

by Mackenzie Eaglen

In order to identify the required capabilities for the Army, classic elements of force planning first demand that leaders determine model assumptions including objectives; identify where the U.S. is committed by treaty or interest; evaluate likelihood, intensity, and length of contingencies including surge capabilities; understand potential enemy capabilities; update force constraints including mobilization rates and readiness levels; and know allied capabilities for friend and foe. From there, leaders may then characterize near- and long-term risk by phase of operations and the type of mission.

This allows leaders to balance priorities with acceptable levels of risk by adjusting strategy to reduce demand, altering strategic emphasis, or accepting risk in operational timelines. Once that information is available, leaders may then ask what operational problem their forces will be tasked to solve once they are on the ground overseas. After a capability assessment, the right forces (e.g., early arriving, halt, enabler, counteroffensive, stability), the best force mix (active and reserve, heavy to light), and end strength may be determined.

As Army leaders create an updated modernization plan this year, they will be wise not to think of modernization in a vacuum, but to plan for a future force of legacy and modern platforms.

Operating Environment

As this audience knows, the 2006 Lebanon War was by no means the first instance of "hybrid" warfare--a conflict of blended or mixed warfare including conventional, guerrilla, counterinsurgency, and terrorism. For example:

* During the Napoleonic wars, Napoleon had to deploy 100,000 men and his cavalry in Spain to fight not only the Spanish, Portuguese, and British armies under Wellington, but also the guerrillas that attacked his lines of communication and rear areas with hit-and-run tactics. After defeat in Russia, Napoleon could not finish off the allied armies he defeated in Germany because his cavalry was in Spain fighting both conventional forces and the Spanish guerrillas.

* The U.S. experienced in World War II the conventional war accompanied by the insurgency warfare of the Soviet partisans in the Eastern Front, of Tito's partisans in the former Yugoslavia, and of the Maquis in France. Before the Normandy landings, U.S. forces also saw the use of terrorist acts by the French Maquis against German forces, such as the shooting in broad daylight of German officers sitting in a café and murders of those accused of collaborating with the Germans.

* The Vietnam War is another instance in which conventional war, insurgency warfare, and terrorism occurred by the Vietcong.

Hybrid warfare is not a new phenomenon, and the U.S. Army is committed to preparing to fight all types of war--conventional and counterinsurgency/ counterterrorism--simultaneously. This is because historical experience has demonstrated that blended warfare will happen and coexist more often than expected in one conflict.

Indeed, industrial-age terminology to describe warfare may not be as useful for leaders today. Commanders may instead choose to talk about operations in contested, denied, or permissive battlespaces in order to discuss what capabilities are needed now and in the future.

Warfare that constantly shifts along the conflict continuum will demand more dual-use and multi-role platforms. Hybrid conflict will also require new and creative approaches to operational problems, including the need for leaders to consider the formation of ad hoc, modular composite units where elements from other units could be attached depending on the particular mission.

Army Modernization Must Solve Identifiable Operational Problem

One concern about the Army's Future Combat Systems (FCS) program was the unanswered question of what operational problem the FCS brigade combat teams would solve in future contingency plans. Further clarifying the types of scenarios where medium-weight combat units will prevail will not only help provide leadership to Capitol Hill, but also help identify the specific capabilities needed for the revamped Army manned ground vehicle program.

During Operation Iraqi Freedom, for example, the U.S. sought to overwhelm Iraqi forces by opening five fronts in Iraq and operating with fast movements of advance and maneuver speed. The momentum of the advance of coalition forces operating from multiple fronts prevented the enemy from organizing an effective defense or counterattack. The strategic objective of the campaign was to change the regime in Iraq, and the operational objectives were to take control of the oil fields and water infrastructure and to thwart Iraqi attempts to use long-range missiles and weapons of mass destruction.

