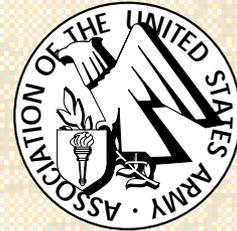


The ARMY Magazine Hooah Guide to Army Transformation

By Dennis Steele
Staff Writer



**A 30-Minute Course
On the Army's
30-Year
Overhaul**

The Background,
Plans, Players and
Possibilities of Army
Transformation—a Sweeping Program to
Boost the Army's Capabilities and Fundamentally Change
How Soldiers Fight in the Future While Making Shifts
To Be Ready for a Battle That Could Break Out Today

Why Should the Army Change? Why Now?

In case you have not heard, we won the Cold War—sort of. It was like squashing a large blob of mercury with your hand and having a lot of small blobs squirt through your fingers. With the breakup of the Soviet Union, America's superpower adversary ceased to be a superpower, but many smaller threats came along. The bilateral balance that held the world in checkmate since the end of World War II went out of kilter. The chocks were jerked from the wheels, and a portion of the world raced downhill, out of control and bashing into things along the way. A large chunk of the world went nuts. Although almost five decades of bilateral head-butting and nuclear standoff might not qualify as sanity, the Cold War had coagulated into something people largely accepted as stability, at least in hindsight.

Almost every continent now harbors several flash points, and many have flashed during the past decade, putting U.S. troops into Haiti, Somalia, Bosnia, Kosovo and East Timor, just to hit some of the highlights.

Nowadays, there is this creepy term **asymmetrical warfare** slithering around in the shadows, a range of threats for which we are least

prepared and most vulnerable. We also now have things called operations other than war, which their ponderous name identifies as anything short of what we know as conventional, maneuver force-on-maneuver-force warfare—peace enforcement, humanitarian assistance, disaster relief and the like.

For a half century, the U.S. Army had been organized and equipped to meet America's security needs for the Cold War. Now, America's security needs have changed, and the Army must reorganize and reequip to better meet those needs while modernizing for the future in the next 15 to 30 years. This is a time during which experts believe the United States will not face a major adversary, which gives America a little breathing room to make shifts in its defenses. This period, experts say, is peacetime, but that does not necessarily mean it will be peaceful.

Quotations used in this guide are taken from speeches and other first-person sources as indicated, and from the Dictionary of Military and Naval Quotations, compiled by Col. Robert Debs Heinl Jr., U.S. Marine Corps, retired. Graphic design by Paul Bartels.

“ Quotable ”

“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.’ With that overarching goal to frame us, the Army will undergo a major transformation...”

**—Army Chief of Staff Gen. Eric K. Shinseki,
October 1999, in his speech launching
Army Transformation.**

A Different Twist on Having 2020 Vision

Vision, in the planning sense, is a way to look farther down the road than you can possibly see because the project's time line stretches beyond the horizon. Army Transformation's details for the next five years are fairly clear. Those for the following five years are more general. Things in 2015 and beyond—the time for which Army Transformation is ultimately geared—are distant glimmers toward which the plan is continually inching. As the time is projected forward, the more nebulous the plan becomes simply because many of the key elements remain to be invented.

Basically, a planning vision is a way to guide things toward the foggy regions that cannot be seen with precise clarity or accomplished soon. Some of the people who must carry Army Transformation to its end have not yet entered the Army; some have not even been born.

Army Transformation is based on the Army Vision that Army Chief of Staff Gen. Eric K. Shinseki an-

nounced last year: "Soldiers on Point for the Nation...Persuasive in Peace, Invincible in War." That is the general plan, and succeeding layers of the vision flesh it out, starting with an overriding requirement, key principle and primary objective statement.

The requirement is that readiness continues to be the Army's top priority. The Army must maintain the capabilities to fight the nation's wars, support the national military strategy, fulfill requirements specified by the Joint Strategic Capabilities Plan and other requests from the commanders in chief of the U.S. unified commands.

The principle recognizes that the Army's people—soldiers and their families—are the centerpiece of Army capabilities and represent the most important element of change.

The objective statement sets the goal for Army Transformation, calling on the Army to create "strategic dominance across the entire spectrum of operations" with seven broad goals. They are to make the Army more **RESPONSIVE, DEPLOYABLE, AGILE, VERSATILE, LETHAL,**

SURVIVABLE and **SUSTAINABLE**. Everything stems from those goals.

Army Transformation represents the sweeping measures to accomplish the Army Vision, changing the ways that the Army thinks, trains and fights.

“Quotable”

“When ordered, we intend to get to trouble spots faster than our adversaries can complicate the crisis. Once there, we intend to leverage for de-escalation and a return to stability through our formidable presence. But if deterrence fails, we will be postured to prosecute war with an intensity that wins at least cost to us and our allies and sends clear messages for all future crises.”

—Gen. Shinseki, October 1999.

