
APPENDIX C

SBCT ARMY TRANSFORMATION

A. Major Elements and Features of an SBCT Brigade

- *Infantry Battalions.* Supported by combined arms integration across the Brigade that extends into the rifle companies, the motorized infantry battalions are the primary maneuver elements within the SBCT. The three-battalion formation within the SBCT provides force robustness, provides reserves for enhanced operational flexibility, and permits a larger area of operations (AO). Internal to the infantry battalions, the incorporation of snipers, mobile gun systems, mortars, and Striker-equipped fire support teams provides the appropriate systems required for combined arms integration vital to support dismounted operations by squads, platoons and companies, including dispersed actions.
- *Reconnaissance, Surveillance, and Target Acquisition (RSTA) Squadron.* The RSTA squadron is a unique organization developed specifically to satisfy a set of unique operational requirements. As the SBCT's primary source of combat information, the squadron supports the development of situational understanding, empowering the SBCT to anticipate, forestall, and dominate threats, ensuring mission accomplishment through decisive action and freedom of maneuver. The squadron seeks to see, know, and understand the operational environment in detail, instead of applying traditional reconnaissance, focused primarily on enemy forces, with the objective of creating an umbrella of understanding across the Area of Operations. The squadron consists of three reconnaissance troops, each of which includes Javelin anti-armor and 120 mm mortar support. The RSTA surveillance troop incorporates a UAV platoon, a ground sensor platoon, and an Nuclear, Biological, and Chemical (NBC) reconnaissance platoon. The UAVs enable the unit to expand its vision without helicopters. The NBC element provides the SBCT's core capability for detection and early warning of chemical and radiological contaminants, plus some forms of biological agents.
- *Anti-tank (AT) Company.* The AT company comprises the SBCT's primary tank-killing capability by providing stand-off fires against enemy armor. The company increases SBCT flexibility and improves its survivability, particularly in open terrain. The company consists of three platoons, each with four long-range, Tube-launched, Optically-tracked, Wire-guided missile, BGM-71 (TOW IIB) systems mounted on IAVs.
- *Field Artillery Battalion.* The artillery organization organic to the SBCT, while required to provide supporting fires, is focused sharply on the requirement to conduct responsive, proactive counter-battery fires. The SBCT will be organized with a field artillery battalion equipped with the M777, light weight, 155mm towed Howitzer until the Army develops an IAV-based system.
- *Engineer Company.* Given the significance of tactical mobility to successful operations, the engineer company is optimized for mobility support.
- *Signal Company.* The SBCT signal company provides the communications backbone required to support distributed operations within urban and complex terrain across potentially significant distances, as well as the organic linkages required for effective communications. Beyond-line of sight communications connectivity is essential to force effectiveness. Networking through satellite communications enables access to the global information grid and facilitates reachback for information. The signal company is optimized to meet the SBCT's small-scale contingency optimized requirements.
- *Military Intelligence (MI) Company.* The MI Company essentially operates as an extension of the brigade S-2 staff for the internal and external management of intelligence, surveillance and reconnaissance (ISR) collection assets. It provides analysis to support the development of the SBCT common

operational picture, targeting/effects, and intelligence preparation of the battlefield. The company has the organic systems necessary to interface with ISR systems resident at the division, Army Forces, Joint, theater, and national levels and supports the tactical human intelligence activities required in the small-scale contingency environment.

- *Brigade Support Battalion (BSB)*. The Brigade Support Battalion is designed to perform distribution-based, centralized logistics functions in accordance with current combat service support (CSS) concepts. Its effectiveness stems from the employment of the latest advances in CSS command and control measures, enhanced CSS situational understanding, and the exploitation of regionally available resources through joint, multinational, host nation, or contract sources. The small size of the battalion significantly minimizes the logistical footprint in the SBCT Area of Operations.
- *Brigade Headquarters and Headquarters Company*. The SBCT headquarters, comprising command and staff personnel, executes command, control, information management, fires/effects coordination, maneuver support, sustainment, and communications functions to enable the command to plan, prepare, and execute its assigned mission. The headquarters company provides administrative support to the headquarters.

B. Stryker Vehicle Variants

The Interim Armored Vehicle Family of Vehicles	
ICV – <i>Infantry Carrier Vehicle</i>	
	The ICV provides protected transport for an infantry squad and direct fire support during dismounted assault. Its remote weapon station may be equipped with either an M2 .50 caliber machine gun or MK 19 40mm grenade launcher. The ICV may also be equipped with Javelin missiles. It has a top speed of 60 mph on improved roads.
MGS – <i>Mobile Gun System</i>	
	The MGS provides rapid and lethal direct fire to support assaulting infantry and to destroy enemy vehicles, equipment, and hardened positions. It has a low-profile turret and is equipped with the M68A1 105 mm cannon with autoloader, as well as a coaxially-operated 7.62 mm machine gun.
ATGM – <i>Anti-Tank Guided Missile</i>	
	The ATGM variant fires the unit's heavy anti-tank missiles to destroy high-value threat targets at extended ranges in order to defeat enemy armor before the enemy can return effective fire. The ATGM fires the TOW IIB missile (BGM-71).
MC – <i>Mortar Carrier</i>	
	The MC provides accurate and lethal high-angle fire to support operations in complex terrain and urban environments. The MC accommodates a 120 mm mortar system that fire a full family of mortar ammunition while mounted.
CV – <i>Commander's Vehicle</i>	
	The CV provides an operational platform for elements of command within the unit. The CV integrates the Command, Control, Computers, and Communications, and Intelligence, Surveillance, and Reconnaissance (C4ISR) equipment for the unit commanders. It has the ability to access aircraft power and antenna systems to plan missions aboard transport aircraft while enroute to operational theaters.
MEV – <i>Medical Evacuation Vehicle</i>	
	The MEV is the primary ambulance platform. The MEV provides the mounted capability to transport four patients in standard NATO litters or six ambulatory patients in addition to an ambulance team of three soldiers. The MEV provides protection for the patient and medical team and enhances the medical care in a protected environment with adequate lighting and accessible medical equipment.
FSV – <i>Fire Support Vehicle</i>	
	The FSV provides enhanced surveillance, target acquisition, target identification, target designation, and communications supporting the combat unit with "first round" fire-for-effect capability. It integrates the current M707 Striker Mission Equipment Package. The FSV provides the Fire Support Team (FIST) with the capability to automate command and control functions, to perform fire support planning, directing, controlling, and cross-functional area coordination, and execution.
RV – <i>Reconnaissance Vehicle</i>	
	The RV provides an effective platform for Reconnaissance, Surveillance, and Target Acquisition (RSTA) squadrons and battalion scouts to perform reconnaissance and surveillance operations. The RV is the key enabler for both sensor and human intelligence operations. The RV accommodates a squad of six and one augmentee.

