

USAWC STRATEGY RESEARCH PROJECT

ALTERNATIVE ORGANIZATIONS FOR INTERIM/STRYKER BRIGADE COMBAT TEAMS

by

LTC STEPHEN J. TOWNSEND
United States Army

Colonel David Brooks
Project Advisor

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

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

REPORT DOCUMENTATION PAGE

Form Approved OMB No.
0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE (DD-MM-YYYY) 07-04-2003		2. REPORT TYPE		3. DATES COVERED (FROM - TO) xx-xx-2002 to xx-xx-2003	
4. TITLE AND SUBTITLE Alternative Organizations for Interim/Stryker Brigade Combat Teams Unclassified			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Townsend, Stephen J. ; Author			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army War College Carlisle Barracks Carlisle, PA17013-5050			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME AND ADDRESS ,			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT APUBLIC RELEASE					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT See attached file.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:		17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 44	19. NAME OF RESPONSIBLE PERSON	
a. REPORT Unclassified	b. ABSTRACT Unclassified			c. THIS PAGE Unclassified	Rife, Dave RifeD@awc.carlisle.army.mil
				19b. TELEPHONE NUMBER International Area Code Area Code Telephone Number DSN	
				<small>Standard Form 298 (Rev. 8-98) Prescribed by ANSI Std Z39.18</small>	

ABSTRACT

AUTHOR: LTC STEPHEN J. TOWNSEND
TITLE: ALTERNATIVE ORGANIZATIONS FOR INTERIM/STRYKER BRIGADE
COMBAT TEAMS
FORMAT: Strategy Research Project
DATE: 07 April 2003 PAGES: 44 CLASSIFICATION: Unclassified

This paper examines a key element of the Army's Transformation program--the Interim or Stryker Brigade Combat Team (I/SBCT). The purpose of this research is to study the basic organization of the I/SBCT with the goal of identifying alternative organizational structures for the teams. These alternative structures may prove useful in several situations. Alternative structures might be useful if programming decisions by the Department of Defense or Army leadership change the Army's plan to field the number of I/SBCTs currently programmed. In this scenario, in lieu of fielding fewer of the current-sized I/SBCTs, the Army might elect to field the planned six teams with a lower vehicle density or less organic capability than currently envisioned. Secondly, alternative structures may be sought if the current I/SBCT organization proves in practice to be less capable, in one of several areas, than envisioned or desired. The Army is bringing the I/SBCT into being in an accelerated fashion that combines development, experimentation and fielding into a parallel process. In this accelerated procurement program for the I/SBCT, the Army may yet discover that the current structure can't achieve goals for deployment, employment, sustainment or training. Finally, if the Army decides at some point in the future to field I/SBCT-type capabilities to other segments of the legacy force it may very well consider different structures than the I/SBCT baseline. Fielding the Objective Force is tied directly to technological breakthroughs that will make the Future Combat System (FCS) possible. If FCS technology fails to mature rapidly enough or if programming decisions delay Objective Force fielding, it is conceivable the Army might decide to spread I/SBCT capabilities to a larger segment of the legacy force in the interim. This paper will analyze these scenarios and briefly examine three potential alternative I/SBCT structures to apply against them. For discussion purposes, these structures are identified as I/SBCT-Lite (or minor variations of it), I/SBCT-Appique and the Air-Ground Stryker Team.

TABLE OF CONTENTS

ABSTRACT	iii
ACKNOWLEDGEMENTS.....	vii
ALTERNATIVE ORGANIZATIONS FOR INTERIM/STRYKER BRIGADE COMBAT TEAMS.....	1
INITIAL MARCHING ORDERS: THE CHIEF’S VISION.....	2
DEVELOPMENT OF THE INTERIM BRIGADE.....	3
CURRENT I/SBCT ORGANIZATION	6
THE STRYKER VEHICLE SYSTEM	8
SCENARIOS REQUIRING ALTERNATIVE ORGANIZATIONS	9
SCENARIO 1: CHANGES TO THE ARMY’S PLAN TO FIELD SIX I/SBCTS	9
SCENARIO 2: THE I/SBCT DOESN’T MEET EXPECTATIONS IN CERTAIN AREAS.....	11
Expectations for Deployment.....	11
Expectations for Employment	13
Expectations for Sustainment.....	14
Expectations for Training—A Unique Range of Infantry Skills.....	16
SCENARIO 3: THE ARMY DECIDES TO SPREAD I/SBCT CAPABILITIES.....	17
I/SBCT ORGANIZATIONAL ALTERNATIVES	18
BASELINE REQUIREMENTS	19
I/SBCT-LITE, I/SBCT 2+1 AND I/SBCT LITE-3.....	20
I/SBCT “APPLIQUE”.....	21
The I/SBCT “Graft”	22
The Mobile Gun System Applique	22
The Stryker Infantry Carrier Applique.....	23
The RSTA Squadron Applique	23
Organic Combined Arms Organization.....	24

THE AIR-GROUND STRYKER TEAM..... 24

CONCLUSION..... 25

ENDNOTES.....27

BIBLIOGRAPHY33

ACKNOWLEDGEMENTS

I would like to acknowledge and thank the following for their kind assistance with this research project.

- Colonel David Brooks, U.S. Army War College, Project Advisor
- Mr. Edwin Mazzanti, U.S. Army Training and Doctrine Command
- Mr. Jim Morris, Deputy Director of Combat Developments, U.S. Army Infantry School
- Mr. Thomas Page, TRW
- Colonel William Pierce, U.S. Army War College, Faculty Advisor
- Colonel Mike Rounds, Commander, 3d Brigade, 2d Infantry Division (IBCT 1)
- Lieutenant Colonel Dennis Thompson, Commander, 296th Brigade Support Battalion, 3d Brigade, 2d Infantry Division (IBCT 1)
- Mr. Ernest Torok, Force Design Directorate, Combined Arms Center
- Lieutenant Colonel Scott Zegler, Commander, 2d Battalion, 10th Aviation Brigade, 10th Mountain Division (LI)

ALTERNATIVE ORGANIZATIONS FOR INTERIM/STRYKER BRIGADE COMBAT TEAMS

We do not know yet the exact shape of our future military, but we know the direction we must begin to travel. On land, our heavy forces will be lighter. Our light forces will be more lethal. All will be easier to deploy and sustain.

—President George W. Bush

As the U.S. Army enters the third year of a new century and the fourth year of the Army-wide Transformation program initiated by Chief of Staff General Eric Shinseki in the fall of 1999, it is perhaps a good time to review the progress of this unprecedented transformation and to reflect on where it is headed. The Army's transformation, despite external criticism and institutional inertia, if not resistance, has proceeded at astounding speed for a program that is so ambitious. Since General Shinseki announced it in 1999, the triple-axis-of-attack plan of sustaining the Legacy Force, while fielding an Interim Force and at the same time, developing the Objective Force has arguably made remarkable progress. If nothing else, there are in existence two tangible symbols of this progress—the two Interim, or as they are now known, Stryker Brigade Combat Teams at Fort Lewis, Washington.

This paper focuses its review on these interim, or linking, aspects of the Army's transformation program. It is my contention that, for several reasons, there is a need to identify and examine alternative organizational structures for the Army's new Interim/Stryker Brigade Combat Teams (I/SBCT). Alternative structures for the Army's Interim/Stryker Brigade Combat Teams may prove useful in several scenarios. These scenarios might include: Programming decisions by senior leaders that impact the Army's plan to field the number of I/SBCTs currently programmed; continued testing of the current I/SBCT organization that uncovers shortfalls in desired capabilities; or future Army decisions to field I/SBCT-type capabilities to other segments of the legacy force. This paper will examine these scenarios and identify alternative I/SBCT structures that might be applied against them.

This paper does not seek to debate the need for Army transformation nor the need for or viability of the current I/SBCT structure—in fact, I believe strongly in both. Instead, my goal is to identify some foreseeable situations in which alternative structures for the I/SBCTs might prove useful as well as to introduce at a basic level, some organizational structures that might serve as start points for future examination.

To adjust the condition of the Army to better meet the requirements of the next century, we articulate this vision: “Soldiers on point for the Nation transforming this, the most respected Army in the world, into a strategically responsive force that is dominant across the full spectrum of operations.

—Army Chief of Staff General Eric Shinseki

INITIAL MARCHING ORDERS: THE CHIEF’S VISION

In order to provide alternatives to the current Interim/Stryker Brigade organization, it is first useful to understand how the Army arrived at it. For this, we look back to General Shinseki’s speech during the Eisenhower luncheon at the annual convention of the Association of the United States Army in mid-October 1999. His remarks contained a surprise announcement of a long-range and ambitious three-pronged plan to transform the entire Army in order to improve its strategic responsiveness and relevance for the future. General Shinseki began by reviewing the situation faced by then Secretary of War Elihu Root and Commanding General of the Army Major General Nelson Miles at the turn of the twentieth century. He noted the many similarities that existed then and now for our Army—downsized, deployed around the world and hard-pressed to meet operational commitments. General Shinseki remarked that even the most prescient observers of the day did not predict the first world-wide war less than 15 years away, an international economic disaster less than 30 years away or a second war, even larger and more world-changing than the first, less than 50 years away.¹

The Chief of Staff then drew parallels to the present, opining that, as in 1899, it is impossible to predict with any degree of certainty what specific situations the world and the American Army will face in the coming century but that, “today, as in 1899, the fundamental business of the Army is to fight and win our Nation’s wars.” Then reviewing the capabilities of today’s standing Army as it faces this uncertain future General Shinseki stated,

Our superb heavy divisions remain unequalled in their ability to gain and hold ground in the most intense, horrifying direct fire battles we could imagine... But these same divisions are challenged to get to...contingencies where we have not laid the deployment groundwork....and once deployed, it takes significant effort and cost to sustain them. Our magnificent light forces—the toughest light infantry in the world—can strike lightning fast but lack staying power, lethality and tactical mobility once inserted. Today, 90% of our lift requirement is composed of our logistics tail...our logistical footprints for deployed forces are unacceptably large, driven

sometimes by unrealistic replenishment demands but also by a complex inventory of multiple types of equipment....²

To better prepare for this uncertain future, the Army of the 21st Century must be “strategically responsive” and yet remain “dominant across the full spectrum of operations.” Having outlined that overarching goal, General Shinseki went on to announce a “a major transformation” which would accomplish several things:

First, reducing lift requirements by reducing the logistical tails of Army organizations as well as reducing the footprints of units once they are deployed. One way this would be accomplished would be to design systems that were strategically deployable aboard C-17s, tactically deployable aboard a “C-130-like” aircraft and by seeking common platforms, chassis and standard caliber designs that reduced spare parts requirements and that were smaller, lighter, more lethal, and yet more reliable, fuel efficient and survivable.