Staying in the Net

For more information about the Army Vision, see the U.S. Army's main web site (www.army.mil) and click on "Vision." For the full text of Gen. Shinseki's 1999 Army Transformation speech, see the U.S. Army Training and Doctrine Command's Transformation Directorate web site (www.tradoc.army.mil/transformation/index.html) and click on "Media."

Deployments: They Have Become Somewhat Better

United States had demobilized after the Civil War to the point where there were only about 28,000 soldiers on active duty, most of them serving in the West. About a quarter million volunteers, militiamen and reservists rushed enthusiastically to answer the call. Unfortunately, the Army had only 57 soldiers assigned to the Quartermaster Department to equip

them. The volunteers impatiently waited in port cities for equipment and transport, which were slow in coming. When the supply system finally got up and running, supplies were rushed

Landlubber Skippers

The U.S. Army's first major amphibious operation on foreign soil occurred during the Mexican-American War on March 9, 1847, with a landing near Veracruz, Mexico. The Army primarily employed chartered ships and boats (54 steam vessels and sailing vessels that included two barks, eight brigs, 34 schooners, four ships of unclassified scale and 201 other boats).

The operation is historically hailed as a success, giving Maj. Gen. Winfield Scott a victory, but that is not to say that it did not have its glitches. Apparently, Army personnel were more or less "captaining" the chartered vessels, and U.S. Merchant Marine accounts indicate that the Army's own Quartermaster General said after the war that he was "embarrassed by the want of practical knowledge which nautical men only possess" and that it might be a good idea for the Navy to operate the Army's oceangoing transports in the future.

The United States' worst deployment debacle occurred during the frenzied invasion of Cuba in the Spanish-American War. The Army largely was, let us say, challenged in getting fighting units across the narrow sliver of water separating Florida and Cuba. First of all, the Army had few units in 1898 as the

“Quotable”

“When the army is landed, the business is half done.” —Gen. James Wolfe, 1758

by rail to the major debarkation port of Tampa. Logisticians, however, had failed to recognize that the city had only two rail lines running to it (only one of which reached the port), and at one point railcars were stacked up as far as South Carolina.

Theodore Roosevelt, a lieutenant colonel of volunteers, was among the troops milling around Tampa and eager to get to Cuba. Roosevelt noted that “Tampa was a scene of the wildest confusion” and described ship loading as a “higgledy-piggledy business.”

Many soldiers jumped aboard any vessel that was handy because they did not want to be left behind.

The challenges did not end when ships finally reached Cuba because there was no adequate way to unload them, not enough lighters to ferry soldiers and equipment to shore and no adequate way to unload the horses. First, they tried using a crane and slings to haul the unfortunate animals one-by-one from ships. The method was slow, dangerous and not well liked by the horses.

The so-called solution was to herd the horses overboard and let them swim for shore. Many did not make it, including two that belonged to Col. Roosevelt, who himself had disembarked only with "some food in my pocket and a light coat which was my sole camp equipment for the next three days."

Under Army Transformation, brigade combat teams are supposed to operate without outside support for three days with only the supplies and fuel they have aboard their vehicles when they roll away from aircraft that deliver them to an area of operations.

Brigade Combat Teams: 96 Hours— Ready to Roll, Ready to Rock

The Army Transformation deployment capability requirement is the ability to put a combat-capable brigade anywhere in the world within 96 hours, a full division in 120 hours and five divisions on the ground within 30 days.

Every piece of equipment belonging to an interim brigade combat team (IBCT) must be transportable by C-130 aircraft and require little, if any, reception and onward movement support. An IBCT must leave the airstrip with the ability to operate without any further

The Army Transformation acronym IBCT can mean either interim brigade combat team or initial brigade combat team. An interim brigade combat team is one of the six to eight such teams that will be established as the backbone of the interim force. Initial brigade combat teams refer specifically to the first two such teams that are being established at Fort Lewis, Wash., more or less to identify them as being in a developmental status. According to sources from the U.S. Army Training and Doctrine Command, the initial brigade combat teams become interim brigade combat teams on the day they become operational. Either way, they are IBCTs.