In order to achieve these goals, according to General Thomas Franks, then Commander in Chief of United States Central Command, "the object was to destroy the Iraqi military's will to fight" through a campaign of effects-based operations in which a smaller ground force would mass firepower and employ air power, precision artillery strikes, and attack helicopters to pin down and destroy a slow-maneuvering enemy force. The operation destroyed Iraq's Integrated Air Defense System, its command and control centers, government buildings, military bases, and military forces.

What are the Army's operational objectives if it were to intervene quickly to prevent the invasion of a Caucasus country where a foreign military seeks to occupy the capital and coastal towns and establish a puppet government?

* Land forces would likely send an armored heavy brigade to prevent the advance or the capture of a main port.

* U.S. forces would need to secure sections of the highway and push the enemy back to their

initial line of departure.

* The U.S. Army would need to secure any major airports and ports to bring more forces into theater.

* Soldiers would need air defenses, including against ballistic missiles, and Special Operations Forces to prevent attacks on command centers, supply convoys, logistical facilities, and radar installations.

In this scenario, a hybrid conflict is also likely where U.S. forces would have to fight pro-invasion irregular forces and militias recruited from the population.

Or perhaps the Army will have to intervene to stop a tank invasion in the Andean region of South America, fighting conventional and guerrilla forces potentially in a country with U.S. forces already present. A counterthrust and occupation after a defeat on the ground could involve initially a guerrilla and counterinsurgency war against radical militias armed with modern assault rifles. The U.S. military would also have to contend with the vibrant drug trade and its impact on contingency plans and funding of enemy forces. In many scenarios, ground forces would conduct raiding missions behind enemy lines, conduct reconnaissance missions, destroy supply convoys, attack enemy logistical facilities, and neutralize enemy reconnaissance forces.

Many other contingencies are certainly possible, although the central question is to answer where Army modernization meets operational requirements in the Pentagon's concept of operations. If the assumption is a future of hybrid conflict, the core principles of modernization appear to fall into three categories: mobility, speed, and surprise.

Army leaders should continue investing in land stealth, sophisticated active defense systems, an electro-optical countermeasures system, and a fire-control system with a radar and laser range finder. Each Army vehicle should be fitted with a C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance) system that would allow command and control of the vehicle in which it is fitted, command and control of other vehicles up to a company level, and use of a vehicle as a command post for the battalion commander. Military vehicles should be able to receive directly via datalink real-time targeting and intelligence video images collected by Unmanned Aerial Vehicles (UAVs) and be capable of using synthetic fuels and biodiesel.

Many of the Future Combat Systems' elements should be preserved if not further refined first. The Army should keep the Class I and Class IV UAVs, the unattended munitions Non-Line-Of-Sight Launch System missile launch system, the unattended ground sensors, the network and its operating principle, and unmanned ground vehicles. Continued support must be given for the development and deployment of robots and unmanned ground vehicles to provide fire support to the dismounted soldier as well as reconnaissance, surveillance, and target acquisition.

Finally, flexibility will remain critical to Army modernization. While operational surprise is more likely than strategic, commanders must expect to encounter systems currently left to the

imagination, to be fielded within the next 20 years. For example, the UAV was unheard of 20 years ago, yet today it is essential to the fight.

Upgrading Legacy Fleets While Building Next-Generation Vehicles and Network

No single platform, including vehicles, operates alone. As a result, Army modernization will be undertaken while maintaining equipment of various classes and ages--a constant mix of upgraded legacy systems and new platforms. Determining the appropriate numbers versus technology mix will remain a central force planning question. A subset to resolve will include size versus technology and weight. Leaders must also decide what purchases will offer a deterrent capability, including human capital (e.g., combat-hardened Army soldiers and officers); what equipment will provide operational capability; the impact of disruptive events; and what partners and allies might contribute.

While operations in Iraq and Afghanistan have shown the value of heavy armored vehicles, commanders must acknowledge that potential enemies may invest to exploit perceived or real shortfalls. For example, China does not possess any aircraft carriers today, but it now has an anti-ship ballistic missile that can strike carriers at a range of 2,000 kilometers and a large submarine fleet.

