

HELL ON WHEELS: The U.S. Army's Stryker Brigade Combat Team

EWS 2005

Subject Area Strategic Issues

HELL ON WHEELS: The U.S. Army's Stryker Brigade Combat Team
Submitted By: Captain S. Lucas
CG #4, FACAD: Major Ellison,
8 February 2005

Report Documentation Page

Form Approved
OMB No. 0704-0188

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

1. REPORT DATE 2005		2. REPORT TYPE		3. DATES COVERED 00-00-2005 to 00-00-2005	
4. TITLE AND SUBTITLE HELL ON WHEELS: The U.S. Army's Stryker Brigade Combat Team				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) United States Marine Corps, Command and Staff College, Marine Corps University, 2076 South Street, Marine Corps Combat Development Command, Quantico, VA, 22134-5068				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 11	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

When a Kiowa Warrior Helicopter was shot down over Northern Iraq, the exact location of where it landed was unknown and radio contact with the pilots could not be established. Soldiers from Task Force Olympia, the Stryker Brigade Combat Team based in Mosul, Iraq, looked at the computer screens located in their vehicles and found where the chopper had crashed. The battle for control of the aircraft and security of the pilots was won by the warrior ethos that lives in the heart of every American Soldier. The ability to find the aircraft, move through enemy-held urban terrain and bring enough firepower to the fight to destroy a numerically superior enemy was facilitated by the Stryker vehicle that the soldiers rode in. In the modern contemporary operating environment that soldiers are expected to fight in, flexibility and responsiveness are paramount to success. The Stryker Brigade Combat Team (SBCT) is ideally organized and equipped to fight across the spectrum of conflict in the current and future operating environments.

The Capability Gap Between Heavy and Light Forces

On 12 October 1999 the senior Army leadership unveiled the updated version of FM 1-0, *The Army*, which explains who we are as soldiers and how we fight.¹ The force of the future would have to be flexible, responsive, and lethal. A known gap existed in the capabilities of the forces that the Army had. “From the heavy force, we have Soldiers who know how to combine speed, overwhelming firepower, and combined arms operations to dominate opponents. From the light force, we have highly versatile Soldiers who bring a rapid deployment mentality - - rucks packed and ready to deploy worldwide

¹ United States Army, *United States Army White Paper, Concepts for the Objective Force* (Washington, D.C.: 2001), ii.

on a few hours notice.”² The vision of the Objective Force was one that bridged the gap between the heavy and light forces and provided for a maximum amount of flexibility and firepower.

The capabilities of the light forces, like the 82nd or 101st Airborne Divisions, are unmatched when comparing deployability, flexibility, and strategic or operational mobility; but possess limited tactical mobility and firepower once on an objective or within a Joint Operational Area (JOA). Heavy forces are quite the opposite. They have overwhelming firepower and tactical mobility but have severely limited strategic mobility and restricted operational mobility.

A Brigade Combat Team (BCT) from the 82nd Airborne Division remains ready to deploy anywhere in the world within 18 hours of notification, can bring 100% of its equipment on tactical or strategic lift aircraft and sustain itself for 30 days. Once on the ground, the BCT is limited to movement by light-skinned vehicles or helicopters. There is not a mechanized or motorized offensive force that can defeat an enemy mechanized force that is operating in the open.

To help solve this capability gap, a reinforced mechanized infantry company team from the 3rd Infantry Division remains on alert to deploy on strategic lift aircraft with each BCT from the 82nd Airborne Division. In order to join the fight; however, the aircraft must be able to land on an improved surface runway, capable of handling C-17 aircraft. With this company attached, the Airborne BCT weighs approximately 10,000

² US Army, 20.

short tons and may require 6 days to build up 100% of it's combat power if only partial allocation of strategic lift aircraft is provided.³

Heavy BCTs require massive amounts of logistics to sustain the fight. It is un-realistic to think that aircraft would be able to expeditiously transport a heavy BCT due to the weight of the vehicles and the amount of aircraft required. This means that strategic movement into a port, build-up of combat power and operational movement over land would be required. In the modern operating environment, the time and facilities required to move a heavy BCT into a JOA is too great. A force had to be developed to bridge the gap between the light and heavy forces. That force is the Stryker Brigade Combat Team (SBCT).

Capabilities and Organization of the SBCT

The SBCT is organized and equipped into a combined arms formation with enough firepower and mobility to defeat any modern enemy threat. There are three infantry battalions, a reconnaissance, surveillance, and target acquisition squadron (RSTA), an artillery battalion, a support battalion, an engineer company, and an anti-tank company. Within each of the infantry companies there are 3 infantry platoons and one (proposed) Mobile Gun System (MGS) platoon. The RSTA troops each have one unmanned aerial vehicle (UAV) platoon, one acoustic platoon, and one Rembass ground surveillance radar platoon.⁴

The infantry battalions are combined arms in nature, with infantry vehicles supported by MGS, mortars, and snipers that are organic to each company. The infantry variant of

³ "Deploying in 96 Hours." *Globalsecurity.org*. <<http://www.globalsecurity.org/military/agency/army/images/bde-deploy.gif>> (9 January 2004).