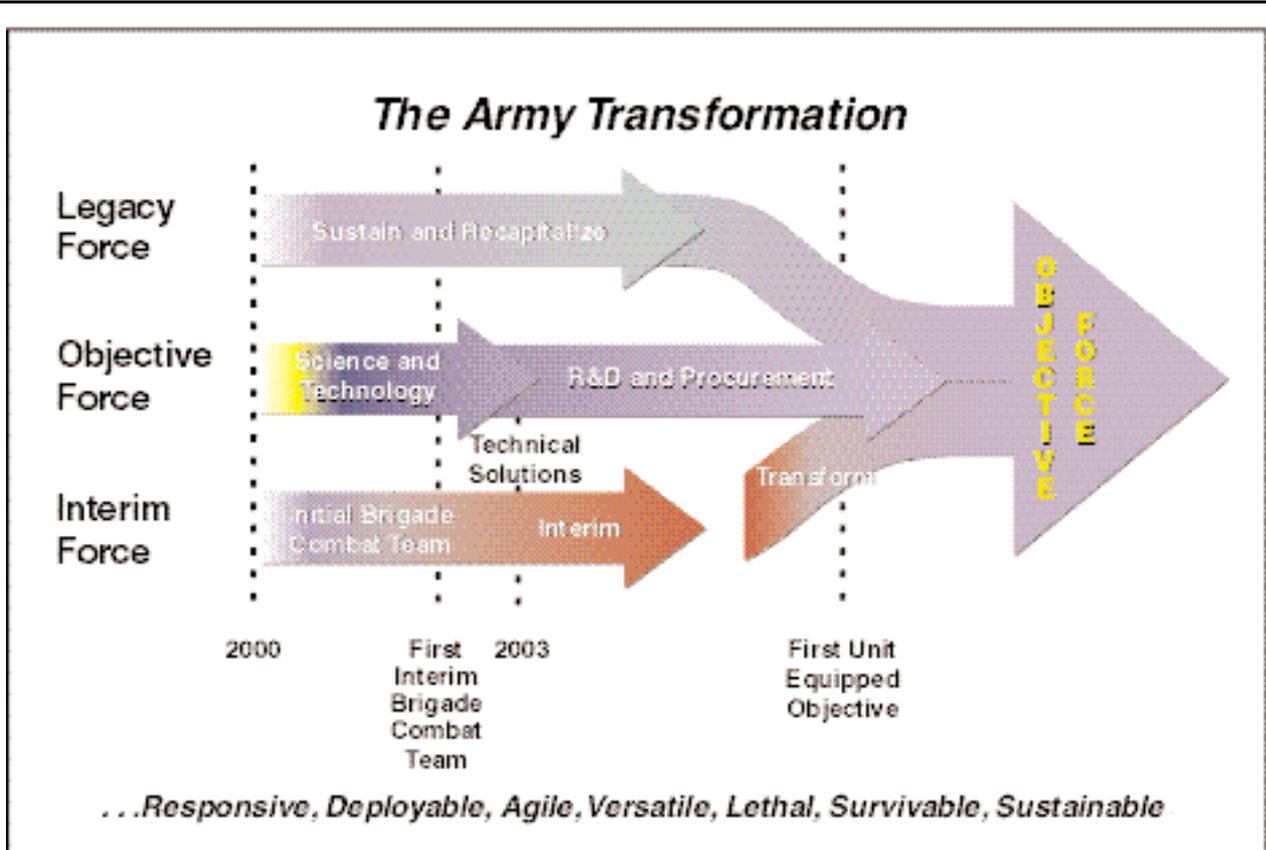
“ Quotable ”

“ It is better to be on hand with 10 men than to be absent with ten thousand.” —Tamerlane (circa 1336-1405)

“ We can get along without anything but food and ammunition. The road to glory cannot be followed with much baggage.” —Maj. Gen. Richard S. Ewell, 1862

support for at least three days.

The first two IBCTs (as in initial brigade combat teams) are based at Fort Lewis, Wash., which is co-located with McChord Air Force Base near Tacoma and provides the IBCTs with an excellent power-projection platform.



The Master Flowchart

Top leaders of the transformation program contend that Army Transformation is one of the most sweeping institutional changes ever envisioned for the Army. We are not talking about just new equipment, vehicles, uniforms, basing, doctrine, tactics, training or any other single aspect or coupled aspects, which have undergone incremental changes since the Battles of Lexington and Concord. Leaders say that Army Transformation is a total overhaul of training, doctrine, equipment and institutional thinking—a burnishing of the Army down to bare metal, piece by piece, and rebuilding it while never taking it off-line.

Army Transformation’s complexity has been boiled down to a single chart, which depicts (as arrows) the paths for development of three key elements: the **legacy force**, the **objective force** and the **interim force**. For approximately the first decade of the 21st century, they follow separate paths and merge during the second decade to create the final product, which is envisioned as a whole new Army.

The term **legacy force** centers on the major weapon systems that the Army has in its

Staying in the Net

**For more information, see the main
Army Transformation web site
(www.army.mil/armyvision/chain.htm#transform).**

inventory today, principally the Army’s primary ground combat maneuver vehicles, the M1 Abrams tanks and M2/M3 Bradley fighting vehicles, and armored fire-

support and combat-support vehicles. This is popularly known as the heavy force, comprising the Army’s mechanized infantry and armored divisions. The Army plans to continue upgrading the

heavy force while developing the other paths. The legacy force will continue to be the Army's primary warfighting maneuver force for the foreseeable future.

