



REVISITING PRIORITIES

for the Army's Future Force

This article is based on a study directed by General Peter W. Chiarelli on future force design. Members of the West Point Research Team that conducted the study and wrote this article include Colonel Jeffrey D. Peterson, Lieutenant Colonel Robert Kewley, Lieutenant Colonel James Merlo, Major Buzz Phillips, Major Ed Werkheiser, Major Jeremy Gwinn, and Major Ryan Wylie.

The views in this article are the authors' and do not represent West Point, the U.S. Army, or Department of Defense.

Introduction by General Peter W. Chiarelli

We, as leaders, must contribute to the development and growth of our profession and our Army by encouraging and nurturing the learning process. We must be willing to challenge the status quo and promote honest, professional discussions, and even debate, about important issues. This paper was the result of my request for a think piece that would encourage discussion on the topic of rapid deployment capability versus survivability in light of our experiences over the past eight years. The thoughts expressed are those solely of the authors but provide a good start point for the discussion. Our Army of today is comprised of smart, aggressive, innovative, flexible leaders at every level who have a wealth of experience after eight years of persistent engagement. As the Army develops equipment and spins it out to the field, Soldiers are constantly finding new and innovative ways to adapt and employ the technology we provide them. It has been this way throughout our history. Whether driving the M4 tank in World War II or the M1A2 Abrams today, whether flying the Huey in Vietnam or the Blackhawk today, it always has been, and continues to be, our people who make the equipment work and accomplish the mission. It is the adaptive, intuitive nature of our Soldiers and leaders that makes it better. We must never forget that.

The time has come for our profession to question a long-standing belief in the power of information technology to remove the fog of war. Major acquisition programs were initiated and continued in the belief that the Army could accept risk in survivability to achieve rapid deployment capability. "Perfect" situational awareness gained through a network of sensors and information-sharing devices became a substitute for passive armor. Yet the modern battlefield has illustrated the limits of sensor technology in preventing attacks on our Soldiers. The organizational response to purchasing improved armored vehicles is a testament to the realities that we face an enemy who

PHOTO: A Stryker vehicle outfitted to fire mortar ammunition is unloaded from a C-130 during an exercise, 18 May 2003, Esler Air Field, Pineville, LA. (AP Photo, Tia Owens)

can still get the first shot and that movement to contact is not extinct. As a profession that answers to the American public, we have an obligation to question the trade-off between survivability and rapid deployment capability in light of battlefield realities. We owe it to our Soldiers who are shedding their blood every day on the battlefield. This is not an argument against technological improvements, but rather a reassessment of priorities and assumptions based on what we've learned in today's conflicts.

As leaders and as professionals, we should vigorously debate this issue because the outcome will define the composition of our Army in the decades to come. Become part of the discussion, whether via personal discussions, educational forums, professional writing, or blog postings. Make your voice heard. Through these discussions, we will truly help the organization learn and adapt for future requirements.

—General Peter Chiarelli, Vice Chief of Staff of the Army

THE CENTRAL EXPERIENCES that guided Army Transformation during the last two decades have been the difficulties of deploying army combat forces and the nature of missions during the 1990s that seemed to call into question the Army's relevance in an age of peacekeeping operations and precision weaponry. In light of most military operations before 2003, trading a certain amount of seemingly excessive protection to gain strategic and operational mobility made a good deal of sense. However, the primacy of rapid deployability as the driving factor for force design necessarily increased survivability risk to our Soldiers as the Army attempted to reduce combat vehicle weight to enable rapid deployment by C-130 aircraft.

The Army decided that lighter vehicles were acceptable. Network-centric technologies, some thought, would reduce the "fog of war," making the vehicles less vulnerable. This vision of combat portrays the battlefield as a networked system with an array of targets that can be incapacitated by the proper application of precision fires. This vision has held sway in spite of mounting operational experiences in the Balkans, Kurdistan, and Haiti that demonstrated these standoff capabilities were not essential to mission success. Although these operations brought into question the importance of the "network" component of the transformed Army, they remained largely devoid of close combat and thus they did not expose the potential vulnerability of a force primarily dependent on the network of sensors and long-range fires for its protection. However, the Army later discovered in Somalia, Afghanistan, and Iraq that network-centric warfare advocates underestimated the nature of future combat at the muddy-boot or dirty-track level and overestimated the capability of technologies designed to identify or suppress the enemy before he engaged Army

forces. The Army found that it needed to engage the enemy (violently or nonviolently) at close range, that friendly forces did not always make the decision of where and when an engagement would occur, and that Army forces still required the capability to survive unexpected contact.