⁴ "Medium Weight Brigade." *Globalsecurity.org*. <<http://www.globalsecurity.org/military/agency/army/images/ibde-1.gif>> (9 January 2004).

the Stryker carries 11 soldiers, has a remote weapon system with a heavy machine gun, a medium machine gun, six smoke grenades, and can carry an additional load of ammunition for the squad of soldiers.⁵ The vehicle will provide protection against small arms and machine gun fire up to 14.5mm, mortar and artillery fragments and can stop RPG-7 rounds with slat or add-on armor plating.⁶

The Mobile Gun System is based on the Stryker infantry vehicle. It has a 105mm shoot-on-the move capable cannon, a 7.62mm coaxial machine gun and a 0.50 caliber commander's machine gun.⁷ The MGS is not designed to be used to fight enemy armored forces, though it certainly can, as there are MGS platoons organic to each infantry company. They are designed to provide over-the-shoulder direct fire support to the dismounted infantry.

Each of the Stryker vehicles, regardless of the variant, is equipped with the Force XXI Battle Command Brigade and Below (FBCB2) system that allows the vehicle commander to see where all of the friendly and known enemy positions are, pass critical information, send reports, request support, and communicate up or down the chain of command.⁸

The SBCT has a variety of systems that enhance the soldier's ability to destroy the enemy, protect himself, and pass critical information to the appropriate authority. Soldiers are the critical aspect of each SBCT, but the Stryker vehicles help move them to the critical place at the critical time with the necessary amount of firepower to accomplish any mission.

⁵ "M1126 Stryker Infantry Carrier Vehicle." *Globalsecurity.org*. <<http://globalsecurity.org/military/systems/ground/iav-icv.htm>> (28 December 2004).

⁶ "Stryker 8-Wheel Drive Armored Combat Vehicles, USA." *Army Technology*. <<http://www.army-technology.com>> (28 December 2004).

⁷ Stryker 8-Wheel Drive

⁸ Stryker 8-Wheel Drive

Mobility of the SBCT

The SBCT is charged to deploy anywhere in the world within 96 hours and be prepared to fight upon arrival. Meeting this requirement and readying the equipment is not difficult for the soldiers to do...the limiting factor is the availability of strategic lift aircraft.

Stryker vehicles can be transported by air using C-17, C-5 or C-130 aircraft. A C-17 can carry 4 vehicles and a C-5 can carry 7; while a C-130 can carry 1.⁹ For strategic movement, the C-17 and C-5 are the only aircraft that would be used, since their range and payload support rapid build-up of combat power. The current weight of the SBCT is approximately 14,000 short tons, which requires 288 C-17 equivalent loads and would take approximately 7 days to deploy if 60% of available aircraft were allotted to the movement.¹⁰ The objective is to reduce the total weight to 7,800 short tons in order to facilitate a 96-hour deployment timeline.

The Stryker was designed to be transportable by C-130. In order to meet the operational and tactical mobility requirements that are demanded in the current operating environment, the Stryker had to be able to be transported to remote, unimproved runways. The only aircraft to do this with is a C-130. The C-130 can carry up to 38,000 pounds over a distance of almost 1000 nautical miles¹¹; the Stryker has a combat weight of approximately 38,000 pounds.¹² Though close, the weight is within the allowable range to be transported on a C-130.

⁹ Stryker 8-Wheel Drive

¹⁰ "Deploying in 96 Hours." *Globalsecurity.org*. <<http://www.globalsecurity.org/military/agency/army/images/bde-deploy.gif>> (9 January 2004).

¹¹ Dooley, Kim. "Army Transports Stryker on C-130." *Army News Service*, 28 June 2002.

¹² "Stryker Family of Vehicles." General Dynamics Land Systems. Washington, D.C.

Being able to be transported by tactical aircraft, the Stryker vehicles and an SBCT can quickly be moved around a theatre by an operational commander in order to gain initiative and maintain tempo. When challenged about the ability of a Stryker vehicle to move by C-130 and fight upon arrival, the Army and Air Force conducted a demonstration at Andrews Air Force Base to prove that it is possible. During the demonstration a Stryker was flown in by C-130, off loaded by the soldiers that flew in the aircraft and readied it for combat. The total time from when the C-130 taxied to a stop until the vehicle was ready for combat was less than 8 minutes.¹³

The rapid repositioning of an SBCT can also be achieved due to its superior ground mobility. A Stryker vehicle can travel over 60 miles per hour at a range of over 300 miles.¹⁴ This speed allows the commander to utilize the vehicles to gain initiative and out maneuver enemy forces. The Stryker vehicles have also demonstrated, in tests and combat, an uncanny ability to go everywhere the soldiers need them to go. They can cross trenches that are 6.5 feet wide, climb or descend 23-inch steps or a 60% grade and travel along a side slope of 30%.¹⁵ The most demanding place for any armored vehicle is in an urban environment; but based on the mobility of a Stryker, this is where one would thrive.