Second, the Army would give our nation’s decision makers a “genuine deterrent capability” by developing combat systems that would permit the deployment of a combat brigade anywhere in the world within 96 hours, a division on the ground in 120 hours, and five divisions in 30 days—ambitious goals to be sure.

General Shinseki stated that this transformation was to begin “immediately” and, in order to “jump-start” the process, the Army would rapidly develop an “initial” or “interim” capability. This initial brigade would use “off the shelf” equipment to “stimulate the development of doctrine, organizational design and leader training,” in effect providing the Army with both an immediate solution to bridge the existing gap between the capabilities of the Army’s heavy and light forces as well as serving as an experimental test-bed for the future Objective Force. The Chief of Staff identified Fort Lewis, Washington as the home of this initial brigade; set the bar for forming this unit with an initial set of prototype vehicles within one year; and concluded with, “other units will follow!”³ It is no exaggeration to say that this speech caught the attention of many observers and sent shock waves rippling throughout the Army, industry and the defense establishment.

DEVELOPMENT OF THE INTERIM BRIGADE

Having received its marching orders with General Shinseki’s speech, as well as a very ambitious schedule, the Army quickly set to work to bring the Chief’s vision to life—though in the face of immediate, and not insignificant, murmurings and maneuverings from interested observers. To the Army’s Training and Doctrine Command (TRADOC) fell the dual and simultaneous tasks of developing both the future Objective Force and, the more immediate

requirement, the Interim Force or Initial Brigade Combat Team as it was first known. In concert with the Combined Arms Command (CAC) at Fort Leavenworth, Kansas, the Army's various branch proponents and the defense industry, TRADOC began their work with the Chief of Staff's guidance posted above the drawing board.⁴

However, TRADOC did not have to start with a blank sheet of paper on that drawing board. The Army had first experimented with forming wheeled medium-weight formations in the 1980s with the eventually abandoned High Technology Light Division initiative centered around the 9th Motorized Infantry Division. These studies included development of an armored or mobile gun system as well as a lightly armored wheeled vehicle (LAV) in a joint development program with the U.S. Marine Corps. Though both were eventually abandoned by the Army, the Marines fielded the LAV as a reconnaissance vehicle and light armored troop transport.⁵

In 1997 Colonel Douglas Macgregor's *Breaking the Phalanx* stirred imaginations with a vision of the Army's future that recommended the elimination of the current division-based structure for one based on smaller, more deployable brigade-sized combat groups. One of his proposals was to form "Light Recon-Strike Groups" employing common vehicles that included the light, air-transportable Armored Gun System (AGS) and a new version of the Marine Corps' LAV. Though controversial and panned by some in the institutional Army, Macgregor's proposals continued to fuel a vision of a force to fill the light-heavy gap.⁶ Even more recently the Army had been reconsidering the value of rapidly deployable, medium-weight forces prior to General Shinseki's announcement. Due to widespread perceptions that the Army lacked the ability to project decisive forces rapidly in the wake of the Kosovo intervention, then Army Chief of Staff General Dennis Reimer had TRADOC working on a project known as "Strike Force." Strike Force was initially conceived as a highly flexible headquarters that could deploy rapidly and command and control initial Army forces in a rapidly-developing contingency. As the concept matured, it evolved into both a headquarters and an associated Brigade-size combat team that was to be motorized in common light armored vehicles. By early 1999 the brigade element of Strike Force was known as the Medium Weight Force or Medium Brigade and its organizational structures bear a remarkable resemblance to what was to become known as first the Initial Brigade and then later the Interim or Stryker Brigade.⁷

As the work progressed, the Army's leadership refined and expanded upon the broad marching orders set out in the Chief of Staff's speech. This guidance stated that the Interim Force would serve as a bridge in the near-term capability gap between the Army's heavy and light forces. The Interim Force was to combine the best characteristics of current Army forces—heavy, light and special operations. The I/SBCT would combine the tactical agility,

protection and firepower of the Army's mechanized forces with the strategic agility, physical toughness, dismounted skill and versatility of light and special operations forces. Further, the Interim Brigade Combat Team would be a transition force that would leverage today's technology with selected capabilities of the Legacy Force and serve as a link to the Objective Force. The IBCT would also be used to explore new operational concepts relevant to the future Objective Force. Finally, the Army determined that it would field at least six of these new, more responsive brigade combat teams in order to strengthen deterrence and expand options for regional combatant commanders.⁸

There were several organizational design proposals for the IBCT that evolved from these efforts beginning with the Strike Force brigade design in 1998 and then later the Medium Weight Force or Medium Brigade by September 1999. Though the composition of these design proposals varied somewhat, all of them were based on combined arms brigades mounted in light armored vehicles.⁹ After General Shinseki set the bar the Medium Brigade proposal evolved into what became known as the Initial Brigade and various proposals for the brigade's design underwent extensive testing and analysis in simulation-based wargames. The scenarios for these wargames ranged from peace-keeping operations through small-scale contingencies and up to major combat operations.¹⁰

From this simulation-based analysis, emerged the organizational design that became the Interim Brigade Combat Team. These simulations suggested that the optimum design was one that imbedded organic combined arms capabilities at levels significantly lower than found in the Legacy force. However, the simulations also indicated that the lethality, survivability and redundancy required for effectiveness at the higher-intensity levels of conflict necessarily caused unwanted growth in the size and weight of the brigade's organization—the exact problem with the Legacy Force's heavy divisions.

To solve this dilemma TRADOC recommended optimizing the brigade design for smaller-scale contingencies and combat at the low to medium-intensity range of conflict.¹¹ Then, in order to maintain utility for higher-intensity combat operations, while still achieving good levels of deployability and sustainability, trade-offs were made with the goal of imbedding a combined arms structure to the lowest level. Certain capabilities were excluded from the brigade's organic structure while personnel and C2 "hooks" or links were imbedded in the formation to allow for augmenting the brigade with additional resources when needed. These capabilities, left out of the organic structure of the IBCT, include some traditional brigade task force attachments such as air defense, military police, civil affairs and psychological operations. Other capabilities envisioned for situational augmentation to the brigade are additional support, intelligence, attack

and lift aviation and rocket artillery.¹² This organizational design was eventually approved by the TRADOC Commander and ultimately by the Chief of Staff and Secretary of the Army. Today the Army is implementing this design at Fort Lewis, Washington with the conversion of the formerly-mechanized 3d Brigade, 2d Infantry Division and the formerly-light 1st Brigade, 25th Infantry Division.

CURRENT I/SBCT ORGANIZATION

The Interim or Stryker Brigade Combat Team, as it is now known, is named after the combat vehicle that is the centerpiece of the Army's "Interim Force" transformation pathway. The vehicle (See figure 1) takes its name from two Soldiers who were awarded the Medal of Honor: Private First Class Stuart S. Stryker during World War Two and Specialist Robert F. Stryker during the Vietnam War.¹³



FIGURE 1. STRYKER INFANTRY CARRIER

While the future Objective Force will be built around the still-to-be-designed Future Combat System of vehicles, the Stryker is the family of platforms that form the physical basis for the Interim Force.¹⁴ But before we further examine these vehicles, let us look first at the organization itself.

By 2008 the Army plans to field six I/SBCTs consisting of approximately 3500 personnel in a Brigade headquarters, three motorized infantry-centric Combined Arms battalions, a Reconnaissance, Surveillance and Target Acquisition (RSTA) squadron, anti-tank company, artillery battalion, engineer company, signal company, military intelligence company and a brigade support battalion.¹⁵ Key features of the organizational design include combined arms

organization organic to the company level—as opposed to today’s “branch pure” organizations at battalion level. Additionally, the brigade enjoys a high degree of homogeneity in capability achieved by equipping the fighting elements of the brigade with like vehicles providing common and reasonably good levels of mobility, protection, signature, inter-operability and sustainability for the entire brigade team. This latter capability is also envisioned as a key feature of the future Objective Force.¹⁶

Three combined arms infantry battalions are the main maneuver elements of the I/SBCT. The basic fighting unit of the battalions are three infantry rifle companies consisting of three infantry platoons each with four Stryker Infantry Carrier Vehicles, a Mobile Gun System platoon with 3 MGSs, a mortar section with two mortar carriers, a headquarters section with two command-and-control vehicles and a fire support team and vehicle—for a total of 20 Stryker vehicles.¹⁷ The central feature of these companies are combined arms integration at the company level organization—differing significantly from the traditional method of ad hoc formation of battalion task forces and company teams practiced in today’s Legacy Force.

The Reconnaissance, Surveillance and Target Acquisition (RSTA) squadron is the eyes and ears of the I/SBCT. The main purpose of the squadron is to allow the brigade to see and understand first—“empowering the brigade to foresee, forestall and dominate threats...through freedom of maneuver and decisive action.”¹⁸ The squadron is comprised of three reconnaissance troops as well as a surveillance troop that can employ unmanned aerial vehicles, ground sensors and Nuclear, Biological and Chemical recon capabilities. Additionally the squadron has both human intelligence and counter-intelligence capabilities. Organizations with similar capabilities have previously been found only at division echelons and higher.

The Anti-tank company provides the brigade with its primary long-range anti-tank capability. Composed of three platoons, the anti-tank company employs 12 Stryker vehicles with the TOW 2B missile system. Additional anti-tank capabilities are resident in the infantry battalion’s organic Javelin missile sections as well.