The Interim Armored Vehicle Family of Vehicles	
NBC RV – <i>Nuclear, Biological, and Chemical (NBC) Reconnaissance Vehicle</i>	
	The NBC RV provides NBC situational awareness to increase the combat power of the combat organization. The core of the NBC RV is its onboard-integrated NBC sensor suite and integrated meteorological system. An NBC position overpressure system that minimizes cross-contamination of samples and detection instruments provides crew protection and allows extended operations while soldiers are wearing protective clothing.
ESV – <i>Engineer Support Vehicle</i>	
	The ESV provides the engineer squad with highly mobile, protected transport to decisive locations on the battlefield. Integrated into the ESV are current obstacle neutralization and lane marking systems and mine detection devices.

C. SBCT Operational Concepts and Tactical Operations

SBCT Operational Concepts

- *Multi-dimensional.* The SBCT will execute future operations in a battlespace that is much more multi-dimensional than before. In addition to the classical parameters of depth, width, height (to include space) and time, the SBCT must dominate the electromagnetic spectrum to assure uninterrupted information flow and to degrade/deny that same data flow to its adversaries. Political, economic, legal, social, and cultural aspects of the battlespace environment must be accounted for more completely and at lower levels than in previous eras, particularly when confronting a nontraditional, asymmetric enemy.
- *Linear and Non-Linear Framework.* While retaining the ability to operate linearly, the SBCT will use advances in information and mobility capabilities to operate routinely in a non-linear manner. Depending on the nature and evolution of the contingency, conditions may require the SBCT to operate in a continuum of linear, contiguous operations, or, to conduct nonlinear operations, with tactical actions separated spatially, but focused with respect to timing and purpose against key enemy capabilities and assets.
- *Precision.* Organic and reach-back ISR capabilities must enable the SBCT to identify and focus on enemy centers of gravity, decisive points, and key capabilities. Given that orientation, the SBCT applies its capabilities to locate/attack targets precisely, to execute precision maneuver (timing, objective, routes), to achieve precise effects (lethal and non-lethal) against key enemy capabilities and resources in order to rapidly break down the enemy's will and his defensive/offensive schemes. Against an asymmetric adversary, precision includes the capability to rapidly identify the best means of influencing enemy behavior and synchronizing military and nonmilitary elements of power to achieve the precise effects desired by the commander to compel the enemy to change his behavior and respond predictably to SBCT actions.
- *Simultaneity.* Evolving doctrinal concepts call for simultaneous attack of critical targets throughout the battlespace, synchronizing all source fires with exploitative maneuver. Enhanced situational understanding, outstanding tactical mobility, internetted combined arms, and organizational agility provide the means for the SBCT to conduct synchronized, simultaneous, combined arms attacks throughout its Area of Operations. The Brigade can also execute the less demanding requirements of a deliberately sequenced campaign. Against a non-traditional enemy, simultaneity includes the concurrent application of military force with other non-military elements of power to achieve desired effects. The nature of small-scale contingencies will often demand that the SBCT conduct combat operations simultaneously with the execution of stability and support tasks, to include population and area control, support to humanitarian operations and peace enforcement.
- *Distributed Operations.* Distributed operations consist of those activities and functions executed simultaneously throughout the depth, width, and height of the area of operations. They are conducted concurrently against multiple decisive points, rather than one decisive point, or a series of decisive points in sequence. Distributed operations are further divided into shaping, decisive, and sustainment operations, which are also conducted simultaneously across the battlespace. The SBCT is equipped, manned, and trained to operate within this battlefield framework.

The discussions below regarding SBCT shaping and decisive operations apply most directly to small-scale contingency operations. The main points are also relevant to its participation in major theater war, but the SBCT's overall responsibilities for shaping and decision are considerably reduced given the larger scale and longer duration of a major campaign.