For leaders, identifying the heavy-versus-light "sweet spot" will be an ongoing challenge. Further, trading heavy forces for medium may not save money. Nor is trading heavy for light forces a legitimate option due to the augmentation needed for infantry brigade combat teams today prior to deployment. Army leaders must therefore consider the Reserve Component when making modernization choices and decide whether forces currently in the Active Component today should be shifted.

A holistic approach to modernization that invests in legacy upgrades and new equipment, as well as Active and Reserve Components, will benefit the Army. An incremental approach to building new ground vehicles will also bolster confidence in Army acquisition. Building one ground vehicle at a time would allow for the development of a common chassis and allow follow-on variants to be built more quickly.

Leaders should also consider that just because the manned ground vehicles were canceled in this year's budget does not necessarily mean the requirements process is flawed. Much of the manned ground vehicle capability must be retained for the next effort, but the acquisition process can and should be altered. Many of the central requirements of FCS are still needed in the son of FCS.

Further, there is no doubt the network must again become the centerpiece of modernization. Indeed, Vice Chairman of the Joint Chiefs of Staff General James Cartwright has said future vehicles are not survivable without the network.

Heavy, Medium, and Light Mix: Study the Formation of Composite Units

Beyond identifying specific capabilities, a constant tension will exist to manage legacy and new

fleets with shrinking budgets. This may require commanders to study the repackaging of existing resources while waiting for new replacements to be fielded. This is particularly important because the resources are not available for Army leaders to recapitalize vehicles on a one-to-one basis.

Composite units of different equipment and vehicles with unique capabilities, along with the future manned ground vehicles, might help to offset the inevitable declining number of platforms. Using vehicles attached to other units to form ad hoc composite units as required by the operational situation would provide commanders more flexibility. Combined arms composite units would be modular in that elements from other units could be attached depending on the particular mission. For example, commanders could attach more sniper sections for an urban mission or add a cyber warfare company, a military intelligence company, a signals company, an anti-armor company, a reconnaissance squadron, or an air defense company as needed.

Composite units can be formed by combining, in accordance with the operational requirements, the tactical situation, and the forces available, sub-units from maneuver brigades--heavy, Stryker, and Infantry Brigade Combat Teams (IBCTs)--with military aviation units, artillery units, airborne forces, air assault, armored cavalry, armored infantry, air defense, Special Forces, combat engineers, mountain troops, Marine Corps, and even private contractors. Put together through a concept of unit and sub-unit modularity, the ad hoc task force would function under a single C4ISR system.

For example, commanders should consider supplying the Stryker armored personnel carrier to IBCTs to equip the two infantry battalions when deployed to protect forces from enemy ambush. When deployed in non-combat zones, the infantry troops would be transported in military tactical vehicle trucks. These brigade units of action would shift from light infantry units to medium combat units, upgrading their combat rating.

Each Stryker would carry infantry squads and provide soldiers improved mobility, speed, protection, and firepower when compared to a truck. Strykers would also provide a command center for the squad unit due to the Stryker's own C4ISR system. Commanders should study whether the 105 mm Stryker Mobile Gun System should also be supplied to the IBCTs to provide them with their own fire support against enemy combat vehicles, bunkers, and strong points in urban areas.

Another example could include the commander of a Heavy Brigade Combat Team temporarily adding elements of an Airborne unit as part of an armored thrust task force consisting of other elements like an attack helicopter battalion or a Multiple-Launch Rocket System (MLRS) battalion. This custom-built unit could serve as the core for composite units, having attached to it elements from other formations, such as attack helicopters, MLRS batteries, airborne troops, or air assault troops with their transport helicopters.

Independent tank and mechanized infantry battalions and combined arms battalions with semi-independent companies would provide the capability of deploying anywhere in the world in 48 hours. The independent heavy units would have an organic Unmanned Aerial Vehicle reconnaissance platoon. Combat or anti-mine robots (explosive charge robot, anti-mine MULE

robot, infantry combat MULE variant, armed IED-reconnaissance robot) could be attached to the independent tank battalions, with each tank having the command-and-control capability to operate the robots.