Due to present technological constraints, the field artillery battalion is probably the least progressive of the I/SBCT’s organizations. Organized to provide the brigade supporting indirect fires with a special focus on the counter-battery mission, the artillery battalion is equipped with the same M198 truck-towed 155mm howitzer found in the Legacy Force.¹⁹ As the Army simultaneously develops and fields the I/SBCT, it continues to examine technological solutions to bring the artillery battalion on par with the rest of the brigade. Potential solutions include a new lightweight howitzer under development, a Stryker-vehicle mounted self-propelled howitzer and a truck-mounted multiple-launch rocket system known as HIMARS.²⁰

The engineer company provides mobility support to the brigade with its three organic engineer platoons. Each platoon is to be equipped with organic mine plow and roller attachments for their three Stryker engineer vehicles.

The signal company's mission is to provide the command and control communications to support distributed operations in urban or other complex terrain across extended and non-contiguous operational distances. Additionally the company is equipped with sufficient satellite linkages to provide the architecture so the I/SBCT can interface with higher headquarters, typically an Army division, corps or a Joint Task Force.

Operating as an extension of the brigade's intelligence officer, the military intelligence company plans, coordinates, manages and provides analysis support to the advanced imbedded intelligence, surveillance and reconnaissance capabilities of the I/SBCT. The company also provides the necessary architecture to allow the I/SBCT to interface with other ISR systems at Army, joint, theater and even national levels.²¹

Finally, the Brigade Support Battalion (BSB) performs "execution-focused, distribution-based, centralized logistics functions." The BSB is intended to provide the logistics support the I/SBCT needs with a significantly reduced footprint on the battlefield. One key approach to this reduced logistics footprint is the equipping of the entire brigade team with vehicles sharing an unprecedented degree of commonality in order to reduce the number and quantity of spare parts required to support the deployed I/SBCT. Like the rest of the brigade, it depends on greatly enhanced situational awareness and improved logistics reporting provided by technologically advanced digital C2 systems available in almost every individual vehicle. Also critical to the BSB's success will be ability to tap into higher Army, joint, multinational, host nation and contracting resources.²²

THE STRYKER VEHICLE SYSTEM

The current Stryker Brigade MTOE includes over 300 Stryker vehicles of one variant or another as well as the ubiquitous HMMWV and the Army's family of medium and heavy tactical trucks. The Stryker vehicle is based on General Motors-General Dynamics Land Systems' (GM-GDLS) Light Armored Vehicle-3 (LAV-3) design, earlier versions of which have been in service with the Marines since the 1980s. As noted earlier, it is somewhat ironic that in the early '80s the Army and Marine Corps developed the LAV in partnership. The Army's plan at the time was to form "Medium Brigades" to serve much the same purpose as envisioned for today's Interim or Stryker Brigades.²³ These plans were later cancelled as the Army's leadership decided to focus its funds on modernizing its heavier mechanized infantry and armored forces.

Today's Stryker has 10 versions including Infantry Carrier Vehicle (ICV), Anti-tank, Mortar carrier, Mobile Gun System (MGS), Engineer, Medical evacuation, Reconnaissance, Command and Control, NBC reconnaissance and a Fire Support platform. All versions share a common chassis and, with the exception of the MGS, are largely based on the first-to-be-fielded infantry carrier variant. One significant advantage to this approach is the vehicles share about 85% commonality in parts and use the same engine as the Army's previously fielded family of tactical trucks—in theory greatly reducing the logistical footprint of the SBCT as well as the burden to be borne by logistical sustainment system supporting it.²⁴

SCENARIOS REQUIRING ALTERNATIVE ORGANIZATIONS

Having reviewed the genesis and current status of the Interim/Stryker Brigade Combat Team program, we'll now delve into those scenarios that might cause the Army's leadership to consider the future utility of alternative structures for the I/SBCTs.

SCENARIO 1: CHANGES TO THE ARMY'S PLAN TO FIELD SIX I/SBCTS

The Army currently plans to field six Stryker Brigades to serve as the Interim force until the Objective Force begins to come into the force structure in the 2008-2010 timeframe. These I/SBCTs include the two already formed at Fort Lewis, Washington; a third to be formed by the conversion of the 172d Separate Infantry Brigade (Light) in Alaska; a fourth, of somewhat different mission, design and capability by the conversion of the 2d Armored Cavalry Regiment (Light) at Fort Polk, Louisiana; a fifth by the conversion of the 2d Brigade, 25th Infantry Division (Light) in Hawaii and the sixth by converting the 56th Brigade of the 28th Infantry Division, Pennsylvania Army National Guard.²⁵ The cost of converting each of these brigades is currently estimated at about \$1.5 billion each.²⁶

It is this cost figure which leads to the first scenario we'll examine: the potential for future programming decisions by either Department of Defense or Army leadership that impact the Army's plan to field the six I/SBCTs currently envisioned. How likely is this possibility? Recent queries from OSD indicate that at least some with influence in the Planning, Programming and Budgeting process do not yet accept the Army position that six I/SBCTs is the right number. As recently as the Fall of 2002, the Army was engaged in intense lobbying to convince the Secretary of Defense of the need for all six brigades. Since the sixth brigade is going to the Pennsylvania National Guard and the fourth is actually a medium-cavalry regiment to support the XVIIIth Airborne Corps, the Army will really field four active component Stryker Infantry Brigades with which to maintain the envisioned train-alert-deploy cycle. The Army has continued to emphasize that all six are needed to meet the nation's security needs and the

operational requirements of the combatant commanders. The Defense Department's Director for Program Analysis and Evaluation (OSD PA&E), Mr. Stephen Cambone, opined that the Army needed only three of the I/SBCTs and the resulting \$4.5 billion windfall could be put to good use sustaining other DoD transformation initiatives.²⁷

Aggressive lobbying by the Army with the Secretary of Defense has secured only partial success. The Army has only recently gained firm approval for four of the six planned brigades. In mid-December 2002, the Secretary of Defense approved Army plans to fund a fourth I/SBCT in the fiscal year 2004 budget but deferred his decision on the remaining two until the summer of 2003. His announcement of the decision came with it a tasking for the Army to demonstrate how the two follow-on brigades would, if funded, have greater combat capability than the first four. One "senior defense official" even proposed that an alternative to fielding the last two brigades would be to use the same money to increase the combat power of the first four.²⁸ Even with apparently strong backing for six brigades by key supporters in Congress, notably members of the Alaska and Hawaii delegations, this uncertainty at key levels clearly leaves open the possibility of realizing fewer I/SBCTs as the program moves forward.²⁹

The potential for Department of Defense interference aside, it is also distinctly possible that future Army leadership may elect to change the I/SBCT program. It is no secret that General Shinseki's ambitious vision of the Army's future initially met with raised eyebrows and skepticism in some corners within the Army. This skepticism was expressed by two constituencies: the Army's heavy community some of whom see the transformation to lighter and possibly all-wheeled formations as a threat to Army readiness and also among leaders concerned about the Army's ability to adequately fund all three prongs of the transformation program. Although the initial institutional resistance has subsided, and General Shinseki has achieved remarkable and seemingly irreversible momentum, it remains to be seen what will become of the Army's transformation once the torch passes to the next generation of leadership. Finally, due to other currently unforeseen reasons, it is possible that future Army leaders may decide to field fewer Stryker vehicles, fewer Stryker brigades or brigades with a different organizational design.

In either of these scenarios, in lieu of fielding fewer of the current-sized I/SBCTs, the Army might elect to field the planned six brigades with a lower vehicle density than currently envisioned or even field an entirely different organizational design altogether.

SCENARIO 2: THE I/SBCT DOESN'T MEET EXPECTATIONS IN CERTAIN AREAS

As has already been established, the I/SBCT is to be a medium-weight organization that bridges the gap in capabilities between the lethal, but slow to deploy, heavy divisions and the strategically agile, yet lightly armed and protected and relatively less mobile, light elements of the Army's Legacy Force. Of the two I/SBCTs currently forming at Fort Lewis, Washington the first, though still not fully equipped with its final complement of Stryker vehicles, is completing battalion level evaluations and the second is now beginning to draw its equipment.³⁰ The first I/SBCT is scheduled for its first brigade-level FTX in March-April 2003 and a combat readiness certification exercise following in May.³¹

So, while the Stryker Brigade program has enjoyed considerable success in the early stages of its accelerated procurement and parallel testing and fielding program, it remains very much a work in progress and the outcome still unclear. It is possible that continued testing of and actual field experience with the current I/SBCT might uncover shortfalls in desired capabilities. It is also possible that changes in organizational design might present possible solutions for some of these shortfalls. So what are some of these potential shortfalls? This section will examine four possible areas that have already come under some level of scrutiny as being areas that the I/SBCT may be unable to live up to the expectations of some pundits and future decision makers.

Expectations for Deployment

The first potential shortcoming is in the area of strategic agility or deployability. The Army initially set a goal for the I/SBCT to complete its deployment from home station within 96 hours of the first takeoff and to begin its operations immediately upon arrival—without significant delays to draw, redistribute, or assemble supplies or key pieces of equipment. One of the few key performance parameters of the Interim Force is for all major fighting elements of the I/SBCT to be deployable by C-130 Hercules aircraft. The Army envisions that the I/SBCT will deploy to a regional crisis by a combination of C-17 wide-bodied airlifter and sealift. Once in the theater, the I/SBCT moves into its zone of action by ground or by air on board C-17s or C-130s in the intra-theater airlift role. Whether the C-130 air transportability requirement is necessary at all or not is certainly debatable, however it is one that the Army has hung its hat on and as a result has drawn no small amount of criticism.