- *Shaping Operations.* Shaping operations are those military activities that set the conditions for decisive operations. Responding to a small-scale contingency, the SBCT may conduct shaping operations prior to combat operations by means of early deployment, movement to within employment range (i.e., poised for entry), information operations, and other activities intended to influence the enemy's will and his assessment of his chances for success, with the goal of deterrence. Once combat is joined, shaping operations occur concurrently with decisive operations. Together, shaping and decisive operations overwhelm the enemy's centers of gravity and deprive the enemy of the ability and/or will to fight. With a traditional, symmetric enemy, SBCT capabilities for early entry and exploitation of joint effects coordinated through the division considerably enhance its ability to contribute to shaping the battlespace at operational and tactical levels. The SBCT can conduct feints, demonstrations, other offensive information operations, extended reconnaissance, and integrated maneuver and shaping fires to place the enemy at a disadvantage. It can isolate, neutralize, or destroy critical combat, command and control, intelligence, and logistical elements of the enemy force, deny the enemy's use of key terrain or resources, and prevent the enemy from achieving initial objectives or setting conditions favorable to his plans. SBCT shaping operations degrade or destroy key enemy capabilities, posture him for failure, set conditions for success, and shorten the timeline to decision. When dealing with a non-conforming, asymmetric adversary, SBCT shaping operations assume a broader nature. Centers of gravity and decisive points for asymmetric adversaries are more difficult to determine. How best to affect the perspectives and will of the enemy is not always clear at the outset. In many situations, military capabilities will not constitute the primary vulnerabilities or best means of influencing the asymmetric adversary. As a result, the traditional approach of employing lethal and non-lethal effects to degrade/destroy specific enemy capabilities is not sufficient in itself to shape the battlespace and affect the enemy's will. A more holistic approach is required. Other measures and activities encompassing all elements of national power—diplomatic, economic, and information (media, public affairs)—must be fully synchronized with military operations from tactical to strategic level.
- *Decisive Operations.* Military operations that compel the enemy to submit to one's will are decisive operations. Achieving decision against symmetric adversaries in the foreseeable future will still require Army forces to seize, secure, and control terrain and to repel, eject, kill, or capture enemy forces. Decisive operations depend primarily upon the simultaneous, synchronized delivery of precision fires and effects, coupled with exploitative maneuver, that leave the enemy incapable of physical or moral resistance. When employed within its optimal small-scale contingency operational environment, it is possible that SBCT shaping operations can transition quickly to decisive operations without reinforcement by follow-on forces, although reinforcing by additional decisive forces will be the norm. The SBCT is best suited to be applied against decisive points in urban and complex terrain where it will exploit its core capabilities for close combat and dismounted assault, empowered by situational understanding. Asymmetric warfare focuses whatever comparative advantages one side has against the other side's relative vulnerabilities or weaknesses. A defining and distinguishing aim of asymmetric warfare is to create conditions where an enemy's relative advantage cannot be applied, is degraded or is neutralized. For the asymmetric adversary, decisive operations are those operations that compel the enemy to cease resistance and agree to seek conflict resolution through a negotiated settlement. In this context, decisive operations extend further in time (beyond a cease-fire, for example) to include the post-conflict stability operations required to insure that negotiations and implemented political solutions take place in a controlled environment and lead to long-term stability. For the SBCT, decisive operations against an asymmetric adversary are characterized by integrated, multi-dimensional activities of similar scope and quality to shaping operations.

SBCT Tactical Operations

The SBCT is capable of executing any doctrinal tactical mission in complex and urban terrain. However, as a strategically deployable, full spectrum combat force available as a “first responder” to burgeoning crises, the SBCT has a pronounced offensive orientation. Its key operational capabilities in the areas of mobility, dismounted assault, and enhanced situational understanding/information superiority, although highly applicable to defensive situations, are deliberately designed to enhance its offensive power, with the clear benefits attendant thereto for deterrence, conflict prevention, containment, or conflict resolution. When employed in the circumstances for which it is optimized, the SBCT can achieve decision as an integral component with the joint contingency force. Centuries of military history instruct that decision most often follows the offense, rarely the defense. Accordingly, the SBCT’s offensive orientation is necessary, particularly given the projected nature of the international security environment and the expected conditions of the SBCT’s employment.

Nevertheless, the SBCT may be required to assume the defense temporarily in a small-scale contingency environment. In addition, some elements of the SBCT may assume a defensive posture while the Brigade as a whole conducts offensive operations. In those situations, the SBCT and its subordinate elements will execute existing doctrinal principles for an effective defense. Overall, the SBCT will purposefully exploit its dismount strength, highly mobile and lethal infantry carriers and support systems, and reach-back capabilities for joint fires/effects, to conduct a mobile defense. Enabled by RSTA operations that unveil and anticipate the enemy’s plan, a mobile defense best permits the SBCT to counter the enemy’s moves, deprives the enemy of initiative, and enables rapid and seamless transition to the offense at the earliest opportunity. The organization is not suited to conduct a long-term static defense; however, it is capable of doing so with augmentation, primarily additional lethal, CSS, and survivability capabilities.

As a motorized force, the SBCT is designed for fast-paced, distributed operations. Typically (non-augmented), it operates within an Area of Operations of approximately 50 kilometers by 50 kilometers. Distributed operations within the umbrella of situational awareness created by the RSTA squadron, and other sources permit the SBCT to dominate its entire Area of Operations and to dispose forces in the most effective manner. The RSTA squadron disperses throughout the entire Area of Operations to develop situational understanding. Normally, the infantry battalions will operate within smaller areas, non-contiguous to each other; constituent rifle companies and platoons may also be dispersed within the battalion areas (as may RSTA units), consistent with mission and situational factors.

Effects-based fires represent an emerging operational, organizational, and doctrinal evolution within the Army regarding the planning and employment of fires and effects. In the past, Army fires were platform and system oriented. Fires were planned based largely on the availability of indirect weapon systems organic to or assigned to support the organization. As such, fire planning tended to focus more on positioning and allocating weapons systems, munitions, and servicing targets, rather than achieving specified effects in time and space. The development of precision munitions and better non-lethal capabilities, coupled with advances in range, communications, and improved capabilities for routine employment of non-organic and joint service assets, are collectively leading to an orientation on effects rather than the systems that deliver fires.

The organizational and operational concept for the SBCT focuses on the employment of the brigade in small-scale contingency operations, the environment for which it is optimized. However, the SBCT is capable of operating throughout the entire range of Army operations, from less intensive stability and support operations to major theater war.

Full spectrum utility requires the SBCT to acquire additional capabilities through the process of augmentation, defined as the addition of units or elements that execute tasks or functions not resident within the SBCT (e.g., adding armor, air defense, military police, or aviation elements).

Augmentation is normally achieved by task organization from assets within the division, based on analysis of the division's mission. Type and extent of augmentation is determined by several factors. As with normal task organizations, the period of the augmentation is dependent upon the phase of operation and upon the tasks, missions, and objectives assigned to the SBCT within the overall division mission.