With on-road speeds of over 60 mph, cross country mobility greater than or equal to any infantry vehicle in the inventory and an ability to ford water obstacles that are as deep as the engine compartment; the SBCT provides commanders at all levels a task

¹³ Trapp, Brian. "Stryker Debunks Myths about Mobility." *The Bayonet*, 1 November 2002.

¹⁴ "Stryker Armored Vehicle." *Globalsecurity.org*. <<http://globalsecurity.org/military/systems/ground/iav.htm>> (28 December 2004).

¹⁵ Stryker Family of Vehicles

organized force that strikes a perfect balance between strategic, operational and tactical mobility and firepower.

Counter-Argument

There have been countless critics of the Stryker vehicle and the SBCT. Some have said that there is not enough firepower in an SBCT to be effective, that the armor is not strong enough to protect the soldiers that are riding inside, that C-130 aircraft cannot transport the vehicles and that it is a temporary fix and not worth the money.

There have been instances where all of these arguments have been or could be true. An SBCT does not have the firepower to defeat a vastly larger enemy armored force, but it is not intended to be used against such a force. A Stryker vehicle does not have armor thick enough to protect it against every enemy weapon, but it has more than enough to provide adequate protection against everything short of an anti-tank weapon or projectile. There are documented temperature/elevation scenarios where a C-130 would not be able to transport a Stryker vehicle, even some that exist in the areas where US forces are currently fighting. A C-130 could not carry a Stryker out of Bagram Airfield, Afghanistan in the middle of the hottest day of the summer (it could, however, carry one in).¹⁶

Compromises are inevitable in the development of any vehicle and there are inherent weaknesses to every system. The SBCT is designed to bridge the gap between the light and heavy forces that the U.S. Army has always had. It is not intended to replace either type of formation. An SBCT could never have the firepower of a heavy brigade or the deployability of a light brigade. It can; however, bring the appropriate amount of

¹⁶ Laughlin, Don. "Army's Stryker Vehicle a 'Strykeout'." *Combat Forum*, 9 October 2002.

firepower to a fight on very short notice using tactical aircraft and organic ground mobility.

Conclusion

The U.S. Army has begun to transform its forces to meet the needs of the modern operating environment. The gap that existed between heavy and light forces in regards to firepower and mobility had to be bridged. The Stryker Brigade Combat Team provides this bridge. It is an ideal balance of strategic, operational and tactical mobility and firepower that provides the soldiers all of the necessary tools to defeat any enemy force that is encountered, while maintaining the flexibility and situational awareness to respond to a changing environment.

BIBLIOGRAPHY

- Dooley, Kim. "Army Transports Stryker on C-130." *Army News Service*, 28 June 2002.
- Gittler, Julianna. "Stryker: Bulky Fighting Vehicle is winning over once-skeptical Soldiers." *Stars and Stripes*, 10 November 2004.
- Kelley, Jack. "Army's new wheeled armored vehicle criticized." *Pittsburgh Post Gazette*, 20 March 2002.
- Laughlin, Don. "Army's Stryker Vehicle a 'Strykeout'." *Combat Forum*, 9 October 2002.
- Ricks, Thomas. "GAO Calls Stryker Too Heavy for Transport." *The Washington Post*, 14 August 2004.
- Scarborough, Rowan. "U.S. questions Stryker armor by German firm." *The Washington Times*, 8 September 2003.
- Trapp, Brian. "Stryker Debunks Myths about Mobility." *The Bayonet*, 1 November 2002.
- "Deploying in 96 Hours." *Globalsecurity.org*. <<http://www.globalsecurity.org/military/agency/army/images/bde-deploy.gif>> (9 January 2005).
- "M1126 Stryker Infantry Carrier Vehicle." *Globalsecurity.org*. <<http://globalsecurity.org/military/systems/ground/iav-icv.htm>> (28 December 2004).
- "M1128 Stryker Mobile Gun System." *Globalsecurity.org*. <<http://globalsecurity.org/military/systems/ground/iav-mgs.htm>> (28 December 2004).
- "Medium Weight Brigade." *Globalsecurity.org*. <<http://www.globalsecurity.org/military/agency/army/images/ibde-1.gif>> (9 January 2005).
- "Stryker gets new armor, decrease in weight." *Army News Service*, 9 March 2002.
- "Stryker Hard Facts." General Dynamics Land Systems. Washington D.C.
- "Stryker Family of Vehicles." General Dynamics Land Systems. Washington, D.C.
- "Stryker Interim Armored Vehicle." Defense Contract Management agency.
- "Stryker 8-Wheel Drive Armored Combat Vehicles, USA." *Army Technology*. <<http://www.army-technology.com>> (28 December 2004).
- "Stryker Armored Vehicle." *Globalsecurity.org*. <<http://globalsecurity.org/military/systems/ground/iav.htm>> (28 December 2004).

United States Army. *United States Army White Paper, Concepts for the Objective Force*. 2001.