In spite of these recent experiences that supply ample lessons about the importance of survivability and the limits of technology, weapon system deployability continues to trump crew member survivability in future force design. The lessons learned in operations, at the cost of Soldiers' lives and limbs, have exposed the vulnerabilities of the network-centric vision of warfare. The enemy's ability to circumvent technology and to exploit technological vulnerabilities calls into question the foundational assumption of network-centric warfare. While these technologies provide benefit in some situations, the Army is in danger of incurring too much force-protection risk in pursuit of an expeditionary objective while expecting network-centric technologies to make up the difference in the reduced passive armor protection that protects Soldiers from a variety of direct and indirect fire engagements. The consequences of this misplaced priority are too great to ignore and are, unfortunately, measured in the loss of Soldiers' lives. Survivability of Soldiers must take precedence over rapid deployment of equipment. If the Army does not incorporate the lessons learned from recent

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battle experience and design equipment with appropriate and effective force-protection measures, it risks losing the confidence of the American public.

The Army's Role in Future Conflict

Any discussion concerning the priorities for the design of future forces must begin with the role of the Army in future conflict. Without an understanding of what is expected of the Army, debate about the trade-off between rapid deployment capability and survivability can lead to the wrong conclusion. Army doctrine clearly describes future expectations for an expeditionary, campaign-quality Army that is proficient at full spectrum operations.¹ In response to trends of modern warfare, the Department of Defense recently placed competency in irregular warfare on equal footing with proficiency in conventional warfare. In layman's terms, the Army fills the role of a "utility player" on the joint warfighting team. The Army must be able to conduct conventional warfare, hybrid warfare, irregular warfare, humanitarian assistance, stabilization operations, and any other mission America gives it. Fulfilling these multiple roles requires a versatile, flexible, agile force that can quickly adapt to the operating environment and mission in the theater of operations. The key to success in this environment is less about the equipment and more about leaders and Soldiers adapting to the situation.

The complexity of the mission requirements defy the concept of a "one-size-fits-all" force structure. There are too many variables and uncertainties to expect a homogenous army to be equally proficient and optimally organized for any mission in any scenario. Some situations will require a heavy force capable of conventional warfare, and others will require lighter forces capable of conducting irregular warfare in restricted terrain. This combination will most certainly require trade-offs in force structure, training proficiency, and future acquisition pro-

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grams. While the Army often acknowledges these trade-offs, it must do a better job of clearly articulating and measuring them to understand the risks and potential costs of implementing its design priorities.

Trade-offs

As mentioned earlier, one of the first trade-offs is between rapid deployment capability and survivability. The pursuit of expeditionary capability is driving the Army towards lighter vehicles that can be deployed by air.² Interestingly, Army doctrine acknowledges that the need to match forces to available lift requirements drives this capability, thereby implicitly subordinating survivability to deployability and designing a force that is optimized for transport rather than fighting.³ The reduction in weight comes at the expense of Soldier protection as armor is diminished to reduce the weight of the vehicle.

One example of this trade-off is the Stryker combat vehicle. The foremost design parameter for the Stryker was transportability—the vehicle had to be small and light enough to be transported by a C-130 aircraft. Meeting this design criterion required reduced passive armor protection. The Stryker provided passive protection against heavy caliber machine guns, but once deployed, Stryker units were soon fighting an enemy armed with rocket-propelled grenades. Additional armor added to the Stryker increased its survivability against this new threat, but the increased weight and larger dimensions meant that without removing the supplemental armor the vehicle was no longer deployable by the C-130.

As the Iraqi conflict continued, additional protection was added to the Stryker. Department of the Army-directed sanctions included improvements such as blast shields around crew hatches and the driver's compartment to improve passive armor protection. On their own, Soldiers added Kevlar blankets, ballistic glass shields, sniper screens, sandbags, and 5-gallon water cans filled with sand/oil mixture. All of these modifications were attempts to increase passive protection against evolving threats. With the added armor, the Stryker is now more effective for the missions it has been given, and Soldier confidence in the vehicle is high.⁴ However, this additional armor also prevents it from fitting inside a C-130.⁵



AP Photo, Jim MacMillan

U.S. Army Soldiers from 1st Battalion, 24th Infantry Regiment, run beside their Stryker armored vehicle during a gun battle with insurgents in Mosul, Iraq, 1 December 2004.

