brigade combat teams, SBCTs and the Army's new maneuver units of action have been designed from the start as fully integrated combined arms organizations ready for deployment without the need for extensive tailoring. This recognizes the first activity that contributes to deployment time: planning and putting together the force. Building a complete package ahead of time takes this activity off of the critical path and provides a force that has habitually trained together for both deployment and combat operations. Also departing

from recent design schemes, it is designed to accept modules of capability from other units, maintaining within the brigade itself only those capabilities needed on a day-to-day basis.

## **B. SBCTs in a Joint Perspective**

SBCTs also give regional combatant commanders new choices between deployment speed and functional capabilities. In functional terms, the SBCT is substantially larger than the ground element of a Marine Expeditionary Unit (Special Operations Capable) (MEU(SOC)) and similar in size to the ground element of a Marine Expeditionary Brigade (MEB). A MEU(SOC) is a highly capable combined arms formation based on a Marine infantry battalion. It typically has a small fixed and rotary wing air element, an artillery battery, and a platoon of M1 tanks. Its ground mobility is provided by approximately a dozen each of Light Armored Vehicles (LAV) and Amphibious Assault Vehicles (AAV). A MEU(SOC) is typically deployed afloat within a combatant commander's geographic area of responsibility and available on very short warning. Its strengths are its almost immediate availability and the versatility of its components. In recent conflicts it has been employed hundreds of miles inland, although its maneuver ability is limited by the difficulty of moving AAVs by air and its limited intrinsic ground mobility assets. A MEB is a much larger formation nominally consisting of a regimental combat team and associated artillery and armor assets, a composite aircraft group, and a support element. Its ground mobility can be augmented as needed to accomplish the assigned mission, but it is designed to approach a conflict area from prepositioned ships. An SBCT can be viewed as providing an *air deployable* option with substantial ground combat capability complementary to such organizations as Army forcible entry units, MEU(SOC)s, MEBs, or Air Expeditionary Force (AEF) Task Forces.

Where MEUs are forward deployed at sea they will likely be the regional commander's fastest option for contingencies near the littoral. SBCTs would be preferred in circumstances where the situation is deep inland and/or there is a need for a larger, highly mobile ground force or one with its unique combat capabilities. (Each SBCT has 300+ Strykers, and the entire SBCT is 100% self-mobile.) As discussed later, partial prepositioning can make the SBCTs more rapidly deployable with less dependence on airlift than complete deployments from home stations. Additional capabilities can be added through Army aviation and/or deployment in conjunction with an Air Force AEF Task Force. A MEB might be employed where significantly

more sea-based combat power is needed. Or a MEB and an SBCT could be employed together when the initial response force must be relatively large, with one deploying by sea and one by air.

## **Lift and Port Capabilities**

There are two main components of throughput capability: lift assets and how much each transportation node or port can handle. This discussion will focus primarily on nodal throughput capabilities for air deployments, which are critical for the rapid response of non-prepositioned early entry forces.

### **A. Airfield Capacity and Implications for Airlift**

Nodes consist of air and seaports of embarkation, enroute bases, and ports of debarkation. In many recent operations -- Somalia, Albania/Kosovo, and Afghanistan -- airfield operational and force reception capacity has been the major constraint on deployment speed. Analysis of recent deployments indicates that U.S. forces will often deploy to airfields that can simultaneously handle and receive the cargo of three or fewer C-17 aircraft—and sometimes even that capacity will not all be available to military forces because other organizations are using the same airfield. For example, during operations in Albania associated with the Kosovo crisis, aircraft moving U.S. forces had to share the airfield at Rinas with humanitarian flights.

These examples demonstrate the important interaction between deployment distance, force size, and node throughput capability. For a given combination of these three elements, one can determine the number of aircraft needed to fill the “air bridge” and minimize time. For extreme distances, it takes a relatively large number of aircraft to fill the bridge, even when airfield throughput is fairly low. So to support rapid deployments from the Continental U.S. (CONUS) to places like Central Africa, Central Asia, or South Asia, it would take large amounts of airlift, probably requiring increases to the U.S. strategic lift fleet. Conversely, when the route is short, deployment speed becomes a function of airfield throughput and the number of total flights; more aircraft simply cannot be used effectively. A force that requires a lot of flights to move, such as a traditional heavy armor brigade, will take a long time to deploy by air whether it

is close to, or far from, its objective. Thus forward positioning of a heavy force is only valuable if it is in place at the contingency location or can easily be moved into position such as through afloat prepositioning.

## **B. Increasing Airfield Throughput**

Limitations stemming from the throughput capabilities and locations of airfields have prompted calls for new air-lift platforms that need little or no runway. Alternatively, with the right force design, it appears possible to boost the throughput capacity of many airfields beyond traditional levels during initial entry operations. This can be done by finding ways to improve aircraft offload, clearing equipment from the airfield, and improving other elements of aircraft turn-around time. In fact, actual aircraft turnaround times for initial unit deployments, especially those dominated by rolling stock as would that of an SBCT be, appear to be much shorter than DoD planning factors, e.g., an average of 45 minutes in Albania compared with the planning factor of 105 minutes. During the Army's first SBCT air deployment exercise, aircraft turnaround times at the arrival airfield averaged less than 30 minutes. This is an example of synergy between force design and throughput. For the initial deployment, virtually all SBCT flights will only have wheeled vehicles, which can quickly drive out of military aircraft as soon as the ramp hits the ground.

## **Force Positioning**

In this section I will discuss two types of force positioning: unit stationing and equipment prepositioning.