The **interim force** is a stopgap force in several ways and a leap-ahead force in others. The plan is to use available technology to reequip brigade-sized units to adapt them to meet many of the Army's missions. This will enable them to deploy more quickly than the heavy forces but have more combat punch, ground mobility and soldier protection than the Army's light forces, the airborne, air assault and light infantry units. The interim force has another purpose, too. While interim force units handle missions, they will also be used to develop much of the doctrine and training aspects of the objective force.

The **objective force** represents the art of the possible: what can be done to equip, organize and train units to assimilate the best aspects of the heavy, light and interim forces. Futurists believe that the line distinguishing the heavy force and light force will progressively blur. The objective force axis is designed to give the Army the means to make that blur possible while retaining all capabilities—the full-spectrum capabilities that are a linchpin of the Army Vision.

Currently, the objective force is in the science and technology phase, which mainly focuses on equipment at this stage. Laboratories and other research facilities belonging to the Army, Department of Defense and private industry are doing core research to create, for example, a new family of armored fighting vehicles called the future combat system. Their goal is to produce fighting vehicles that are much lighter than armored vehicles in service today but which offer equal or better protection for soldiers who will use them.

Misconceptions & Myths

The biggest misconception, or just plain myth, about Army Transformation is that the plan is for the Army to dump its tanks and mechanized infantry fighting vehicles quickly in favor of lightly armored, wheeled vehicles. That is wrong. Abrams tanks and Bradley fighting vehicles will remain in the Army's inventory for decades. Soldiers who enlist or take a commission in the Armor branch today will likely be riding an Abrams tank (upgraded, of course, under legacy force development) when they become eligible for retirement. Traditional tracked heavy tanks and fighting vehicles are going to be a part of the Army for a long time.

Major misconception No. 2: Interim brigade combat teams will take over the light force's job of kicking in the door. That is not right, either. Airborne, air assault, light infantry and special operations forces will continue to be the Army's forced-entry team. The initial brigade combat teams are not being organized to be the tip of the spear point.

Major misconception No. 3: The interim brigade combat teams are just peace-keeping forces. Wrong again. They will have major hell-bent-for-leather, go-to-war missions in addition to being able to handle operations other than war. They are combat formations first and foremost and will have a substantial amount of firepower. There are a number of roles for them on the conventional battlefield.

Army Transformation's Board of Directors

Under Planning Directive #1, key personnel involved in implementing the Army Vision are the Chief of Staff of the Army (CSA); Vice Chief of Staff of the Army (VCSA); Commanding General (CG), U.S. Army Training and Doctrine Command (TRADOC); CG, U.S. Army Materiel Command (AMC); CG, U.S. Army Forces Command (FORSCOM); Director of the Army Staff (DAS); Assistant Vice Chief of Staff of the Army (AVCSA); Military Deputy to the Assistant Secretary of the Army (ASA) for acquisition, logistics and technology (ALT); Deputy Chief of Staff for operations and plans (DCSOPS); Deputy Assistant Secretary of the Army, Army budget; and Director of program analysis and evaluation (DPAE).

Their responsibilities:

- The **CSA** leads the effort and is the approval authority for all associated actions except as otherwise directed by the Secretary of the Army.
- The **VCSA** assists the CSA as directed while managing day-to-day affairs of the Army.
- The **TRADOC CG** is the lead agent for the operational force transformation effort as directed by the CSA. Responsibilities include developing analytically validated organizational and operational concepts for each phase of Army Transformation and its doctrinal foundations.

The CG also oversees activities of the TRADOC Deputy Commanding General (DCG)

for transformation, based at Fort Lewis, Wash., who focuses on fielding the initial brigade combat teams. (The DCG for transformation has no command authority over the brigades but has liaison responsibilities and coordinates activities with FORSCOM and the chain of command.)

- The **AMC CG** supports the TRADOC CG and ASA (ALT) by providing science and technology, equipment acquisition and sustainment planning.
- The **FORSCOM CG** assists the TRADOC CG as required and works with the DCSOPS to ensure that all joint requirements are fulfilled.
- The **DAS** performs duties as assigned by the CSA and is responsible for addressing issues and considerations that concern the Army staff.
- The **AVCSA** performs duties as assigned by the CSA.
- The **Military Deputy to the ASA (ALT)** supports the Army staff with research, development and acquisition planning and directs the program executive officer structure to support TRADOC in the development and execution of plans. This person develops the science and technology plan, working with TRADOC, AMC, the Defense Advanced Research Projects Agency and other agencies.
- The **DCSOPS** is the G-3 for Army Transformation. The DCSOPS's duties include developing Army strategic planning guidance,

Staying in the Net

Chief of Staff of the Army: www.army.mil/csa/

Vice Chief of Staff of the Army: www.army.mil/vcsa/

U.S. Army Training and Doctrine Command: www.tradoc.army.mil

U.S. Army Materiel Command: www.amc.army.mil

U.S. Army Forces Command: www.forscm.army.mil

Office of the Assistant Secretary of the Army (acquisition, logistics and technology):
www.sarda.army.mil

Office of the Assistant Secretary of the Army (financial management):
www.asafm.army.mil/

Office of the Chief of Legislative Liaison: www.hqda.army.mil/ocll/

ArmyLink (Office of the Chief of Public Affairs): www.dtic.mil/armylink/index.html

which includes supporting rationale for transformation in accordance with the Army vision. The DCSOPS also is responsible for developing the near- and long-term synchronization matrix—the game plan for melding the complexities.