- When deployed as part of a light division, the SBCT extends the tactical mobility available to the division commander and increases the organic firepower available to support dismounted infantry assaults. As the most mobile, lethal, and survivable element within a light division, the SBCT is likely to be employed as the main effort within the division. It may therefore receive the large share of divisional resources elements such as combat engineers to assist mobility in offensive operations, an aviation task to expand combined arms capabilities and extend the range of its reconnaissance, surveillance and security, and air defense to insure its protection against enemy air threats.
- When deployed as part of a heavy division, the SBCT is the first to deploy, facilitating the arrival of the remainder of the division by consolidating and extending the security of entry points, accelerating the closure of the entire division in theater. The SBCT, with its increased tactical and operational mobility, when not in contact, adds dimension to the capabilities of the heavy division. However, given the differences between the IAV-based SBCT and the M1/M2-based heavy ground maneuver formations, the SBCT does require force tailoring. With augmentation, the SBCT is a full participant in heavy division combat operations. It can form part of the division's main effort, execute the supporting attack, act as the division reserve, conduct economy of force operations, or conduct operations in complex/urban terrain while other division elements operate within open and mixed terrain. Additional artillery is likely to be required to compensate for limitations of direct fire to conduct offensive operations against mechanized and armored threats. Division artillery must provide higher priority for proactive counterfires to enhance the SBCT's survivability versus the threat arrayed against the division. In short, the Brigade provides additional capabilities but also consumes capabilities of divisional resources elements.

Regardless of environment, certain principles and consequences govern the nature of augmentation and its effect on the SBCT. Augmenting units do not require extensive training to operate with the SBCT. They will operate as they are organized, trained and equipped, executing tasks in accordance with their own Mission Essential Task List. Augmentation will be mission and situation dependent. Although augmentation elements may be pre-packaged (in task forces) from the point of view of planning, every contingency is characterized by unique requirements. Any augmentation packages task organized to the SBCT must include additional CSS structure and capability. The SBCT's CSS structure is not sufficient to accept increased sustainment requirements without itself being augmented. Similarly, augmentation packages may need to be accompanied by tailored staff support in order to expand the ability of the SBCT headquarters to execute effective command and control.

Augmentation would be required for many major theater war and stability and support operations situations.

- Major theater war presumes the presence of large enemy forces with some measure of symmetry to US forces with respect to air and ground capabilities, including, in particular, high performance aircraft, attack aviation, mechanized formations, cruise/theater ballistic missiles, extensive precision rocket and cannon artillery, and chemical/biological munitions. The terrain in which the SBCT would operate may vary from open and rolling to mixed complex/urban. When employed in this environment, it must acquire additional capabilities for lethality, survivability, and sustainability. Augmentation packages required for major theater war may include the following kinds of forces and capabilities: armor/anti-armor, reconnaissance, fires and effects, aviation, air and missile defense, maneuver support (through additional engineer and military police resources), chemical, and CSS.

- Stability and support operations (SASO) (“the use of military capabilities for any purpose other than war”) cover a broad range of military activities, including combating terrorism, support to counter-drug operations, nation assistance, noncombatant evacuation, peace operations, show of force, support to insurgencies or counterinsurgencies, humanitarian assistance, foreign humanitarian assistance, and domestic support operations. SASO normally entail a combination of actions and operations within a single Area of Operations. SASO can be long or short in duration, unilateral or multilateral, domestic or foreign, developmental or coercive. They will often be joint and multinational. As a rule, these operations are governed by restrictive rules of engagement and are more sensitive to political considerations than higher-end military operations. SASO can be initiated under very short timelines or they may involve extended warning and preparation. In some stability and support operations, the Army will be in a support role to another US agency or international organization. Finally, these operations can be carried out in a permissive, relatively benign environment, or they can involve the threat or actual conduct of tactical combat operations. When committed to SASO, the SBCT is expected to take the role of a "combat guarantor force" that provides security and protection to forces and agencies charged with the core SASO mission. The SBCT must preserve its basic combat power in order to fulfill its expected mission, but, as in every contingency operation, situational factors will determine precisely how the SBCT will be scaled, augmented, or otherwise mission-tailored. Substantial elements in the SBCT are already well suited to a SASO environment, particularly the infantry battalions, the RSTA squadron, and the command's communications structure (including signal and MI companies). However, some SBCT augmentation is likely required in the following areas: aviation, air defense, effects coordination, maneuver support (through engineers and military police assets), chemical, and CSS.