### **A. Forward Unit Stationing or Temporary Forward Deployment**

Heavy units, whether Army or Marine, are difficult to deploy and employ rapidly unless the units, or at least most of their equipment, are positioned close to a contingency location. And while light enough for air deployment to provide value, a Stryker brigade still requires 35 to 50% of the organic strategic airlift fleet to maximize response speed from CONUS, depending upon

the deployment location. This appears to be at the upper edge of what is historically reasonable based upon *situations in which it is critical to move an armored ground force somewhere quickly*. To achieve the 7.5-day time from Ft. Lewis to Skopje in the earlier example, it would take an allocation of 38 percent of the 2005 strategic airlift fleet. Forward stationing, even temporarily, would reduce the strain on airlift to below 10 percent of the 2005 fleet for this scenario, offering the combatant commander greater ability to simultaneously deploy other capabilities such as AEF Task Forces or Special Operations Forces. This airlift benefit is different in nature for a SBCT or medium weight force than for a heavy force, which would still have a lengthy air deployment time.

## **B. Prepositioning of Unit Equipment**

An alternative to forward unit positioning is the prepositioning of its equipment, an approach well accepted by the U.S. military. Afloat prepositioning has long been used by the Marine Corps, along with some ashore prepositioning. Ashore prepositioning has been used extensively by the Army in conjunction with increasing use of afloat prepositioning, and the Air Force has been prepositioning ammunition and other supplies both ashore and afloat.

There are three forms of prepositioning of unit equipment. If a specific location is deemed critical and there are base access possibilities, equipment can be stored on land very close to or even at the potential contingency location. Examples include heavy brigade sets in Kuwait that were prepositioned in response to the Iraqi threat, sets positioned in Germany during the Cold War, and equipment sets in South Korea today. A second option is the use of theater-oriented prepositioning on ships such as the Diego Garcia brigade used by the 3<sup>rd</sup> Infantry Division in Operation Iraqi Freedom or the Marine Maritime Prepositioning Squadrons. A third is theater positioning, but on land to be moved by ship in the event of a contingency, as at Qatar prior to Operation Iraqi Freedom. The second and third forms of prepositioning, both of which require movement by ship to a contingency location, are much more flexible but also require the use of strategic warning to close on the desired location quickly. The value of having equipment on a ship is that it can be moved at relatively low financial cost and without making a firm national commitment.

### **C. A New Approach to Prepositioning**

With a view to the cost of procuring full sets of SBCT brigade equipment, not to mention the costs of developing the future force and recapitalizing current equipment, the Army initially assumed that prepositioning whole SBCT sets of equipment would be too expensive. A more affordable approach, now being proposed by the Army, would be to preposition the less expensive equipment assets, such as trucks and trailers, and supplies. Then when a contingency requirement develops, the combatant commander could deploy the high-cost assets, such as the Stryker vehicles, by air. This approach reduces airlift requirements by about 60 percent, yet the SBCT's trucks account for only about 10 percent of the brigade's total equipment costs. This enables either faster deployment than airlifting an entire brigade from CONUS or a similar deployment response time but with greatly reduced airlift assets. The latter again enables the combatant commander to simultaneously move other units.

### **D. Operationalizing Prepositioned Equipment for Rapid Response**

Prepositioning for the swift strategic response requirements being discussed today, whether of selected assets or full brigade sets of equipment, requires changes in the Army's prepositioning paradigm along several dimensions. First, movement of afloat prepositioned equipment upon strategic warning would clearly be necessary. While this is not under Army control, the Army can influence this decision by making the benefits clear to national leaders and regional combatant commanders. Second, prepositioned items should be loaded to minimize organization time after download to enable almost immediate employment. Third, download should be practiced more frequently and as part of operational exercises to improve Tactics, Techniques, and Procedures to achieve the maximum effective potential and ensure organizations are well trained. Significantly, prepositioned packages of support vehicles and supplies could be used to support a wide array of different Army or Marine units so long as care were taken to load ships to support such flexibility. Further, Army afloat prepositioning of supplies might be expanded to leverage sea basing concepts that facilitate immediate sustainment, such as afloat warehouses or maintenance activities, rather than just being used to

deliver supplies. At a minimum, prepositioned supplies should be better configured for immediate use upon download.

## **Conclusions**

The Army is implementing many changes to transform into an expeditionary-based force with improved strategic response capabilities. These include changes in both combat forces and sustainment capabilities. The SBCT is an example of a force design that provides combatant commanders with new expeditionary capabilities. In particular, it is a mobile, light armor, *air-deployable* brigade-sized unit, providing a new combination of response speed and flexibility and combat capability. In this respect, the SBCT complements other unique capabilities such as the Naval Services' MEU(SOC)/Amphibious Ready Group combination.

The value of such forces to expeditionary warfare can be enhanced by positioning units or their equipment outside CONUS. For SBCTs, a mix of limited permanent forward unit stationing (e.g., the SBCT to be stationed in Germany), rotational or temporary basing, and selected prepositioning of equipment and supplies (now being pursued by the Army), is likely the best strategy, as different potential contingency locations and situations impose disparate opportunities and constraints. For other unit types and strategic response needs, different combinations of force stationing, movement resources, and prepositioning may be “optimal.” Concurrently, the Army is working at making its sustainment capability more strategically flexible. It recognizes that a flexible, responsive, networked joint sustainment capability is essential. Key to making this work is quickly establishing adequate theater force reception capabilities to enable simultaneous employment, sustainment, and continued deployment.

The “best” strategic response solution set depends on how fast is fast enough to each region of the world, what capabilities are needed to respond to contingencies in the various regions, and the potential basing and prepositioning site options in each region. However, given the swiftness of response desired, the physical limits of force design options, and the great uncertainty with regard to threats, prepositioning appears to have a critical role to play in flexible strategic response strategies for the future. In particular, it is a valuable option for improving the deployability of initial forces in large operations—both combat and theater opening, and for improving the ability to quickly and decisively respond to small-scale contingencies.