The concern about inter-theater deployability is both conceptual and real. Conceptually, the I/SBCTs make armored firepower, protection and mobility more rapidly deployable. In one sense, this is a clear success story. Army estimates indicate that using C-17 sorties as a

measure, the I/SBCT requires about half the number of sorties that a Legacy Force mechanized brigade requires—approximately 212 versus 430.³² However, here the theory collides with the fact that of the five active component I/SBCTs that are first to convert, four of them are formed by converting light brigades into medium brigades.³³ While these four brigades will certainly have greater combat capability than they had before, it is equally certain they are less deployable than they were before with the addition of more than 300 armored vehicles. Combat capability at the point of action notwithstanding, the net effect of converting one heavy brigade and four light brigades to I/SBCT configuration is to increase, not decrease, the Army's deployment challenge per brigade size unit.

In the real sense, the Army has gone to significant lengths to reduce the challenges of deploying the I/SBCTs. After early simulation-based analysis pointed out challenges in this area, the Army reduced the number of wheeled vehicles, including Strykers, that each I/SBCT would field including a 25 percent cut in the number of Mobile Gun Systems in each brigade. Additionally, personnel positions were eliminated resulting in nearly 400 fewer personnel in each brigade. The result of these reductions was a net decrease in the deployment weight of the I/SBCT, including supplies for the first 72 hours, from over 12,500 short tons to about 10,000 short tons. However, these cuts may not go far enough. The Army's own studies demonstrate that, given current airlift constraints, for the Air Force to deploy an I/SBCT by air within 96 hours, its weight must be under 8,000 short tons—a weight that will be difficult to achieve given current technology without significant change in the brigade's organization.³⁴ Even further lightening of the footprint of the I/SBCT may not be of that much help according to a recent Rand study commissioned by the Air Force. According to the study, to achieve the 96 hour goal, the Air Force would have to launch a C-17 every 15 minutes around the clock for nearly 4 days. The study further observes that airport infrastructure in much of the third world is not likely in a state to be able to receive such an intense and sustained airlift operation. The study concludes optimistically by noting that with a combination of forward basing, pre-positioning and air and sealift the I/SBCTs should be able to reach most of the globe in about 10 days—a significant improvement in the deployment of armored forces, light or otherwise.³⁵ In light of these studies, the Army has chosen to accentuate this positive trend and has recently been de-emphasizing the 96-hour requirement with respect to the interim force and casting it as a goal for the objective force.³⁶

Finally, in the intra-theater realm is the Army's requirement for the I/SBCT to be airlifted in C-130s. The Army has gone to great lengths to demonstrate this capability in face of criticism that it is unnecessary, unrealistic or impossible. Those who say it is unnecessary point to the

intra-theater and unimproved forward landing strip abilities of the C-17, improving fast sealift capabilities as well as the reality that after arriving at a major air or seaport, the I/SBCT's superb wheeled mobility allows it to quickly road-march distances that a mechanized or light force would find very difficult to match. For those who say it is unrealistic or impossible, including Secretary of Defense Rumsfeld confidant Newt Gingrich, the Army recently held a demonstration at Andrews Air Force Base to put to rest the arguments about the Stryker's air transportability. In an impressive display, the Army air-landed combat-configured infantry Strykers on a C-17 and C-130 and then drove one Stryker from the C-17 directly onto the C-130 to demonstrate its ability to trans-load from strategic to tactical deployment. Although the Army showcased what it viewed as a successful demonstration, Mr. Gingrich was apparently still not entirely convinced as a statement by his press secretary later pointed out that the C-130 used in the demonstration was not fully configured for combat; that by the Army's own figures, the Stryker ICV with troops exceeds the maximum gross takeoff weight of a combat configured C-130; and with the load on board, the C-130s useful range is severely limited.³⁷ Unless the Army downplays or changes this requirement, these arguments are likely to continue especially as the Army moves ahead with fielding potentially still larger and likely heavier versions of the Stryker such as the MGS, engineer vehicle and eventually, an artillery vehicle.

Expectations for Employment

The second area for potential shortfall is in employment—the ability of the Brigade to fight and accomplish its mission along the entire spectrum of conflict. To the Army's credit, it conducted extensive simulations-based testing in order to design the optimum structure for the I/SBCT. This testing in simulation is being followed with aggressive field trials, using surrogate equipment, to test prototype organizations and concepts.³⁸ The Army's efforts on getting the organization's design right up front have resulted in good levels of satisfaction among I/SBCT leaders.³⁹ However, even with these early successes, some questions still remain, at apparently the highest levels, that the I/SBCT has the requisite capabilities to fight and win as envisioned.

First, in order to achieve a useful level of deployability, the Army optimized the I/SBCT structure for small scale contingencies (SSCs) while still leaving the structure sufficiently robust enough for the transition to heavy, sustained combat with minimal augmentation. However some of these trade-offs may have operational consequences as the Army gains experience with the fielded I/SBCTs. Some of these tradeoffs included reductions of Mobile Gun Systems (by 25 percent), anti-tank systems, separate weapons squads, battalion scout platoon

capabilities, and target acquisition radars (from 3 to 2). Other key reductions included cuts in both artillery battalion and RSTA squadron headquarters and medical evacuation capabilities. The Army clearly believes the level of risk is acceptable with these reductions. However the final effects of this decision will not be clear in the near term.⁴⁰

Second, some senior decision makers are apparently of the mind that the advanced organizational concepts behind the I/SBCT are neither as lethal nor as transformational as they should be. Senior officials with the Office of the Secretary of Defense have withheld final funding for the fifth and sixth Stryker brigades pending Army submission of “revamped designs” for the final two brigades. The officials indicated that DoD would like to see future I/SBCTs incorporate additional capabilities ranging from air defense, reconnaissance and attack aviation, self-propelled and rocket artillery, precision munitions, unmanned vehicles and enhanced sustainment and command and control. The theory being these redesigned brigades would make a better bridge to the Objective Force if they more closely resembled its likely structure.⁴¹ Clearly these potential additions will almost certainly require change to the organizational design of the I/SBCT and thus the requirement for alternative structures. However, one of their benefits is that they will also likely bring the I/SBCT structure closer to the future design of the Objective Force; making the I/SBCT more effective in its “operational test-bed” role.

Expectations for Sustainment

The third area for potential shortfall in capability is in the battlefield function of sustainment—the ability of higher echelons or the I/SBCT itself to sustain the formation during combat operations in an austere environment. The Army has taken dramatic steps in reducing the logistics “footprint” of the I/SBCT in order to make it more agile—both strategically during deployment and tactically during employment. To achieve this unprecedented level of agility, the I/SBCT relies on several concepts.

Previously discussed is the idea of vehicle commonality—the I/SBCT relies on only four major vehicle types, the HMMWV light truck, the FMTV and HEMMT medium and heavy trucks and the primary fighting vehicle, the Stryker in its various configurations. Having the major fighting systems based on a common platform is an obvious advantage in reducing the stocks of repair parts that the brigade needs to deploy and maintain as well as reducing the number of brigade maintenance personnel as well as their training requirements.⁴²

Another innovation in logistics is called “Combat Service Support Reach” or CSS Reach. This logistics strategy is specifically designed for the Army’s transformation and is being applied to support the I/SBCT and, in future form, the Objective Force as well. CSS Reach seeks to

leverage information technologies, developing best business practices, increased use of contractors, host-nation or multi-national support and improvements in fast, reliable transportation in order to reduce the deployed presence of logistics stockpiles and the personnel required to manage them.⁴³

Additionally, the brigade is designed to operate without significant replenishment for a period of 72 hours after it arrives. To accomplish this, the brigade relies on the carrying capacity of its organic vehicles to carry the necessary stores—particularly food, ammunition, fuel and water—as well as pre-configured loads for resupply. The Army has made a bold judgment that the sum of these logistics innovations will get the job done. The projected logistical footprint of the I/SBCT is about half that of a legacy force heavy brigade and accomplishes the task with approximately 19 percent fewer logistics personnel.⁴⁴

Of course, there are concerns about the ability of the transformation in logistics to deliver the goods. The concepts of CSS Reach as applied to the I/SBCT, while promising, are largely unproven. The critics of “Just in Time” logistics point to the experiences of some corporations in the wake of post-September 11th communication and transportation shut-downs. These relatively localized asymmetric attacks resulted in wide-spread interruptions in service which dramatically affected the operations of many companies that relied upon precision forecasting and delivery of essential materials—the exact situation the traditional practice of “Just in Case” stockpiling was designed to preclude. In fact, there are indications that some of these companies are re-thinking their “just-in-time” practices and considering a move to a system that strikes a better balance between just-in-time and just-in-case.⁴⁵

Other potential areas of risk or vulnerabilities of CSS reach are found in its reliance on information systems and information superiority as well as multiple sources of both supply and transportation. All of these areas become points of potential failure that carry a greater potential of negative impact than are likely in the more-traditional system of stockpiling in large amounts around the area of operations.⁴⁶

Finally, some critics might point out that the proposed logistics footprint is entirely insufficient or that it hasn't been significantly reduced but rather it has been redistributed to other echelons. The Army's I/SBCT concept requires near simultaneous deployment of an “Echelons Above Brigade” (EAB) support “slice.” This element can be tailored but generally consists of approximately 200 personnel and accompanying vehicles and supplies.⁴⁷ The obvious question is that since this EAB support is not really optional what real gains are realized by removing it from the Brigade's organic structure?

As it stands today, almost all of these questions remain unanswered. The first I/SBCT is just now beginning to train, maneuver and operate as an entire brigade combat team. The battalion level training events they have successfully accomplished to this point have not yet sufficiently stressed the brigade's sustainment system to uncover shortfalls. The leaders of these organizations do have concerns—particularly in the areas of delivery of bulk water and fuel.⁴⁸ They are optimistic about finding solutions to any problems that arise and it is conceivable that these solutions will come in the form of organizational change.

Expectations for Training—A Unique Range of Infantry Skills

There were a lot of misconceptions about what this unit was going to be: Was it going to be just another mech unit?