D. Training Exercises and Scenarios Occurring in Hawai‘i

Training Exercises

- *Map exercise (MAPEX)*. The MAPEX portrays military situations on maps and overlays. It requires a minimum number of support personnel and may be conducted in garrison or in the field. Communications equipment may be used. A MAPEX helps the commander train his staff and leaders in planning, coordinating, and executing operations tasks on map boards, chalkboards, training mock-ups, and sand tables. A MAPEX trains soldiers and leaders to function as an effective team, exchanges information, prepare and give appraisals, make recommendations and decisions, prepare plans and issue orders, and coordinate execution of orders.
- *Tactical Exercise Without Troops (TEWT)*. The TEWT is conducted on actual terrain with unit leaders and staffs, without soldiers. A TEWT allows a battalion task force or company commander to train his staff and subordinate leaders. It also allows him to analyze, plan, and present how he would conduct an operation on the actual terrain. Because only the battle staff and selected support personnel are involved, the TEWT is an inexpensive way to familiarize leaders with an area of operations. A TEWT can be used to train personnel to analyze terrain, employ units according to terrain analysis, emplace weapons systems to best support the unit's mission, prepare and validate plans, and to plan combat support and combat service support operations.
- *Fire Coordination Exercise (FCX)*. The FCX is used to train the combined arms team chain of command and related fire control elements to rapidly synchronize fires on the battlefield. The exercise can use reduced-scale targets and training facilities to depict combat situations. The chain of command must respond in the form of maneuver and fire coordination techniques and procedures. Each subunit is represented by a single weapon system, which can be equipped with a subcaliber device and commanded by a platoon or section leader. Commanders use FCXs to develop the chain of command into a team, synchronize fires within the combined arms team, train the chain of command prior to a live fire exercise, exercise the communications net, assist in integrating new weapons system, and portray a rapidly changing situation for the chain of command to react to. FCXs are normally used to train from platoon through-battalion level.
- *Command Post Exercise (CPX)*. The CPX may be conducted in garrison or in the field. It requires the establishment of the command post. When compared with the MAPEX or TEWT, it represents a greater commitment of soldiers' time and resources. A CPX is an expanded MAPEX for staff and all commanders to lead and control tactical operations by using tactical communications systems. Normal battlefield distances between command posts may be reduced. A CPX trains commanders and staff to build teamwork and cohesion, exchange information by proper reporting in accordance with tactical standing operating procedures (SOPs), prepare plans and orders, establish and employ tactical communications, displace headquarters and command posts, and integrate synchronized battlefield operating systems. While battalions and companies may participate in a CPX as part of a larger force, they also may conduct internal CPXs.
- *Situation Training Exercise (STX)*. STXs are mission-related, limited exercises designed to train one collective task, or a group of related tasks and drills, through practice. STXs teach the standard, preferred method for carrying out the task. They are more flexible than drills and usually include drills, leader tasks, and soldier tasks. STXs may be modified, based on the unit Mission Essential Task List, or expanded to meet special mission requirements. The company commander trains STXs and other similar exercises while platoons execute combat and crew drills. The battalion commander does the same for company exercises. The battalion commander assigns his staff to evaluate and assist with the STX. The STX's final objective is to prepare units for larger scale exercises.

Prerequisite training for the STX is progressive with heavy emphasis on drills. “Close-in” or local training follows with drills executed in a tactical setting using multiple integrated laser engagement systems (MILES).

- *Command Field Exercise (CFX)*. The CFX lies on a scale between the CPX and Field Training Exercises (FTX) (see below). The CFX can be a backup for the FTX if maneuver damage, weather, or other factors prohibit a planned FTX. The CFX is an FTX with reduced unit and vehicle density, but with full combat arms, combat support, and combat service support elements. For example, a platoon leader in his vehicle represents the entire platoon. CFXs provide vehicles for training leaders and staff with full command, control, communications, and logistical systems. They sharpen unit skills in such areas as intelligence, fire support, rear area operations, and command, control, and communications. A CFX can train as much, or as little, of the unit as necessary, depending on the commander's assessment and training objectives.
- *Logistical Coordination Exercise (LCX)*. LCXs allow leaders to become proficient at conducting unit sustainment operations such as supply, transportation, medical, personnel replacement, maintenance, and graves registration. LCXs provide hands-on opportunities to deal with combat-related challenges of these activities. Through LCXs, leaders develop SOPs essential to effective task accomplishment. An LCX clarifies key elements of a battalion, squadron, or task force logistics apparatus, exercises the flow of logistical information, incorporates a tactical war game that produces a wide variety of logistical requirements, and exercises the communications network.
- *Field Training Exercise (FTX)*. FTXs are conducted under simulated combat conditions in the field. FTXs fully integrate the total force in a realistic combat environment. They involve combat arms, combat support, and combat service support units. FTXs encompass such training as battle drills, crew drills, and STXs to reinforce soldier and collective training integration. They are used to train the commander, staff, subordinate units, and attached elements to move and maneuver units realistically, employ organic weapons systems effectively, build teamwork and cohesion, plan and coordinate supporting fires, and plan and coordinate logistical activities to support tactical operations.
- *Live Fire Exercise (LFX)*. LFXs are resource-intensive events in which units maneuver and employ organic and supporting weapons systems using full-service ammunition. LFXs may integrate all combat arms, combat support, and combat service support elements. Since extensive range and resource requirements usually limit LFXs to platoon and company team levels, their principal focus is on unit and weapons integration at company team level. LFXs provide realistic training on collective and soldier skills in such areas as, fire control and distribution, command and control in a noisy, confusing environment, individual movement techniques, integration of all fire support assets, small-unit tactics, weapons, demolitions, and other pyrotechnics not used in other exercises, and safety awareness.
- *Reconnaissance Training In Kawaihoa Training Area*. Dismounted training in Kawaihoa Training Area is conducted by Legacy units at present and will also be conducted by elements of the SBCT. Typical operations involve small groups, from squad to platoon strength (3 to 50 soldiers). No live fire is involved, and vehicles are not typically used. The training is conducted between 20 and 40 times per year, in daytime and at night. Unit movement during dismounted training activities may consist of soldiers in tactical (when contact with an enemy is likely) and non-tactical (when contact with an enemy is not likely) formations moving in a predetermined direction to accomplish a mission. Maneuver also entails the set-up of temporary defensive positions to repel an enemy attack. Defensive positions may consist of soldiers lying in concealed positions and designating fire zones.

During extended maneuver training, soldiers may sleep in the field. To avoid detection and allow for quick displacement, tents are not set up during light infantry maneuvers.

- *Company combined arms live fire exercises (CALFEXs)*. All infantry companies are required to conduct at least one CALFEX annually. The following subsections describe, in general terms, a company-level CALFEX.

Movement to the CALFEX Site—Moving an infantry company to the CALFEX site typically involves approximately 150 persons and supporting elements via 10 to 15 military vehicles. Movements are scheduled to avoid peak commuter and school transit hours. Travel may be in convoys or individual vehicles dispersed throughout the traffic flow. Aviation units fly out to the CALFEX site at scheduled times prescribed in the training scenario.

The unit ammunition section from the battalion support platoon draws ammunition to be used for the exercise at the ammunition storage point at WAAF, at the naval magazines at Lualualei, or at West Loch, where ammunition types for military units in Hawai'i are stored in specially designed facilities. Any unused ammunition must be returned at the end of the exercise.