This trade-off between force protection and rapid deployment requires the Army to solve a difficult problem: in the contemporary operating environment, is it more important to deploy a force quickly or to arrive with a force that can sustain heavy combat with the enemy? Judging from its acquisition programs, the Army's current answer is to deploy faster and accept the risk. However, lessons learned in most recent conflicts, the enduring characteristics of warfare, and the future role of the Army suggest the Army should change its priorities and have survivability, rather than deployability, as the key performance parameter of any future system. This is not to say the Army should move toward a single solution of mega-ton combat vehicles to achieve perfect Soldier protection. Nevertheless, when having to decide between deployability and a slight improvement in survivability, the Army should choose survivability.

How Fast is Fast Enough?

The Army should also consider how fast it needs to respond to possible contingencies and what combat capability it requires for those contingencies.

Rapid deployability may not be the best measure of the Army's expeditionary capability. Additionally, the Army should clearly identify how other services contribute to the expeditionary capability of the entire joint community to ensure it is pursuing a unique capability beyond that which already exists.

Army doctrine is ambiguous about deployment requirements, using such phrases as "rapidly deploy" and "quickly deploy on short notice." Initially, the objective was to design a medium-weight brigade combat team that could deploy anywhere in the world 96 hours after notification. Rather than having been derived from a plausible combat scenario, this objective seems to have served as a catalyst for lighter force design. Given the limitations of strategic airlift, the current capabilities of the joint force in rapid response, and the most likely contingencies, this 96-hour objective may not be possible or necessary for the entire force. If strategic airlift cannot deliver the newly designed force within the established time line, and if there are few scenarios that require rapid deployment capability, then it is time the Army questioned the design criteria that forced it to accept survivability risk.

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Perhaps it is sufficient for the Army to design a portion of the force for rapid deployment for contingencies that require an immediate response, while designing the rest of the force to survive in full spectrum operations. By relaxing the ambitious, 96-hour deployment goal, the Army can go a long way in solving the trade-off predicament derived from making rapid deployment the driver of design.

A Broader Look at Survivability

In the simplest sense, survivability helps prevent casualties during expeditionary, full spectrum operations. In the trade-off between deployability and survivability, survivability refers to a vehicle's ability to withstand direct hits from enemy fire. It is a subset of the larger concept of force protection, which includes an entire suite of capabilities that enable Soldiers to survive. This suite includes passive armor, but also extends to network-centric warfare capabilities that help avoid engagement by the enemy, updated doctrine that enables units to perform more effectively, and improved training that makes leaders and Soldiers more competent in combat operations.

Ideally, the Army would like to achieve 100 percent protection for its Soldiers, but the complexity and uncertainty of war make this an unattainable goal. Although there is no way to protect a Soldier from every threat on the modern battlefield, the only relatively certain way to survive the inevitable, unexpected first contact with the enemy is through sufficient passive protection. We do not propose a future force design that equips the army with 100-ton mobile pillboxes invulnerable to enemy weaponry. However, at least a portion of the force should retain some capability at the higher end of the protection spectrum, and all of the force (both combat and support units) should have satisfactory passive protection against the most likely threats. This level of force protection should be the priority over rapid deployment capability.



PFC Joshua Bullard and SGT Kang Hoon Lee, mechanics for the 122d Aviation Support Battalion, 82d Combat Aviation Brigade, use a hoist to install an up-armored door on a HMMWV, 25 May 2007, at Bagram Airfield, Afghanistan.

U.S. Army, SPC Aubree Rundle

Any discussion about survivability and force protection should expand the scope of survivability and fully consider the ramifications of not having enough protection. For instance, survivability is about more than protecting individual combat Soldiers. Force protection and survivability considerations must also extend to combat support and combat service support elements of the Army's deploying units. On the modern noncontiguous battlefield, all forces are susceptible to attack from an enemy who seeks to engage the logistical support units in locations the Army previously considered safe from enemy influence. To ignore improving the survivability of these forces is a neglect the Army cannot tolerate and a risk the Army should not accept.

Human factors also increase the importance of survivability. Appropriate force protection makes Soldiers more confident and more willing to accept necessary risks to complete the mission. From the

Soldier's perspective, the most tangible form of protection against enemy fire is passive armor. One need not look far to find examples of Soldiers who installed various forms of improvised armor on their HMMWVs and Strykers during combat operations in Iraq. Soldiers felt more secure and were more confident and aggressive in the conduct of their mission, regardless of whether or not the armor actually helped protect the vehicle.