—Sergeant Joseph Sharpe
Squad Leader, 3d SBCT, 2d Infantry Division

The fourth area of potential shortfall in desired capability is in the realm of maintenance and training—the ability of the brigades' leaders to maintain a uniquely high level of skill in both mounted and dismounted operations. As stated earlier, the Interim Force is to combine the best characteristics of current Army forces—heavy, light and special operations. The I/SBCT seeks to combine the tactical agility, protection and firepower of the Army's mechanized forces with the strategic agility, physical toughness, dismounted skill and versatility of light and special operations forces. The operational concept for the I/SBCT states that it achieves “decisive action through dismounted infantry assault.”⁴⁹ The infantry unit training program of the I/SBCT is intended to produce the “world's best infantrymen” having “Ranger toughness and skills but with a level of tactical mobility, lethality and survivability that is unmatched.”⁵⁰

So why is this viewed as transformational? The simple answer lies in resources and specifically the most precious of resources: Time. The dilemma for mechanized or heavy infantry has always been in trying to achieve both mounted and dismounted expertise. The time required to maintain a complex fighting vehicle and proficiency in mounted crew drills and gunnery compete directly with the time necessary to develop the enhanced levels of physical fitness, skill with individual weapons and proficiency at dismounted drills and operations that are the hallmarks of light infantry. This is complicated by the competing demands of the “support” phase of the typical “Red-Amber-Green” or “Support-Mission-Training” cycle that further impact the time available to develop these skills. As a result only the best led and resourced

mechanized units ever achieve acceptable levels of proficiency in both areas—this same dilemma faces the leaders of the I/SBCT.

So how will they solve this problem? First, the Stryker ICV is more an armored taxi than a true fighting vehicle especially in comparison to the Bradley fighting vehicle. As a result, the requirements for gunnery and mounted drills should be less. Second, by design the wheeled Stryker should be significantly easier to maintain and operate than the tracked and more complex Bradley. Third, the Army is committed to providing the I/SBCT with high levels of personnel manning—thus Soldiers assigned to dismounted teams should be able to focus on those tasks and not on the tasks of the vehicle crewmen as is typical in legacy force mechanized units. Fourth, and most importantly, is in the area of resourcing. The I/SBCTs are achieving remarkable success because they enjoy resources sufficient to their needs—the most important of which is time.

For the most part, the I/SBCTs currently receive special priority for schooling and are shielded, or fenced, from any external distracters —much as Army special operations units are fenced from most “support taskings.” The question is, will they continue to enjoy this same level of resourcing after they have been certified as mission ready or will they be forced to return to the routine cycle of training and support that plagues many leaders of mechanized units. There is no doubt that this question is on the minds of I/SBCT leaders such as Sergeant Sharpe.⁵¹

SCENARIO 3: THE ARMY DECIDES TO SPREAD I/SBCT CAPABILITIES

Based on the initial performance of the first I/SBCT perhaps an outcome more likely than the shortfalls in performance discussed in the previous set of scenarios is the potential that the I/SBCT will perform so well that the Army's leadership decides to proliferate “I/SBCT-like” capabilities to other segments of the legacy force. For example, during Joint Force Experiment Millennium Challenge 2002, a Stryker task force impressed the hardened Opposing Force at Fort Irwin's National Training Center with their surprising speed, mobility and stealth.⁵² Senior Pentagon officials noted that the Army's XVIIIth Airborne Corps might be a good place to add these capabilities saying, “Is there any reason to think that a unit like the 82d or the 10th Mountain might profit in some way by having the kinds of assets assigned to it that are represented in these brigades?”⁵³

A key role of the I/SBCTs is to provide joint warfighting commanders with a useful new option for decisive contingency response.⁵⁴ It is feasible that as warfighting commanders gain experience with I/SBCTs and as the brigades become engaged in supporting regional taskings, combatant commanders will call for more of them to be fielded. One General Dynamics

spokesman opined that once the I/SBCTs start performing in the field, the Pentagon would be tempted to buy more, not fewer, of them. This is particularly true in the event that advanced technologies for the Future Combat System (FCS) do not mature rapidly enough to achieve the very ambitious goal of beginning to field the first Objective Force units of action in the 2008-2010 timeframe. The same General Dynamic spokesman noted, "...Future Combat System perhaps will not be there when they think it is, and they're going to have to go to something else."⁵⁵ Even if the technologies are realized on time, it is also possible that, as in the first scenario, future programming decisions may delay fielding of the Objective Force.

Another potential application is to the Army National Guard. In a recent initiative, the Army is reducing the Guard's heavy armored combat platforms by about one-third and replacing them with light and medium trucks to form Mobile Light Brigades—formations that would have greater utility for the War on Terror, peace-keeping or homeland security functions.⁵⁶ Given the potential success of I/SBCTs, it is possible to foresee the Army fielding I/SBCT-type capabilities to this segment of the force even while Objective Force fielding is underway to the Active component.

Finally, it is even possible that the Army may need to reorganize major elements of the legacy force even in advance of the fielding of the Future Combat System. Vice Chairman of the Joint Chiefs General Peter Pace recently noted that the Joint Requirements Oversight Council was studying a proposal to reshape the Army's divisional structures. Rather than the current structures which organize the Army's divisions into different types—heavy, light, airborne and air assault—the proposal recommends the Army develop 10 divisions with identical structures and capabilities that could then participate in an operational readiness rotation much as the Navy's carrier battle groups and the Air Force's air expeditionary forces do now.⁵⁷

In any of these situations, particularly the last, alternative organizational structures for the I/SBCTs may be considered as a potential solution.

I/SBCT ORGANIZATIONAL ALTERNATIVES

Having now established that there are clearly several situations that might require an alternative organizational design for the Interim/Stryker Brigade Combat Teams, what might those designs look like? What, if anything, can be done differently than the current I/SBCT structure? In order to answer this question, we must first examine the requirement. What must the alternatives be able to do?

The answers to this question are, not so surprisingly, somewhat amorphous. The I/SBCT concept has evolved a great deal since General Shinseki's announcement. Thus requirements found in early guidance have in some cases been reinforced or deleted altogether in others. Probably the best definitions of requirements are found in the I/SBCT Operational and Organizational concept (O&O).

BASELINE REQUIREMENTS

The bottom line is probably best expressed in the Army Chief of Staff's vision for the medium brigade: "Satisfy current needs to be more strategically responsive and capable in meeting Combatant Commander's requirements for Small Scale Contingencies without compromising our Major Theater War capability." This statement requires the I/SBCT to strike the most effective balance between force projection and battlespace dominance. The brigade is also required to provide balanced utility across the full spectrum of operations from stability and peace-keeping operations through small-scale contingencies, for which it is optimized, and including major theater war. Other key requirements for the I/SBCT include:

- Possess high levels of mobility (strategic, operational, and tactical)
 - Deploy entire IBCT within 96 hours of first "wheels up"
 - All combat elements of the Brigade are transportable by C-130
 - All elements of the Brigade have 100% tactical mobility
- Operate routinely in distributed fashion—in non-linear, non-contiguous areas
- Organic combined-arms organization to company level
- Achieve decisive combat action through dismounted infantry assault supported by lethal direct and indirect fires and pro-active counter-battery fires
- Possess lethality and survivability approaching that of mechanized forces
- Minimize personnel and logistics footprint in theater
- Possess enhanced situational understanding, sustainment and Reachback capabilities
- Serve as a "bridge" to the Objective Force for requirements, tactics, procedures, doctrine⁵⁸

As is apparent from this list, with the exception of those related to mobility, these requirements are relatively subjective in nature. Even the mobility requirements are less concrete as they may have been earlier in the I/SBCT's development. As has already been discussed, the Army has recently backed away from the 96 hour strategic deployment

requirement in the light of recent studies that indicate current Air Force capabilities and third world infrastructure realities make it next to impossible to achieve for the foreseeable future. The Army seems accepting of the 7-10 day deployment timeline for the I/SBCT and it is certainly a quantum improvement over deployment times for a mechanized brigade. The 96 hour mark still stands as the deployment goal for the Objective Force.⁵⁹ Additionally, the C-130 transportability requirement seems less than an absolute benchmark as the Army faces realities of current technology as it seeks to equip the I/SBCT with the complete Stryker vehicle system as well as the Air Force's position that the C-17 will without question be a part of any I/SBCT deployment in the future.⁶⁰

With these requirements as the benchmarks, let us now turn to a brief examination of some generic designs for alternative I/SBCT organization.

I/SBCT-LITE, I/SBCT 2+1 AND I/SBCT LITE-3

The first generic design type is one which the Army has already considered and tested extensively in simulation: an I/SBCT configured much as the current design but with two infantry maneuver battalions instead of three—I call it I/SBCT-Lite. The two-battalion brigade design was seriously considered by the Army during development of the I/SBCT organization. Analysis in simulated wargames indicated that the two-battalion design worked in stability operations, peace-keeping and combat in small scale contingencies. Further, the two-battalion design would reduce the brigade's transport requirement by almost one third if an associated reduction were made in the brigade's combat support and combat service support structure as well.

However, compared to the three-battalion design, the two-battalion design did have some drawbacks. First, as might be expected, the two-battalion design reduced the operational coverage and flexibility of the brigade. Second, it reduced the ability of the brigade commander to maintain sufficient reserves at all levels. The analysis also showed that as the brigade encountered more intense combat operations as it moved up the spectrum of conflict towards major theater war, the brigade with only two infantry battalions tended to use the RSTA squadron as a maneuver force. Finally, the three-battalion design was determined to provide a better capability to transition from SSCs to MTW.⁶¹

Because the two-battalion design did accomplish the mission during the SSCs that the I/SBCT was being optimized for, the Army considered it among the courses of action for the final design. However, in the end, the three-battalion design won out.