- Responsibility for designing the funding strategy is given to the **deputy ASA, Army budget, and DPAE**.

The Director of the **CSA's staff group** (CSG) maintains the record for all CSA-chaired meetings, assists the DCSOPS with establishing the agenda for all meetings and

performs other duties as assigned by the CSA. The **Chief of legislative liaison** provides support, as required by the CSA, developing and implementing a strategic congressional action plan. The **Chief of public affairs** provides support as required by working with the CSG strategic communications division to develop the public affairs and communications plans to inform external and internal audiences. The position of **Deputy Chief of Staff for Programs** recently has been created with responsibilities for Army Transformation.

The Campaign Plan: Phase 1—Locked, Loaded and Waiting

The Army Transformation charter addresses Phase 1 of the overall plan, organizing and equipping the initial brigade combat teams (IBCTs) and making them combat ready. Phase 2 is the establishment of the interim force (six to eight brigade combat teams and, possibly, a division headquarters). Phase 3 is the establishment of the objective force.

The first phase is divided into four major subsets:

Phase 1a—developing requirements for resources, materiel development, fielding and training. **Status: completed.**

Phase 1b—fielding and supporting new equipment and providing the organizational training to employ and maintain it. **Status: holding.** (See the situation report.)

Phase 1c—training the unit to a C1 readiness level and preparing the unit to execute its assigned operational missions. **Status: delayed.** (See the situation report.)

Phase 1d—planning the development and fielding of subsequent forces, equipping those forces with second- and third-generation upgrades of the initial IBCT equipment. **Status: ongoing.**

Situation Report

The Army selected the light armored vehicle (LAV) III as the vehicle platform to equip the interim brigade combat teams, but the anticipated production schedule (and congressionally mandated testing requirements) will delay the first brigade combat team's planned operational date an estimated 14 to 16 months. Meanwhile, one of the competitors for the contract lodged an official protest of the acquisition decision, and the Army is awaiting a finding by the General Accounting Office in the case.

'Git Thar' Firstest with the Mostest'*

The interim brigade combat teams (IBCTs) are being organized and equipped to deploy nearly as quickly as light infantry units, pack a lot more firepower and provide armored mobility for their soldiers.

IBCTs are coming on line because of more than 10 years of Army deployment experience, starting with Operation Desert Shield in 1990. The first U.S. Army unit deployed to Saudi Arabia to draw a line in the sand was the 82nd Airborne Division, which faced a substantial Iraqi heavy armored force. The ability to get there first did not mean that soldiers had the right military capabilities for the job. This operational shortfall continued throughout the decade of the 1990s, culminating with the 1999 deployment to Albania/Kosovo. At that time, several factors converged to become the proverbial straw that broke the camel's back.

A primarily light infantry task force (an augmented 82nd Airborne Division battalion) was sent into Kosovo to hold the line, so to speak, without benefit of many vehicles and none with armor protection. The handful of armored vehicles that accompanied the task force was largely employed to form roadblocks and to provide perimeter protection at the growing American encampment that was later named Camp Bondsteel. Most operations were conducted on foot or from Humvees.

Should you ever be prone to whine or worry about sending U.S. troops into a hostile area in "light armored" vehicles, consider that initial operations in Kosovo often were conducted by soldiers riding in the backs of open

“*Quotable*”

***The phrase often attributed to Confederate Gen. Nathan Bedford Forrest generally is believed to have been expressed less colloquially:**

“Get there first with the most men.”

cargo Humvees, or at most, cargo Humvees with the canvas still up. Few American soldiers had more than a Kevlar vest between them and the retreating Serb army or special police, incoming Kosovo Liberation Army and every paramilitary wanna-be, vigilante or scared, property-protecting citizen who could get his or her hands on a firearm or hand grenade (and there were plenty around).

Having something that offers fairly good protection on hand is far better than having something with impenetrable armor that is sitting in a motor pool several thousand miles away.