Additionally, force protection gives commanders more options to develop the situation when information about the enemy is ambiguous or unavailable. Numerous historical examples from Operation Iraqi Freedom highlight the benefit of armor in developing an uncertain situation in the face of enemy fire. Passive armor was an important factor in giving commanders tactical options because they knew their forces could survive on a battlefield with imperfect situational awareness.⁶

Finally, the Army must provide sufficient protection for its Soldiers to maintain the trust of the American public. The public expects war to result in as few casualties as possible—both civilian and military.⁷ America, in general, has confidence in the Army and expects it to do everything possible to protect its Soldiers. However, a significant backlash could occur if the Army does not incorporate the lessons learned about survivability from Iraq and Afghanistan in future force design. Former Secretary of Defense Donald Rumsfeld's comment about "going to war with the Army you have, not the Army you want" leads to the question, "What kind of Army does America want for future warfare?" While the American public does not often think about the topic of survivability, it is a safe assumption that it would choose a well-protected Army over an Army that can deploy somewhere quickly. The Army risks undermining the confidence of the American public if it pursues rapid deployment capabilities at the expense of survivability and many Soldiers suffer preventable casualties in the next conflict.

Survivability versus Rapid Deployment

The operational environment is noncontiguous, requiring support units to be as survivable as combat units; population-centric, requiring units to operate in the midst of an enemy who lives among the population; and rapidly changing in intensity,

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requiring survivable units across the conflict spectrum. Passive armor protection that increases survivability during close combat is a necessity. Although warfare has changed in the past 20 years, movement to contact at the tactical level is not extinct. The common characteristic of most engagements in today's environment is that the enemy is only identified when he fires at friendly elements. Information dominance and various electronic and active countermeasures augment force protection, but they cannot match the primary means for survival—having passive armor protection and competent Soldiers.

In the future, Soldiers will be expected to use force in a manner that does not maximize lethality. This will require combat forces to expose themselves more frequently without relying on massive firepower. A campaign-quality army must maintain a sustained presence in an unstable and dynamic operational environment—one that will often require a consistent level of passive protection to facilitate interaction with the population. This extended mission will provide the enemy time to figure out and exploit weaknesses in the network-centric technologies—increasing the need for different methods to provide protection. Additionally, most missions will not require rapid deployment capability; the Army will have weeks and in some cases months to deploy.

Finally, the Army should prioritize survivability over deployability because the Army's enduring professional values and its relationship with the American public require it to pursue every available option to improve Soldiers' protection. This is a fundamental responsibility of Army leaders for an all-volunteer force in an era of persistent conflict.

How Should the Army Invest

Survivability cannot be solely about passive armor. The Army should continue with the holistic approach to force protection, which includes

investments in *some* network-centric warfare technologies. However, as the Army considers where to invest scarce dollars, it should be cautious about placing too much faith in network-centric technology as the primary source of force protection. Network-centric technology can work in some scenarios, but the capabilities are relatively easy for the enemy to bypass and are limited by the characteristics of future battle (close combat, urban environment, interaction with the population).

Furthermore, network-centric technology is a materiel solution for the type of warfare that will be characterized by human interaction and adaptability. Removing the fog of war through network-centric technology is not possible. There will always be uncertainty and a corresponding requirement to survive an unexpected first contact.

Finally, network-centric technology does not envision a battlefield characterized by close interaction with people and the enemy—the very type of interaction that is almost universally accepted as the norm for future warfare. Because of these limitations, the Army should not bet on network-centric warfare technology to be the primary means of force protection.

The Army should avoid or stop investing in programs that provide less force protection than the current force structure. As the Army enters an era where budgets will decrease, any future force added to the current force mix should provide a leap-ahead capability in survivability. In a budget-constrained environment, the Army cannot afford to invest in programs that do not provide capability well beyond that which already exists in the force structure. If an overall investment only results in similar capability, the Army would be better off spending its money on proven technologies it can use now rather than unproven technologies that provide similar capabilities sometime in the future. The Army should ask itself: what niche in the current force mix does the new system fill more effectively than what the Army already possesses? Is the capability the new force provides sufficiently different to warrant the cost? If the new force does not provide a unique

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capability beyond the current force mix, then further investment is not warranted.

Investments in human capital development and improved armor packages are more likely to provide a higher return in force protection and operational capability in the contemporary operating environment than investments in network-centric warfare technologies. The understanding that there are diminishing returns to what network-centric technologies contribute to operational capability should guide future investments. Just because a network-centric technology adds *some* improvement to operational capability does not mean it results in the greatest increase to operational capability.