Two modifications to I/SBCT-Lite would also be possible. We'll call the first I/SBCT 2+1 and the second I/SBCT Lite-3. I/SBCT 2+1 was also considered by the Army in its analysis—a brigade design that had two battalions of Stryker infantry and a third maneuver battalion of “something other than motorized” infantry. If the third battalion were a battalion of light infantry, the brigade design would be considerably more affordable to field, easier to transport by air and would retain significantly more operational flexibility and combat capability than a pure two-battalion design.⁶² The light infantry battalion could be foot-mobile once in theater or augmented with trucks from echelons above brigade, just as current legacy force light infantry is. If 100 percent organic mobility is an absolute requirement, the light battalion could have its own organic light or medium trucks, much like the proposed new National Guard Mobile Light Brigades, but equipped with FCB2 and crew-served weapons to provide enhanced situational awareness and firepower. Current light infantry units are considered to be full-spectrum forces, especially in complex terrain, although it is widely recognized they require augmentation for combat in an MTW environment. The light battalion in an I/SBCT would arrive in theater considerably more “augmented” than in a legacy force light brigade.

The third option, I/SBCT Lite-3, is a modification of the 2+1 design. In this design, the brigade would still have three infantry battalions. However, each battalion would have two companies of Stryker infantry and one company of truck-mounted light infantry. The considerations for Lite-3 are similar to 2+1 but it has the advantage that each battalion is organized in the same way.

Although I/SBCT-Lite, 2+1 and Lite-3 organizational designs would certainly have somewhat less combat power than the current design, they should be kept in consideration since they have been shown to work in applications ranging up through SSCs and have potential as possible solutions to some of the scenarios already discussed. They offer a solution if, as in scenario one, future programming decisions affect the Army's ability to field six brigades of the current design. By eliminating the third infantry battalion in every I/SBCT, or all or most of its Strykers, the resulting savings could potentially permit the Army to field another I/SBCT. Similarly, these designs might also work if the I/SBCT proves less deployable than desired or other shortcomings emerge in practical application.

I/SBCT “APPLIQUE”

The second alternative organizational design that may prove useful to the Army in the future is what I call I/SBCT-Appique. Much like applique armor is added to a vehicles' existing structure, in this alternative design lower-level I/SBCT organizations could be applied to existing

light divisions or replace existing elements in selected heavy divisions. There are several capabilities the I/SBCT possesses that many legacy force commanders might find highly desirable. Here we will briefly consider five of them: the I/SBCT itself, the Mobile Gun System, The Stryker Infantry Carrier, the RSTA Squadron and organic combined arms organization.

The I/SBCT “Graft”

First is the I/SBCT itself. The existing I/SBCT organization could be grafted onto selected legacy force divisions—say for example, in the XVIIIth Airborne Corps. An I/SBCT would replace one brigade in the current divisional structure. Although the I/SBCT is designed to work as part of a division, this permanent one-for-one replacement might require some minimal modification to the current I/SBCT design in order to allow it to interface with the division it was being grafted onto. In the XVIIIth Corps’ heavy element, the 3d Mechanized Division, the replacement of one of its heavy brigades with an I/SBCT would significantly increase the mobility of the division at all levels, strategic, operational and tactical, but at some cost in firepower and protection. In the Corps’ three light divisions, the 10th Mountain, the 82d Airborne and the 101st Air Assault, the I/SBCT would dramatically increase each division’s ground combat power—particularly in the areas of firepower, protection and tactical mobility. Of course, in these three divisions, the costs would include a decrease in strategic mobility—although the 101st might be able to reduce some aviation assets if it added an I/SBCT. The addition of I/SBCTs to each of the light divisions in XVIIIth Airborne Corps may make it feasible to reorganize the 3d Mechanized Division to the IIIrd Corps which, as the Army’s counter-attack corps, will retain the Army’s heavy legacy forces until the Future Combat System and the Objective Force become a reality sometime in the future. An added benefit of this option is that it maximizes the advantages of developing technologies and gets the entire Army involved in the transformation process as it moves forward to the Objective Force.

The Mobile Gun System Applique

A second desirable and readily transferable capability is the Mobile Gun System—especially for legacy force light infantry units. In the not too distant past the 82d Airborne Division had an organic battalion of light armored reconnaissance vehicles, M551 Sheridans, which were eventually retired due to maintenance issues owing to their advancing age. In addition to reconnaissance duties, these “airborne light tanks” performed many of the same functions that MGS will perform when fielded. Further, until the Army cancelled the M-8 Armored Gun System program (AGS) in 1996, one of the prime customers was to be 82d Airborne Division which has been without its air-transportable light tank capability since the

Sheridans were retired.⁶³ Whether organized in platoons in existing infantry battalions, as companies in each existing brigade or as a separate battalion at division level, the MGS gives the Army the ability to significantly improve the lethality of its legacy force light divisions in short order.

The Stryker Infantry Carrier Applique

Just as the addition of Mobile Gun Systems at some level would significantly enhance the lethality of legacy force light divisions, the addition of several companies of Stryker Infantry Carrier Vehicles (ICVs) would enhance the light divisions tactical mobility, firepower and protection. The ICVs in these companies would have a 3-man crew and the companies would have between 30 and 45 ICVs—enough to transport the dismounts of two to three light infantry companies. They might be organized as a Stryker battalion at division level or as Stryker company in each light brigade or battalion. They could be employed in a general or direct support role much as attack and assault helicopters are currently used. Like the LAVs and amphibious assault vehicles in a Marine Expeditionary Unit, their missions could include light armored reconnaissance as well as armored transport, close-in support of light infantry units, and convoy escort. Though the applique of a unit of Stryker ICVs would come with a cost in strategic agility, the light infantry division would still be the most deployable Army organization but instead with greatly enhanced tactical mobility, firepower and protection for an adaptable portion of its force.

The RSTA Squadron Applique

Probably one of the most exciting capabilities of the I/SBCT is resident in its Reconnaissance, Surveillance and Target Acquisition (RSTA) Squadron. Current legacy force brigades have either no organic full-time reconnaissance capability beyond battalion scouts or they may have a single brigade reconnaissance troop for the brigade. The RSTA squadron gives the brigade commander an organization that previously has been found only at division level. Further the I/SBCT RSTA squadron provides capabilities equal to or exceeding those of many legacy force divisions. Early experience with the first, and still not completely equipped, RSTA squadron has shown it can provide the brigade commander with superb enemy situational awareness by its ability to saturate the battle-space with sensors. This capability combined with superb digital connectivity allows the RSTA squadron to keep all elements of the I/SBCT aware of the enemy situation to an unprecedented degree.⁶⁴ This capability could significantly enhance the effectiveness of current legacy force divisions by integrating it into

existing cavalry squadrons at division level or, better still, by providing each existing brigade with its own RSTA-like squadron.

Organic Combined Arms Organization

One of the simplest I/SBCT capabilities to apply to the legacy force is the concept of organic combined arms organization imbedded to unprecedented levels. Legacy force units typically practice temporary task organization to the brigade and battalion task force and company team levels. Even if routine habitual associations are rigorously enforced, it is certainly not “training as we will fight” if our units live and conduct routine training and missions with one unit but reorganize to train and fight with another. The Army’s rigorous testing of the I/SBCT and Objective Force concepts in simulations unambiguously found that the entire organization performs better and achieves greater synergy with less friction if combined arms organization is imbedded at lower levels.⁶⁵ The I/SBCT organizes organic combined arms at the company level—and it remains to be seen if this takes the practice as far as it can go. One way to quickly improve the combat performance of the legacy force while beginning to prepare Army leaders for the future Objective Force, all at little cost, is to re-organize our legacy force units into organic combined arms teams at the battalion or even company level now.

These five options for I/SBCT-Applique, or others, could be applied to portions of the legacy force with little difficulty. They range in cost from very little, for the organic combined arms concepts, to approximately \$1.5 billion to field an I/SBCT in a selected division. All of these options may prove useful particularly in the event that DoD or Army leaders decide to alter current plans for fielding six I/SBCTs or if the Future Combat System/Objective Force is delayed due to technological constraints, programming decisions or other issues currently unforeseen. Additionally, they may have utility if Pentagon leaders move forward with proposals that have been hinted at for enhancing the combat power of existing divisions or with re-designing all Army divisions entirely.⁶⁶

THE AIR-GROUND STRYKER TEAM

The third alternative organizational design for the I/SBCT is one I call the Air-Ground Stryker Team. The Air-Ground StrykerTeam design contains an Army aviation squadron organic to the brigade. This squadron is equipped with recon-attack helicopters (either AH-64 Apaches, OH-58D Kiowa Warriors or RAH-66 Commanches), utility helicopters (UH-60s) as well as special purpose platforms like command and control aircraft or EH-60 electronic warfare aircraft. Like the I/SBCT-Lite variations, the Air-Ground Stryker Team design is also one that has been examined by the Army. An essential feature of the older “Strike Force” design, the

Air-Ground Stryker team concept is still part of the proposed structure for the redesign of the 2d Armored Cavalry Regiment also known as the Stryker Cavalry Regiment (SCR).⁶⁷

In the Air-Ground Stryker Team design that I propose for the I/SBCT, I recommend the substitution of an aviation squadron for one of the three infantry battalions. At a minimum, the I/SBCT aviation squadron would consist of two recon-attack troops flying C-130 transportable OH-58Ds until replaced by RAH-66 Comanches in the future. The squadron would also have an assault company flying enough UH-60s to lift at least an infantry company-plus in one lift—at least 15.

Further analysis would have to be done to determine the fiscal costs of this proposal—but generally, aviation capabilities are expensive in the long term. Those who believe that ground brigade commanders can't properly train and control organic aviation units have only to look at the historical success of Army cavalry or Marine air-ground teams to realize that they already do it every day when task-organized for exercises and actual operations. Besides, who's to say that the I/SBCT commander might not be an aviator? On the positive side of the ledger, this proposal would allow the I/SBCT to retain three maneuver battalions. Though unable to *retain* terrain, the aviation squadron would allow the I/SBCT to *influence* a significantly larger area of operations and give it capabilities for air assaults as well as aerial resupply and casualty evacuation—key capabilities for distributed operations.

Additionally, there might actually be some improvement in mobility at strategic and operational levels. A C-17 can carry three Strykers but can also carry five OH-58Ds or two UH-60s. Once in theater, the UH-60s could be flown directly to forward strips aboard C-17s or off-loaded and self-deployed into the forward area. The OH-58Ds could be landed directly from C-17s, trans-loaded onto C-130s or self-deploy.⁶⁸ Finally, the aviation squadron would increase the I/SBCT's combat power through the powerful reconnaissance and precision engagement capabilities found in Army aviation.