Vehicles used to transport ammunition must pass a rigorous safety inspection before they are allowed to enter any ammunition storage facility. All personnel involved in transporting ammunition are trained in accordance with Army, federal, and state standards and are certified to transport hazardous materials. Artillery and mortar ammunition are packed separately from ignition fuses to preclude accidental detonations. In addition, all ammunition is stored in specialized packing materials designed to withstand an impact 15 times greater than the force of gravity, which further reduces the risk of accidental explosion. All vehicles used in moving ammunition are powered by diesel fuel or JP-8, fuels that are much less volatile than gasoline. These factors contribute to substantially reducing the risk of explosion in a vehicle accident.

Preparation and Dry Fire—Exercise units arrive at the training site and bivouac in designated areas near roadways. Their ammunition is stored at ammunition supply points in the vicinity of the exercise and are guarded throughout the exercise period. Soldiers subsist on prepackaged meals, ready-to-eat or on delivered hot foods, and they use portable toilets. Pop-up targets and blast simulators are sometimes placed in the training area to replicate contact with the enemy.

Unit leaders receive briefings from range division staff on the locations of threatened and endangered species and habitat, locations of known cultural resource sites, fire hazards, and fire prevention measures and procedures. Where necessary, the scenario is modified to reduce the risk of fire or other damage to the environment.

Various measures and procedures may be used to deal with the threat of fires. Soldiers from the unit may be designated as firefighters and in the event of a fire can be immediately withdrawn from training and dedicated to assisting professionally trained firefighters. A helicopter dedicated to firefighting may be on call. Smoking may be permitted only in the administrative bivouac site or other designated areas. In the event of fire at any location, the unit takes all appropriate actions to put out the fire.

Live fire exercise—The company generally moves with three platoons of approximately 30 to 40 men (or nine squads of five to ten men each, plus personnel operating machine guns and support personnel) toward the objectives. The soldiers in the first squad in the lead platoon fire their rifles and machine guns at the objective or target. The mortar section fires its 60mm mortars at the target while the lead platoon moves toward it. When the lead platoon makes contact with the target, the

platoon leader moves the squads to a position of advantage and, by spreading out the soldiers to ensure that they can hit every target, gains fire superiority over the “enemy.”

Most exercises present advancing platoons with the problem of trench lines, mine fields (simulated), and concertina wire obstacles. Confronted with these situations, platoons must practice the skills required to enter and clear a trench line, to conduct a company deliberate attack, to conduct a platoon and squad attack, to knock out a bunker, and to conduct an initial breach of a mine field/obstacle. Some simulated minefields will be cleared with the aid of engineers attached to the company. Bangalore torpedoes (10-foot (3-meter)) tubes filled with explosives) may be used to blast routes through such locations.

Upon seizing their objectives, units must prepare for any counterattack. A company commander may direct the emplacement of Claymore mines (small, command-detonated antipersonnel mines) in front of the unit. If artillery is employed in the scenario, the company commander may distribute its fire preparatory to the attack or direct its fire toward a target to suppress counterattack. The commander may also direct the company’s anti-armor section to position their missile launchers to prevent any enemy tanks from overrunning the just taken objective.

Company-level scenarios can be modified to include additional training opportunities and combat elements. Helicopters may be used for air assault. Troops in observation and attack helicopters may fire their guns into designated impact areas in support of ground troop movement. Helicopters may also be sling-loaded with vehicles and equipment for the company’s use. Artillery support is an integral part of combined arms training. The size of the howitzer (155mm or 105mm), a cannon that combines certain characteristics of guns and mortars, depends on the range being used. A typical exercise involves at least two gun sections.

Scenarios are typically conducted both day and night in order to complete a training evaluation to Army standard.

Conclusion of training—After the CALFEX is complete, units remove any target equipment they may have provided, gather brass casings from spent rounds, remove litter, and otherwise make every effort to restore the range to its condition prior to their use. Explosive ordnance disposal (EOD) specialists destroy all unexploded ordnance. Ordnance normally is destroyed where it is found, whether from the training being conducted or from earlier exercises. No known dud rounds are left in place at the conclusion of a training exercise.

Training Scenarios

- *Force-on-Force (FOF) Operations.* These operations involve armed clashes between two organized forces, up to brigade-level. Activities include dismounted ground maneuvers during day and night, helicopter operations day and night, operation of wheeled and tracked vehicles, establishment of field command centers, establishment of operating sites for logistics and aviation units, and preparation of field fortifications. There is a continuous movement of aircraft, vehicles, and troops within the training area during FOF operations. The multiple integrated laser engagement systems (MILES), blank ammunition and artillery, flares, and other pyrotechnic devices may be used extensively to simulate live fire during FOF operations.
- *Military Operations on Urbanized Terrain (MOUT).* These operations provide realistic training in third world urban warfare scenarios. MOUT facilities typically represent several kinds of properties that might be encountered by soldiers and leaders, such as a city complex, an airfield, and a military

compound. FOF training for light infantry and Special Forces can be conducted throughout MOUT facilities using MILES. Depending of training complex capabilities, precision engagement live-fire training may be conducted in buildings in a MOUT complex.

- *Special Forces*. Special Forces training concentrates on clandestine, cover, and low-visibility techniques used to gather intelligence data on a target or to conduct limited offensive strikes.
- *Military Operations Other Than War (MOOTW)*. Training exercises for MOOTW include activities that occur during peace time and war time and consist of a variety of tasks such as Special Forces Operations, peace-keeping, and peace-enforcement actions. These training activities emphasize military interactions with civilians-on-the-battlefield and MOUT, with limited FOF training. Exercises are often conducted at specially-constructed villages that replicate population centers in third world countries.

E. Army Transformation Overview

Army Transformation

The following information provides an overview of the foundation for and processes underlying Army Transformation.

Concept. Army Transformation is a multi-year, phased, synchronized effort approach throughout the operational force and the institutional Army to translate the Army Vision from concept to reality in the most efficient and effective manner.