Independent or semi-autonomous units would allow a "running start" operation where units engage in combat upon arrival instead of waiting for the complete ground force to be assembled in theater first. An independent unit could hold a front against the earlier stages of an enemy offensive, arriving at a threatened area 48 hours after the beginning of an invasion.

Robust Navy and Air Force Are in the Army's Best Interests

For the Army to continue fulfilling its missions, the U.S. Armed Forces will need to achieve superiority in many spaces of operation simultaneously in a conflict: on land; above, at, and below sea; in the air; throughout the outer space (navigation, communications, and reconnaissance satellites); and within cyberspace. For example, Air Force space assets, including bandwidth and GPS among others, will remain essential to ground operations, secure command and control, and situational awareness.

Air superiority fighters are required to eliminate threats from the air, provide close air support, allow UAVs to operate freely, and eliminate sophisticated enemy air defenses. This matters to the Army because once the fifth-generation F-22 air superiority fighter technology was introduced, it opened Pandora's Box in that there is no going back in the technological arms race in the air. Defense leaders should smartly assume that by 2025, other countries will have developed advanced stealth fighter capability. This capability protects soldiers and Marines on the ground, and investment must be maintained for the joint force to truly succeed.

Leadership and Capitol Hill

Members of Congress want to clearly understand the Army's overall force mix of heavy, medium, and light forces when a modernization plan is delivered in September. Congress has also highlighted its concern in recent defense bills that the Army modernize while simultaneously upgrading and expanding legacy fleet capabilities. This may take some up-front resources from next-generation platform investments. In an era of declining resources, this predicament is not ideal; however, the Army simply cannot afford to skip another generation of modernization on top of the last one. Credibility is required for continuous robust investments and resources.

A dilemma for military planners--and primary flaw of threat-based planning--is when requirements chase the problem of the day. Due to budget constraints and the nature of conflict, the common themes for many new systems will include dual-use, multi-capable, and multi-role. No matter the details of Army modernization, acquisition officials must be capable of managing and executing a realistic, stable program.

Senior Army leaders must be able to answer Congress's questions up front before full-rate ground vehicle production, including:

- * Will manned ground vehicles replace Bradleys alone (or also Strykers or M-113 armored personnel carriers)? If more than one vehicle, in what order will they be built?
- * What is the Army's plan for competitive prototyping?
- * What legacy vehicles will be upgraded during modernization (e.g., Abrams)?
- * How do Army modernization programs meet Reserve Component requirements?
- * What is the Army modernization plan for non-maneuver brigades (e.g., fire support; mobility; aviation; and intelligence, surveillance, and reconnaissance)?
- * Does Army modernization strike the right balance between legacy and new vehicles?
- * Do the modernization plans account equally for strategic and tactical mobility?
- * Do medium-weight brigade combat teams possess both maneuverable and survivable capabilities?
- * What capabilities are being built to meet cross-service requirements (e.g., Marine Corps Joint Light Tactical Vehicles)?
- * What is the Army's plan for air mechanization?

Congress is predisposed to support Army modernization efforts so long as Army leaders manage the program skillfully without overreaching in requirements, send up honest cost estimates, and instill discipline throughout acquisition. Requirements definition and the stability of those requirements throughout the research, development, and acquisition process are key to success.

Army leaders must not be afraid to tell industry when requirements are unmet. Army leaders did the right thing by terminating the Aerial Common Sensor program when it became clear the platform would not work and issues with the program would not be resolved satisfactorily. The Army has the authority and funds now to send fielded FCS equipment overseas. Continuing to refine modernization plans without fundamentally overhauling requirements will be helpful going forward.

Urgency on the part of Army leaders is understandable given the generation of upheaval and cancellations in Army modernization programs. Demonstrating to the Hill that Army officials have a competent plan of execution will reap dividends for years and get the Army what it needs now: an upgraded legacy fleet and modernized force.

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