The Air-Ground Stryker Team design provides the I/SBCT with capabilities planned for the Objective Force unit of action, and that DoD has asked the Army to consider providing to I/SBCTs five and six, and would improve the I/SBCTs function in its role as a bridge to the Objective Force.

CONCLUSION

The Army is embarked on a rapid, sweeping, triple-axis transformation, seeking to become more strategically responsive while it maintains its dominance across the entire

spectrum of conflict, both now and in the future. At the same time the Army must stay ready to fight the wars that America may find itself in tomorrow. This is a tall order by any measure.

One of the three axes of this transformation plan is the formation of an Interim Force, also known as Stryker Brigade Combat Teams. These six brigade teams are intended to provide an immediate bridge across the gap in capability today's Army still suffers from—heavy forces that can defeat any opponent but can't deploy quickly and light forces that can quickly deploy but are useful only against a more limited range of adversary capabilities. The Stryker brigades also have a secondary function: to serve as a bridge to the future Objective Force by helping in the development of requirements, doctrine, equipment, tactics and procedures.

Although the Stryker brigades are designed to have incredible capabilities, there is much that we don't yet know about their actual performance. They may not live up to expectations. There is also some division at various levels in the Pentagon as to what the capabilities of the Interim Force ought to be or how much of an interim force there should be. These questions remain unsettled. On the other side of the argument, the Stryker brigades might very well perform beyond all expectations or the Objective Force may not materialize as planned. This might generate interest for more Stryker units or interest to spread Stryker-like capabilities to parts of the legacy force. Because of these open questions and unsettled issues, the Army needs to continue to pursue the study of alternative organizational designs for the Interim or Stryker brigade teams.

The Army has already examined some alternative designs and should make an effort to continue with this study. Some alternative designs for the Stryker brigades can be found by lightening the personnel or equipment structure of the current design. Others by applying selected elements of the current Stryker design to existing units to develop new combinations of capabilities in the legacy force. Finally, a bolder design approach can be found by applying the power of Army aviation to the already flexible, mobile and lethal Stryker brigade design.

All of these approaches, as well as others still to be discovered, might very well prove useful as the Army's transformation program proceeds and the first Stryker Brigade Combat Teams of the Interim Force become a reality.

Word Count = 10, 903

ENDNOTES

¹ General Eric Shinseki, "Address to the Eisenhower Luncheon," remarks presented at the 45th Annual Meeting of the Association of the United States Army, 12 October 1999; available from <<http://www.army.mil/leaders/csa/speeches/991012.htm>>; Internet; accessed 18 November 2002.

² Ibid.

³ Ibid.

⁴ Jim Morris, Deputy Director of Combat Developments, U.S. Army Infantry School, telephone interview by author, 10 January 2003.

⁵ This from three sources: Ezio Bonsignore, "Back to the Future," *Military Technology* 24 (November 2000): 8-14.

Richard J. Dunn, III, "Transformation: Let's Get it Right this Time," *Parameters* (Spring 2001): 24, 27.

Gregory Pickell, "The New Interim Brigade Combat Team: Old Wine in New Bottles?" *Military Review* 82 (May/June 2002): 71.

⁶ Douglas A. Macgregor, *Breaking the Phalanx: A New Design for Landpower in the 21st Century* (Westport, CT.: Praeger, 1997), 79-81.

⁷ Edwin Mazzanti <ed.mazzanti@us.army.mil>, U.S. Army Training & Doctrine Command, "RE: War College Research Project," electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>, 30 January 2003.

⁸ This expanded guidance found in several sources including: General Eric R. Shinseki, "Chief of Staff, Army IBCT Objectives," briefing slides available from <https://ibct.army.mil/briefings/CSA_IBCT_Objectives_files/frame.asp>; "Operational and Organizational Concept for the Interim Brigade Combat Team" website; Accessed 4 December 2002.

Shinseki, "Chief of Staff, Army Vision for the Medium Brigade," briefing slides available from <https://ibct.army.mil/briefings/CSAVisionforTransformation_files/frame.asp>; "Operational and Organizational Concept for the Interim Brigade Combat Team" website; accessed 4 December 2002.

Secretary of the Army Thomas E. White and General Eric R. Shinseki, *A Statement on the Posture of the United States Army 2002*, Posture Statement presented to the 107th Congress, 2d session, Washington, D.C., U.S. Department of the Army, 2002.

⁹ This information from two sources: "Strike Force Update," briefing slides, Fort Knox, Ky., Directorate of Force Development, U.S. Army Armor Center, 14 July 1998.

"The Medium Weight Force Concept," Information Paper, U.S. Army Training & Doctrine Command, Fort Monroe, Va., 23 September 1999.

¹⁰ Mazzanti.

¹¹ Ibid.

¹² This from two sources: "The Medium Weight Force Concept" and

"Operational and Organizational Concept (O&O) for the Interim Brigade Combat Team," available from <<https://ibct.army.mil/ibct.asp>>; Army Knowledge Online; accessed 4 December 2002.

¹³ John G. Roos, "Objective Force Vision Encompasses Much More Than Hardware," *Armed Forces Journal International* (October 2002): 38.

¹⁴ Sean Naylor, "Pentagon OKs Fourth Stryker Brigade," *Army Times*, 23 December 2002, p. 10.

¹⁵ Michael Mehaffey, "Vanguard of the Objective Force," *Military Review* 80 (Sep/Oct 2000): 6-16.

¹⁶ Bonsignore.

¹⁷ Ibid.

¹⁸ Mehaffey.

¹⁹ Ibid.

²⁰ Bonsignore.

²¹ Mehaffey.

²² Ibid.

²³ Bonsignore.

²⁴ Ibid.

²⁵ Neil Baumgardner, "U.S. Army Takes Pacific Tack with Interim Brigade Combat Teams," *Defense Daily International* 2 (20 July 2001): 1.

²⁶ Vernon Loeb, "Pentagon to Fund Fourth Stryker Combat Brigade," *The Washington Post* (11 December 2002): 31.

²⁷ This from two sources: Thom Shanker, "Rumsfeld said to Back Brigade of Light Armor," *New York Times* (11 December 2002).

Erin Winograd, "Army Executes PR Gambit to Bolster Stryker Against Critics," *Inside The Army* (21 October 2002): 1.

²⁸ Loeb.

²⁹ This from two sources: John Hendren, "Army Holds its Ground in Battle with Rumsfeld," *Los Angeles Times* (29 November 2002): 1.

Vernon Loeb, "Senators Assail Plan to Defer Stryker Funding," *The Washington Post* (9 January 2003): 23.

³⁰ This from two sources: Michael Gilbert, "Army's Stryker Troops Pass Final Test," *Tacoma News Tribune* (11 December 2002).

Scott Gourley, "Medium Brigades," *Jane's Defence Weekly* (5 February 2003).

³¹ Michael Rounds <32cdr@lewis.army.mil>, "RE: Looking for I/SBCT Info," electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>, 6 February 2003.

³² Dennis Steele, "The Hooah Guide to Army Transformation," *Army* (February 2001).

³³ This from several sources already cited: Mehaffey, Pickell, Winograd as well as,

Gordon Trowbridge, "Stryker Shows Off for its Critics," *Army Times* (28 October 2002): 10.

³⁴ This from three sources: Mazzanti as well as,

Neil Baumgardner, "Army Trims Number of Interim Armored Vehicles, Size of Brigade Combat Teams," *Defense Daily 206* (25 May 2000): 1.

Sandra Erwin, "Slimmer Brigade Still is not Trim Enough," *National Defense* 85 (Dec 2000): 6.

³⁵ Alan Vick et al., "The Stryker Brigade Combat Team: Rethinking Strategic Responsiveness and Assessing Deployment Options," (Arlington, Va.: Rand Corp., 2002) xiv-xv.

³⁶ Senior Army Transformation official speaking in a non-attribution forum at the Army War College.

³⁷ This from two sources: Trowbridge and,

Rick Tyler, "More Stryker Questions," *Army Times* (27 January 2003): 52.

³⁸ Mazzanti and Winograd.

³⁹ Rounds.

⁴⁰ This from three sources: Baumgardner “Army Trims Number...” as well as

Ernest Torok <Ernest.Torok@leavenworth.army.mil>, Force Design Directorate, “FW: IBCT MOD/Enhancement decisions,” electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>, 05 March 2003.

“IBCT Modification Summary and Analysis of Impacts,” (Fort Monroe, Va.: U.S. Army Training & Doctrine Command, 2001).

⁴¹ This from several sources including: Shanker, Naylor as well as...

Loeb, “Pentagon to fund...” Kim, Burger, “War on Terrorism Leads to Rethink on Reserves,” *Jane’s Defence Weekly* (11 December 2002).

Erin Winograd, “OSD Attaches Strings to Funding of Fifth and Sixth Stryker Teams,” *Inside The Army* (16 December 2002): 1.

⁴² Dennis Thompson <296cdr@lewis.army.mil>, “RE: Looking for I/SBCT Info,” electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>, 7 February 2003.

⁴³ Ronald V. Robinson, *Combat Service Support Reach: A Risky Support Strategy for the Interim Brigade Combat Team*, Strategy Research Project (Carlisle Barracks: U.S. Army War College, 9 April 2002) 4-7.

⁴⁴ This from several sources already cited: IBCT O&O, Steele, and Thompson.

⁴⁵ Robinson, 12.

⁴⁶ Ibid, 17-20.

⁴⁷ Pickell as well as a senior Army Transformation official speaking in a non-attribution forum at the Army War College.

⁴⁸ Rounds and Thompson.

⁴⁹ IBCT O&O.

⁵⁰ Torok and “IBCT Modification Summary...”

⁵¹ This from several sources: Rounds as well as Matthew Cox, “Inside Stryker,” *Army Times* (13 January 2003) 16-17.