During transformation, the Army will retain its Legacy Forces (the present operational force assets) until their scheduled transformation. The Army will modernize and sustain selected legacy formations to maintain essential capabilities in support of the National Command Authority. While maintaining readiness, the Army will simultaneously design and field new Interim and Objective Forces, both of which will respond to the near-term capabilities gap and, ultimately, provide for a more strategically responsive Army.

Deliberate, synchronized transformation entails three simultaneous efforts: (1) maintenance of a trained and ready force capable of fighting and winning the Nation's wars, (2) transformation of the operational force, and (3) transformation of the institutional Army. These three efforts will proceed based on a strategy involving a series of decisions. Each decision will be based on stated objectives and the achievement of associated conditions that will have to be met before implementing subsequent decisions.

Characteristics of Transformed Forces. Transformation seeks to fulfill the Army Vision which provides for an Objective Force that has the characteristics of being more responsive, deployable, agile, versatile, lethal, survivable, and sustainable. All transformation efforts will proceed in a controlled and coordinated fashion to implement changes necessary to achieve these characteristics. The following are the seven force characteristics described in the Army Vision that will drive the transformation process.

- *Responsiveness.* Responsiveness requires the ability, within hours of a decision, to put forces where needed on the ground, supported by air and naval forces, to directly affect the outcome of a situation or crisis. The force must be prepared to accomplish its mission regardless of the environment, nature, or scope of the proposed operation, or other commitments. It should have a demonstrated capability to deter a prudent adversary. Also required is a capability for preemptive, not just reactive, employment to influence and shape the outcome of the crisis. If required, the force should have the ability to respond through use of force from low to high intensity. Responsiveness pertains not only to the operational force. For instance, the mobilization process must be responsive to ensure access to the entire force in a timely manner.
- *Deployability.* Strategic deployability is critical: The Army must have the speed to confront enemies before they can attain their goals. The Army needs to be able to put forces in place that will change an adversary's decision calculus. Doing so can create the opportunity to avert conflict through deterrence. The Army has established a requirement to have a combat brigade on the ground with 96 hours (4 days), a division within 120 hours (5 days), and five divisions within 30 days. Operationally, the Army must have the capability to position forces to create advantages in the theater and on the dispersed battlegrounds of the future. Information superiority can help create that advantage. Forces must be rapidly deployable across the theater, providing the adversary a more complex targeting challenge. This factor affects the size and number of systems to be developed and employed and the intra-theater lift requirements.
- *Agility.* To meet the demands of highly volatile situations, all forces must inherently be able to shift intensity of operations immediately without augmentation, break in contact, or additional training.

Today's forces have the agility to shift from offensive to defensive to offensive operations. That kind of agility must be developed in a much broader, full-spectrum operational context. With little or no time to change mindset or organization design, forces will be called on to transition within or between operations ranging from noncombat disaster relief to low-intensity contingencies to high-intensity warfighting. Although forces must prepare for the unexpected, agility will reduce the risks associated with uncertainty and surprise.

- *Versatility.* Future forces must be more adaptive to both different and changing situations. Rarely is there time to organize and prepare forces to respond specifically at various points across the spectrum of operations. Organizational flexibility to respond must be built in. With the downsizing that followed the post-Cold War era, there are currently too few forces to specialize greatly. The operational tempo and personnel tempo of the broad range of crisis response contingency operations and sustained commitments cannot be supported by only a portion of the Army's resources. The Army must have the ability to commit all of the force in its turn, regardless of component, to meet operational demands.
- *Lethality.* An overwhelming ability to win through application of lethal force can frequently preclude conflict by making the adversary's potential losses disproportionate to his objectives. Lethality must be embedded in every force and unit, including support forces. Even in seemingly benign environments, forces cannot ignore the possibility of a chance encounter with hostile elements. The consequences of the inability to apply appropriate lethal effects extend beyond unnecessary loss of life and could include potentially significant political and operational changes in the environment. Increased lethality also means that fewer forces might be required in each operation to achieve similar effects. Increased lethality enables a force to be more responsive and deployable, as well as less dependent on heavy support forces that have large logistical footprints.
- *Survivability.* All possible measures to protect a force and to ensure its survival are crucial to its confidence and ability to carry out assigned missions. Survivability also affects adversaries' perceptions about their ability to fight and win against U.S. forces. The Army must improve its force survivability capabilities through the integration of new technologies into systems and equipment, address emerging threat capabilities, and eliminate the risks of fratricide.
- *Sustainability.* Forces must have the capability to continue operations longer than any adversary confronted. Sustainability is directly linked to responsiveness and deployability. Assigning too many forces or the wrong forces to the mission strains the support system. Use of reach back and split basing reduces some of the sustainment requirements. Support from a host nation or other ally to sustain the force depends on arrangements documented in written agreements and periodic rehearsals to ensure operational execution. Even so, forces need the ability to operate unilaterally, despite the costs of that mode of operation. The Army must find ways to exploit advanced technologies in order to lower the logistics footprint and the related costs of support structure.

Transformation Objectives and Phases. Objectives are desired outcomes. They are essential to achieving unity of effort and focusing on realization of the Army Vision. Objectives are defined by associated sets of conditions. The three major objectives of transformation, described below, are the Objective Force, the Interim Force, and the Initial Force.

- *Objective Force.* The Objective Force is a future force that will achieve the seven force characteristics described in the Army Vision, be strategically responsive, and be able to deploy rapidly and dominate across the full spectrum of operations. Capitalizing on advances in science and technology, the Objective Force will be equipped with leap-ahead technologies that enable overmatching combat power. Elements of the institutional Army will also undergo change. Installations will be power

projection platforms to enhance deployment and to support deployed formations. Training regimes will address abilities to handle complex and varying situations, enabling soldiers and leaders to gain a greater degree of agility.