Another factor was that the Air Force had to employ primarily its C-17 aircraft fleet

IBCT Capability Requirements

- Complement light forces for small-scale contingencies and crisis response for stability and support operations.
- Complement mechanized and light infantry forces in a major regional contingency.
- Operate as an integral part of a light or mechanized division task force for full-spectrum operations.
- Reduce the overall logistics footprint through its combat service support concept.
- Provide options to meet an urgent need that is not currently available.

to transport the follow-on mechanized infantry task force from Germany to the former Yugoslav Republic of Macedonia for onward movement into Kosovo. C-130s and C-141s cannot carry Bradley fighting vehicles or Abrams tanks. (Most of the reinforcing Abrams were transported to Greece by ship, then to Camp Able Sentry by heavy equipment transporter, and finally self-deployed into Kosovo over constricted roads.) Thus the deployment taxed the C-17 fleet and crews because the large theater airlift fleet (C-130s) could not be used to transport the armor, and the deployment was made more ponderous by the sealift

operation and long road march.

When the armor did arrive in numbers, it generally was parked like so many static pillboxes, and soldiers used the units' Humvees because they had to patrol narrow city streets and get around quickly.

Considering every negative factor from the Kosovo deployment (and other recent deployments), the Army decided to outfit a limited number of units with equipment that could better handle many of the missions that the Army is getting and put that equipment into the hands of soldiers as quickly as possible.

IBCTs: The Army's Contemporary Dragoons

The interim brigade combat teams (IBCTs) precisely fit the definition of dragoons: mounted soldiers who ride to battle but, generally, fight dismounted. The IBCTs are infantry and cavalry units that dismount from their armored vehicles to conduct their primary missions.

The dragoon designation was especially popular in the late 1700s through the mid-1800s, when armies fielded formations of mounted infantrymen armed with stubby musketoon (the predecessor of carbines). The U.S. Army's 1st Cavalry Regiment and 2nd Armored Cavalry Regiment of today trace their lineage to the 1st and 2nd Dragoons, respectively.

The dragoons' primary mission was reconnaissance, flank security, raiding and the like, as opposed to the mission of classic cavalry formations, which was to ride into the midst of the battle (fighting from horseback), strike at the critical

moment to break the enemy's onslaught or defense and pursue the haggard, retreating elements unto their demise, surrender or flight.

Apparently, some dragoon regiments (at least in the British army) were jealous of the more plumaged and honored heavy cavalry units and, as time progressed, proceeded to get out of their respective operational lane. They "heavied" themselves with arms and increasingly stout (read that plodding but imposing) horses in an attempt to usurp some of the cavalry's glory—making themselves completely unsuitable for their original missions. As battlefield commanders needed the dragoons' capabilities (scouting and infantry maneuverability), "light dragoon" regiments subsequently were formed to get back to the basics—riding swift horses, performing less dashing tasks and leaving a lot of gear behind.

IBCT Organizational and Operational Concept

The draft organizational and operational (O&O) concept calls for an interim brigade combat team (IBCT) to have 3,893 personnel assigned to it. The bulk of those soldiers will be in the brigade's three infantry battalions (2,250) and reconnaissance, surveillance and target acquisition squadron (499). The antitank company has 70 soldiers, the artillery battalion has 288, and the brigade support battalion has 382.

The IBCT's headquarters and headquarters company (HHC) strength is 118 personnel. There are 88 soldiers in the brigade's signal company and 70 in its military intelligence company. Each battalion's HHC includes a headquarters section, medical platoon, reconnaissance platoon, mortar platoon and sniper squad.

Infantry companies are organized as combined arms teams, with three rifle platoons, a mobile gun system platoon, a fire-support

team, a mortar section and a company sniper team. Each company also has medical treatment support and medical evacuation support elements. Infantry platoons are organized as three rifle squads, a weapons squad and a platoon headquarters element.

Each rifle squad is a nine-soldier element with a staff sergeant squad leader and

two four-soldier fire teams. A fire team consists of a team leader (sergeant), grenadier and automatic rifleman. The fourth member of each team is either the squad anti-tank specialist or squad sharpshooter.

The nine-soldier weapons squad has a squad leader, two three-soldier machine gun teams and a two-soldier antitank team.

Each squad is a mounted element with one interim armored vehicle (IAV) per squad. Each IAV has a vehicle commander/gunner and driver.

Staying in the Net

The brigade combat team draft organizational and operational concept (hundreds of detailed pages for downloading) can be found at the U.S. Army Tank-automotive and Armaments Command site:

contracting.tacom.army.mil/majorsys/brigade/formalrfp/BCTOandO/bctoando.htm

Lift and Support Requirements Comparison

The airlift requirement for an interim brigade combat team (IBCT) is about half that of standard heavy brigade. Exclusively using the C-17 transport for baseline comparison, a heavy brigade requires approximately 430 C-17 sorties to deploy, and an IBCT will require approximately 212 C-17 sorties.

Operational and sustainment costs for an IBCT (equipped with the interim armored vehicle) are \$4.7 million annually, compared to \$7.6 million for a Force XXI heavy brigade.