A campaign-quality Army must be capable of sustained ground combat operations for an indefinite period.⁸ Yet, the longer the Army conducts a campaign, the greater the opportunity for the enemy



U.S. Army, SGT Alexander Snyder

Helmets and body armor belonging to Soldiers of the 100th Brigade Support Battalion from Fort Sill, OK, are lined up prior to departure at the passenger terminal at Joint Base Balad, Iraq, in preparation for unit's flight to Afghanistan, 29 March 2009. The 100th BSB was repositioned from Iraq to Afghanistan on March 28 to provide logistical support to coalition forces there.

to adapt and bypass the technological advantage designed to contribute to force protection. Passive armor and leader competence will be the best forms of protection when the enemy inevitably figures out a way to penetrate the technology protection bubble. Investment in human capital should include increasing leader development training, retaining the highest quality Soldiers and leaders, and managing personnel more effectively to ensure the Army has an “expeditionary mind-set” capable of adapting to the situation. Investment in improved armor could include extensive materials research and vehicle designs that allow the Army to install scalable armor packages on combat vehicles tailored to the local threat and the commander’s assessment. In order to have a campaign-quality army that provides sustained ground presence in a complex environment with an adaptive enemy, these investments must take priority over rapid deployment capability.

The Way Ahead

As the Army continues developing forces for full spectrum operations, it must not succumb to the temptation to pursue rapid response capability at the expense of force protection and survivability. With an environment of persistent conflict and shrinking budgets, the Army may find itself tempted to search for the “silver bullet” of network-centric technology to erase the fog of war and protect Soldiers through perfect situational awareness. However, nothing in the Army’s current or historical experience of warfare points to a battlefield where such information dominance is possible. In the complex, confusing, and often chaotic missions of the future, the enemy will bypass or circumvent network-centric warfare

technologies. When that happens, all that remains to protect a Soldier is the passive armor protection of his vehicle and his ability to fight. If we sacrifice passive protection in the name of rapid response, then we have handicapped our units for the most difficult aspect of their mission—closing with and destroying an enemy that hides among the local population. We have learned this lesson on the battlefields of Iraq and Afghanistan. The Army cannot afford to ignore it. To do so would mean having too many Soldiers return home in body bags at the beginning of the next war because the Army depended too much on network-centric technology to protect them. It is time for the Army to put survivability in its rightful place. **MR**

NOTES

1. U.S. Army Field Manual (FM) 3-0, *Operations* (Washington, DC: U.S. Government Printing Office [GPO], February 2008).

2. “Expeditionary capability is the ability to promptly deploy combined arms forces worldwide into any operational environment and operate effectively upon arrival.” FM 3-0, paras. 1-71, 1-16.

3. *Ibid.*

4. One of the research team members, Colonel Jeffrey D. Peterson, commanded a Stryker-equipped Task Force in Baghdad from July 2006–September 2007. He has personal experience with the additional armor protection added to the Stryker vehicle and use of the vehicle in full spectrum operations.

5. A similar story could be told about the HMMWV. For example, the 2d Cavalry Regiment was rapidly deployed to Iraq and equipped with an earlier version of the HMMWV that didn’t provide protection against machine gun fire. As the unit operated in Sadr City, it quickly began to add steel plates to the vehicle’s undercarriage and doors to provide more protection against the emerging IED threat. These were the first steps in adding armor packages to HMMWVs in Iraq. The continued quest for passive armor protection eventually resulted in a mine-resistant, ambush-protected military vehicle. Once again, the importance of passive armor protection emerged as a critical factor for combat operations.

6. Historical examples of this discussion are provided in Scott Boston’s article, “Toward a Protected Future Force,” *Parameters* (Winter, 2004–2005): 63.

7. There is a common belief that America is casualty-averse. The most commonly cited example of the public’s low tolerance for casualties was the Battle of Mogadishu during which 18 American casualties precipitated the withdrawal of combat forces from Somalia. However, detailed historical analysis and survey data do not support the conclusion of casualty aversion in America. For a thorough examination of this topic, refer to Richard Lacquement, “The Casualty-Aversion Myth,” *Naval War College Review* (Winter, 2004).

8. “Campaign capability. . . is an ability to conduct sustained operations for as long as necessary, adapting to unpredictable and often profound changes in the operational environment as the campaign unfolds.” FM 3-0, paras. 1-74, 1-16.