Matthew Cox, “We Still Walk,” *Army Times* (13 January 2003) 17-18.

John M. LeMoyné, “The Interim Brigade Combat Teams—Closing the Gap,” *Infantry* 90 (Jan-Apr 2000): 2.

⁵² Erin Winograd, “Army Executes PR Gambit...”

⁵³ Naylor, 10.

⁵⁴ Mehaffey.

⁵⁵ Naylor, 10.

⁵⁶ Kim Burger, "War on Terrorism Leads to Rethink on Reserves," *Jane's Defence Weekly* (11 December 2002).

⁵⁷ Stephen Trimble, "Pace: War Plans Expose Cracks in Timelines for Troop Build-Ups," *Aerospace Daily* (24 January 2003).

⁵⁸ This from three sources: IBCT O&O, CSA Gen. Shinseki briefings and Mehaffey.

⁵⁹ Vick in Rand study and senior Army Transformation official speaking in a non-attribution forum at the Army War College, 2003.

⁶⁰ Senior Air Force Officer speaking in a non-attribution forum at the Army War College, 2003.

⁶¹ Torok and "IBCT Modification Summary...."

⁶² Ibid.

⁶³ Bonsignore; Macgregor, 80 and author's own experience.

⁶⁴ Rounds.

⁶⁵ This from several sources: IBCT O&O, Mehaffey, Mazzanti among them.

⁶⁶ Trimble.

⁶⁷ "Strike Force Update," briefing slides, Fort Knox, Ky.: Directorate of Force Development, U.S. Army Armor Center, 14 July 1998.

⁶⁸ Scott Zegler <Scott.Zegler@drum.army.mil>, "RE: Airlift Data for Helos," electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>, 8 March 2003.

BIBLIOGRAPHY

- Baumgardner, Neil. "Army Trims Number of Interim Armored Vehicles, Size of Brigade Combat Teams." *Defense Daily* 206 (25 May 2000): 1.
- _____. "U.S. Army Takes Pacific Tack with Interim Brigade Combat Teams." *Defense Daily International* 2 (20 July 2001): 1.
- Bonsignore, Ezio. "Back to the Future." *Military Technology* 24 (November 2000): 8-14.
- Burger, Kim. "War on Terrorism Leads to Rethink on Reserves." *Jane's Defence Weekly* (11 December 2002).
- _____. "Stryker Targeted for Extra Capabilities." *Jane's Defence Weekly* (5 February 2003).
- Cox, Matthew. "Inside Stryker." *Army Times* (13 January 2003) 16-17.
- _____. "We Still Walk." *Army Times* (13 January 2003) 17-18.
- Dubik, James, Major General. "IBCT at Fort Lewis." *Military Review* 80 (Sep/Oct 2000): 17-23.
- Dunn, Richard J. III. "Transformation: Let's Get it Right this Time." *Parameters* (Spring 2001): 22-28.
- Erwin, Sandra. "Slimmer Brigade Still is not Trim Enough." *National Defense* 85 (Dec 2000): 6.
- Gilbert, Michael. "Army's Stryker Troops Pass Final Test." *Tacoma News Tribune* (11 December 2002).
- Gourley, Scott. "Medium Brigades." *Jane's Defence Weekly* (5 February 2003).
- Hendren, John. "Army Holds its Ground in Battle with Rumsfeld." *Los Angeles Times* (29 November 2002): 1.
- Hurley, Brian. "Medium Gun System Platoons: A First Look at a New Kind of Unit." *Armor* 110 (Sep/Oct 2001): 7-10.
- "IBCT Modification Summary and Analysis of Impacts." Fort Monroe, Va.: U.S. Army Training & Doctrine Command, 2001.
- LeMoyné, John M., Major General. "The Interim Brigade Combat Teams—Closing the Gap." *Infantry* 90 (Jan-Apr 2000): 1-2.
- Loeb, Vernon. "Pentagon to Fund Fourth Stryker Combat Brigade." *The Washington Post* (11 December 2002): 31.
- _____. "Senators Assail Plan to Defer Stryker Funding." *The Washington Post* (9 January 2003): 23.
- Macgregor, Douglas A. *Breaking the Phalanx: A New Design for Landpower in the 21st Century*. Westport, CT.: Praeger, 1997.

- Mazzanti, Edwin <ed.mazzanti@us.army.mil>. U.S. Army Training & Doctrine Command. "RE: War College Research Project." Electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>. 30 Jan 2003.
- Mehaffey, Michael, Colonel. "Vanguard of the Objective Force." *Military Review* 80 (Sep/Oct 2000): 6-16.
- Meigs, Montgomery C., General. "For the U.S. Military, A Transforming View From the Maginot Line." Interview by Vernon Loeb. *The Washington Post*, 6 October 2002.
- Morris, Jim, Deputy Director of Combat Developments, U.S. Army Infantry School. Telephone interview by author, 10 January 2003.
- Naylor, Sean. "Pentagon OKs Fourth Stryker Brigade." *Army Times* (23 December 2002) 10.
- "Operational and Organizational Concept (O&O) for the Interim Brigade Combat Team." Available from <<https://ibct.army.mil/ibct.asp>>. Army Knowledge Online. Accessed 4 December 2002.
- Page, Thomas <Thomas.Page@trw.com>. "RE: War College Research Project." Electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>. 18 February 2003.
- Pickell, Gregory. "The New Interim Brigade Combat Team: Old Wine in New Bottles?" *Military Review* 82 (May/June 2002): 71.
- Robinson, Ronald V. *Combat Service Support Reach: A Risky Support Strategy for the Interim Brigade Combat Team*. Strategy Research Project. Carlisle Barracks: U.S. Army War College, 9 April 2002.
- Roos, John G. "Objective Force Vision Encompasses Much More Than Hardware." *Armed Forces Journal International* (October 2002) 38.
- Rounds, Michael, Colonel <32cdr@lewis.army.mil>. "RE: Looking for I/SBCT Info." Electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>. 6 February 2003.
- Shanker, Thom. "Rumsfeld said to Back Brigade of Light Armor." *New York Times* (11 December 2002).
- Shinseki, Eric K., General. "Address to the Eisenhower Luncheon." Remarks as prepared for presentation. 45th Annual Meeting of the Association of the United States Army, Washington, D.C., 12 October 1999. Available from <<http://www.army.mil/leaders/csa/speeches/991012.htm>>. Internet. Accessed 18 November 2002.
- _____. "Chief of Staff, Army IBCT Objectives." On-line briefing available from <https://ibct.army.mil/briefings/CSA_IBCT_Objectives_files/frame.asp>. "Operational and Organizational Concept for the Interim Brigade Combat Team" website. Accessed 4 December 2002.

- _____. "Chief of Staff, Army Vision for the Medium Brigade." On-line briefing available from <https://ibct.army.mil/briefings/CSAVisionforTransformation_files/frame.asp>.
"Operational and Organizational Concept for the Interim Brigade Combat Team" website.
Accessed 4 December 2002.
- Steele, Dennis. "The Hooah Guide to Army Transformation." *Army* (February 2001): 21-42.
- "Strike Force Update." Briefing slides. Fort Knox, Ky.: Directorate of Force Development, U.S. Army Armor Center. 14 July 1998.
- "Stryker Deployments Called Milestones." *AUSA News* 26 (January 2003): 2.
- "The Medium Weight Force Concept." Information Paper. U.S. Army Training & Doctrine Command. Fort Monroe, Va., 23 September 1999.
- Thompson, Dennis, Lieutenant Colonel <296cdr@lewis.army.mil>. "RE: Looking for I/SBCT Info." Electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>. 7 February 2003.
- Toler, Larry. "Maneuver Sustainment for Army Transformation." Database on-line. Available from Google. Accessed 18 November 2002.
- Torok, Ernest <Ernest.Torok@leavenworth.army.mil>. Force Design Directorate. "FW: IBCT MOD/Enhancement decisions." Electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>. 05 March 2003.
- Trimble, Stephen. "Pace: War Plans Expose Cracks in Timelines for Troop Build-Ups." *Aerospace Daily* (24 January 2003).
- Trowbridge, Gordon. "Stryker Shows Off for its Critics." *Army Times* (28 October 2002): 10.
- Tyler, Rick. "More Stryker Questions." *Army Times* (27 January 2003): 52.
- United States Joint Chiefs of Staff. *Joint Warfare of the Armed Forces of the United States*. Joint Pub 1. Washington, DC., 14 November 2000.
- United States Joint Chiefs of Staff. *Unified Action Armed Forces*. Joint Pub 0-2. Washington, DC., 10 July 2001.
- United States Director for Strategic Plans and Policy, J5, Strategy Division. *Joint Vision 2020*. Washington, D.C.: U.S. Government Printing Office, 2000.
- U.S. Joint Forces Command. "JFCOM Post-Millennium Challenge 02 Findings and Way Ahead." Briefing slides with notes. Norfolk, Va.: 4 September 2002.
- Vick, Alan, David Orletsky, Bruce Pirnie, Seth Jones. "The Stryker Brigade Combat Team: Rethinking Strategic Responsiveness and Assessing Deployment Options." Arlington, Va.: Rand Corp., 2002.
- White, Thomas E. and Eric R. Shinseki. *A Statement on the Posture of the United States Army 2002*. Posture Statement presented to the 107th Congress, 2d session, Washington, D.C.: U.S. Department of the Army, 2002.

Winograd, Erin. "Army Executes PR Gambit to Bolster Stryker Against Critics." *Inside The Army* (21 October 2002): 1.

_____. "Army, OSD Agree on Six Stryker BCTs; Last Two Will Be More Capable." *Inside The Army* (25 November 2002): 1.

_____. "OSD Attaches Strings to Funding of Fifth and Sixth Stryker Teams." *Inside The Army* (16 December 2002): 1.

Zegler, Scott <Scott.Zegler@drum.army.mil>. "RE: Airlift Data for Helos." Electronic mail message to Steve Townsend <Stephen.Townsend@carlisle.army.mil>. 8 March 2003.