The combat service support footprint of an IBCT is half the size of a Force XXI heavy brigade. A heavy brigade requires about 38 percent of its task organization to be dedicated to support; an IBCT requires 19 percent. About 570 fewer troops are required to support an IBCT than to support a Force XXI heavy brigade.

FCS: The Primary System for the Objective Force

The future combat system (FCS) will be the primary weapon/troop-carrying platform for the objective force. The FCS is envisioned as a network-centric system of systems employing a common vehicle platform. The FCS will have four primary functions: indirect fire, direct fire, infantry carrier and sensor. Each FCS platform will be able to process reconnaissance, surveillance and target-acquisition capabilities organic to the unit and intelligence information from higher echelon and national strategic systems.

FCS development criteria require each vehicle to fit on a C-130-sized transport aircraft. Compared to the current Abrams tanks, the FCS is to be 70 percent lighter and 50 percent smaller while having equivalent (or better) lethality and survivability. The FCS is to weigh no more than 20 tons with 300 to 400 cubic feet of internal volume. (The Abrams weighs 70 tons and has 650 cubic feet of internal volume.)

Among technologies that could be incorporated into the FCS are an electromagnetic gun, a directed-energy weapon, precision missiles (using common modular missile technologies), networked fire control and robotics. Unmanned FCS platforms could perform the indirect-fire, direct-

fire and sensor functions.

Each FCS is to incorporate capabilities for wireless communications and sensor-data reception, and it is possible that the power plant could use hybrid electric propulsion or fuel cells. Armor protection could be based on an active protection system to defeat chemical energy (CE) and kinetic energy (KE) threats. The defeat mechanisms include multiple explosively formed penetrators (for CE), a momentum-transfer mechanism (for KE), which destroys or disrupts the incoming round, or an air blast to cause the incoming round to miss—in other words, smart armor.

“*Quotable*”

“The only thing harder than getting a new idea into the military mind is to get an old one out.” —B.H. Liddell Hart

Can You Make Armor Smart? Sure.. You Can Even Make It Angry

Development of the future combat system depends on creating vehicle armor protection that is much lighter than what is available today, with the same (or better) level of protection.

Advanced ceramic composites hold promise. But what if you could develop armor that senses a round whistling toward it at more than twice the speed of sound and reacts to nudge the incoming round off course or destroy it before it impacts?

Maybe you could develop armor with an electrical field sandwiched in it that has enough power circulating to instantly change the molecular

structure of any round hitting it—dissipating the shaped-charge jet from a high-explosive antitank round, for example, before it can penetrate the crew compartment. Scientists think it is possible. Powering it with any kind of generator system smaller than, say, the Hoover Dam will take some tweaking, and a little work is needed to create capacitors that would make such a system feasible on a vehicle-sized object. Nevertheless, scientists believe that an electrical-field layer is not beyond the realm of possibility, and pushing possibility's envelope is the charter for the objective force's science and technology effort.

A Major Science and Technology Investment

The Army has reprogrammed 96 percent of its science and technology (S&T) spending through fiscal year (FY) 2007 to develop objective force platforms and equipment. The latest program objective memorandum projects \$8.5 billion for the Army S&T budget through FY 2007.

Most of the objective force S&T investment will focus on developing the future combat system (FCS). Almost \$3 billion will be invested in the FCS program and FCS enabling technologies from FY 2002 to 2007, and another \$3 billion will support the FCS engineering and manufacturing development phase, which is scheduled to begin in FY 2006.

The Army and Defense Advanced Research Projects Agency (DARPA) signed a memorandum of agreement last year that established a collaborative effort to develop and demonstrate the FCS. The program is co-funded by the Army (\$510 million) and DARPA (\$406 million) over the period of the memorandum

(FY 2000–05). It is the largest collaborative program in DARPA's history.

In FY 2003, the Army plans to select the best technologies and concepts to go forward to the design and demonstration phase. The FY 2003 technology readiness decision will build the prototype system demonstrators in FY 2004–05 for the FY 2006 engineering and manufacturing development milestone to meet the planned production schedule. The Army plans to begin production of the FCS in FY 2008 and equip the first unit by FY 2010.

Fielding is projected to continue through FY 2031. Fielding brigade-equivalent sets, the Army plans to equip one objective brigade combat team (OBCT) in FY 2010, two OBCTs in FY 2011, three OBCTs each year from FY 2012 through FY 2030 and two OBCTs in FY 2031. Starting in FY 2012, one of the three brigades converted each year into an OBCT will be from the Army National Guard.

The Objective Force: The Big Picture

The Army now has 68 combat brigades in the active and reserve components. The number will drop to 62 with the conversion of six Army National Guard combat brigades to combat support brigades under current plans.

The Army envisions an active-Army "counterattack corps" (III Corps) consisting of three heavy divisions and one armored cavalry regiment to be the fully modernized legacy force, thus providing the heavy force capable of decisive victory in a major theater war through the period anticipated for Army Transformation. III Corps currently has two divisions assigned to it, the 1st Cavalry Division and 4th Infantry Division (Mechanized), and the 3rd Armored Cavalry Regiment. Preliminary plans identify the 3rd Infantry Division (Mechanized) as the Corps' third heavy division.

Based on current planning assumptions, from the time the Army begins the transition to objective brigade combat teams (OBCTs) in fiscal years 2008-2010:

- Brigades that do not belong to the counterattack corps will make the transition to OBCTs within a 10-year period.
- Counterattack corps brigades will make the transition to OBCTs within 15 years.
- Army National Guard brigades will make the transition to OBCTs within 21 years.
- The six to eight planned interim brigade combat teams will make the transition within 30 years.

If you are around in 2031—and everything goes according to plan—you will finally see the fully operational objective force.

Machines That Perform— Soldiers Who Think

Equipment that the Army develops for the objective force will have vastly increased capabilities and undertake much of the mundane processing work, but soldiers will have a larger responsibility to interpret information that the gear provides. The initial brigade combat teams at Fort Lewis, Wash., are focusing on training individual soldiers to maximize the use of the information that they will receive.

Meanwhile, leadership training that emphasizes flexibility and adaptability starts at the rifleman/crewman level and continues up the chain of command. One goal is to prepare soldiers at every level to assume a leadership role at one or two echelons above their own, as circumstances require, and to be better prepared for those jobs when they are promoted to them under normal circumstances.

Troops will train in both the classroom and the field and use simulations and enhanced situational training exercises to develop their leadership potential and technical capabilities. Soldiers will be more in the loop and will continue to be the most important part of the loop.

Cerebral Combat Zone— Testing Transformation

The U.S. Army Training and Doctrine Command annually conducts the Army's top war game at the U.S. Army War College's Center for Strategic Leadership, Carlisle Barracks, Pa. Starting last year, the war game was dedicated to testing theoretical, strategic and tactical capabilities advanced by Army Transformation. For the next several years, the Army Transformation War Game (ATWG) will explore what can and cannot be expected from the objective, interim and legacy forces.

The ATWG will test major aspects, from organizational structure and deployment re-

quirements to battlefield maneuverability and firepower, incorporating politics, budget parameters and adversarial capabilities under a realistic national and joint theater command structure.

Doctrine In the Rough

The initial brigade combat teams are providing practical input to the U.S. Army Training and Doctrine Command and its various branch centers to develop doctrine for the interim force from the tactics, techniques and procedures that soldiers find work best in the field.

Staying in the Net

U.S. Army War College: carlisle-www.army.mil/main.htm

Center for Strategic Leadership: carlisle-www.army.mil/usacsl/index.htm

U.S. Army Center for Lessons Learned: call.army.mil/

U.S. Army Command and General Staff College: www-cgsc.army.mil/

National War College: www.ndu.edu/ndu/nwc/nwchp.html

Joint Doctrine: www.dtic.mil/doctrine/index.html

Army Doctrine (Gen. Dennis J. Reimer Training and Doctrine Digital Library): www.adtdl.army.mil/atdls.htm

To Get a 'GO'

On Army Transformation Knowledge, You Need to Know:

The Army Vision: “Soldiers on point for the Nation...Persuasive in Peace, Invincible in War” with the goals to become more RESPONSIVE, DEPLOYABLE, AGILE, VERSATILE, LETHAL, SURVIVABLE and SUSTAINABLE.

Why the Army needs to change (two parts):

- The near-term outlook: Outfitted to fight the Cold War, the Army needs options (equipment and organizations) better adapted for the set of post-Cold War missions that it is being handed. It needs units that can deploy fast with a small logistics requirement and be equipped with nimble armored vehicles for protection and mobility, overpowering armament to handle any situation that turns bad and intelligence assets to keep soldiers out of most bad situations in the first place.
- The long-term outlook: During a period in which the United States faces no peer enemy, the Army must take advantage of science and technology breakthroughs to create the next generation of equipment while developing training and doctrine advancements to go with it.

The **Legacy, Interim and Objective Forces:** The **legacy force** (today's heavy forces) will be upgraded to meet any threat to the United States while the **interim force** provides crossover capabilities during the development of the **objective force**. The **objective force** is a re-vamped Army that is ready to meet the anticipated threats 10 to 30 years from now.

“Quotable”

“The art of war is simple enough. Find out where your enemy is. Get at him as soon as you can. Strike at him as hard as you can, and keep moving on.”

—Gen. Ulysses S. Grant

The Army Is People: During these changes people come first. The Army will assure our nation's security by equipping, training and caring for its people and their families and enabling their full potential as individuals.

Staying in the Net

Stay informed about Army Transformation developments by checking ARMY Magazine's web site (www.ausa.org/armyzine/Welcome.html) or click on ARMY Magazine on AUSA's home page (www.ausa.org).