- *Interim Force.* The Interim Force will fill the strategic near-term capability gap. It will leverage current state-of-the-art technology and a modernized Legacy Force as a bridge to the future. The Interim Force, although organized as a rapidly deployable force for providing the warfighting Combatant Commanders with increased options for responding to small-scale contingencies, will be available for employment, with augmentation, in major-theater wars. Interim Force units will be highly mobile at the strategic, operational, and tactical levels. They will be transportable in the Air Force's principal tactical cargo plane, the C-130, or comparable aircraft. They will be equipped with a family of interim armored vehicles (IAVs), lightweight artillery, and other available technology designed to ensure maximum lethality and survivability while increasing tactical, operational, and strategic maneuverability. Stryker Force brigade bases will be self-contained, fully mobile, and completely deployable by air. Deploying units will be projected as combat-ready units, organized and equipped for immediate operational employment.
- *Initial Force.* The Initial Force consists of two brigades located at Fort Lewis, Washington. These brigades, furnished with off-the-shelf equipment, are being used to evaluate and refine the Operations and Organization concept for a brigade combat team and to develop tactics, techniques, and procedures. Achievement of these measures will establish the critical conditions necessary for the Interim Force. Lessons learned and insights derived from the Initial Force will help achievement of the Interim Force capability. Upon fielding of the first UAVs, these units will be designated Stryker Brigades.

Transformation of the Army is planned to occur in three major phases:

- *Initial Phase.* In this phase, the Army is creating two Initial BCTs at Fort Lewis, to validate an organizational and operational model for Stryker BCTs. In the Initial Phase, warfighting units would be fully manned and the major focus would be on developing the strategic, operational, and tactical doctrine for subsequent phases of transformation.
- *Interim Capability Phase.* The major objective of the Interim Capability Phase is to field five to eight Stryker BCTs. At least one Stryker BCT will be drawn from the Army National Guard. The Interim Capability Phase will begin with the fielding of the IAVs. The Initial BCTs at Fort Lewis will become part of the Interim Force at that time. The Interim Capability Phase will end when the last Stryker BCT is fully manned, equipped, and trained to possess the capabilities described in the Stryker BCT Operations and Organization. During this phase, the Army will consist of both Legacy Forces and transformed forces. The transformed forces will be capable of conducting joint, multinational, and interagency missions. Insights gained from these operations will help refine and define the operational requirements and capabilities of the Objective Force. The Army expects to transition from the Interim Force to the Objective Force in the 2008—2010 time frame. This transition will depend highly on progress in science and technology developments.
- *Objective Capability Phase.* The major goal of the Objective Capability Phase is the Objective Force itself. This phase of the transformation will begin when the first Objective Force operational unit is fully manned, equipped with a "Future Combat System" and trained to achieve the capabilities described for the Objective Force. It will end when the Army has been fully converted to the Objective Force capability.

Synchronization of Efforts. Integration and synchronization of the Army's transformation efforts will be guided by the Transformation Campaign Plan (TC Plan). The TC PLAN is a "living" and continuously evolving internal "working" plan for synchronizing transformation activities. The TC PLAN contains the level of detail required to synchronize efforts and to maximize the effectiveness and efficiency of those efforts. At the same time, the TC PLAN is designed to allow maximum flexibility for innovation and initiative throughout the Army as the Army moves toward achieving the transformation objective.

For instance, the TC PLAN could be revised upon determination by senior leadership that specific tasks or responsibilities need to be reassigned from one major Army command to another. Alternatively, future events might lead to revised perspectives on the world situation that the Army confronts, resulting in identification of amended or new strategic requirements to be addressed. The basic feature of the TC PLAN, which is its establishment of a framework for synchronization of planning for and execution of transformation to reach the goals expressed in the Army Vision, is not expected to change substantially.

Early Actions. The Army has initiated certain actions to validate Initial and Interim Force concepts. The Army began the Initial Phase by identifying two Initial BCTs at Fort Lewis, Washington. These Initial BCTs serve as the validation force for development of operational concepts relevant to transformation. In many instances, the two Initial BCTs use "off-the-shelf" equipment and vehicles in lieu of the equipment and vehicles expected to be acquired for the Interim Force. The Army has taken this initial action to validate basic concepts on which subsequent transformation planning and implementation activities can logically build.

The Army is also conducting an acquisition program for an UAV to be used by the Interim Force. Compared to present heavy forces, which consist primarily of units employing the M1A1 Abrams Tank and the M2/M3 Bradley Fighting Vehicle, the IAV is intended to provide improved force deployability and sustainment.

Transformation to the Interim Capability Phase involves converting a number of existing brigades to Stryker BCTs and, eventually, to units that have the characteristics of the Objective Force. Because of equipment fielding, personnel staffing, and training requirements, the conversion process for brigades and possibly higher echelons would occur over a period of several years. In July 2001, the Army identified which organizations, in addition to the two brigades at Fort Lewis, will be converted to Stryker BCTs. They are the 172nd Infantry Brigade, a separate brigade located at Fort Wainwright and Fort Richardson in Alaska; the 2nd Armored Cavalry Regiment (Light), stationed at Fort Polk, Louisiana; the 2nd Brigade, 25th Infantry Division (Light) at Schofield Barracks in Hawai'i; and the 56th Brigade of the 28th Infantry Division (Mechanized) of the Pennsylvania Army National Guard.

Transformation as a Work in Progress. Army Transformation will have many direct and indirect consequences to manning, equipping, and training of operational forces. As transformation is of only relatively recent origin and continues to unfold, it is a work in progress.

The Active Component of the Army has 10 divisions, and the Reserve Component has 8 divisions. Each division has three brigades. The Army also has a limited number of armored cavalry regiments and separate (non-divisional) brigades, bringing the total number of brigade-sized units to 70. Brigades usually have 3,000 or more personnel. "Heavy" brigades of armored and mechanized forces (such as the 2nd Armored Cavalry Regiment) generally have more personnel than "light" brigades, which consist mainly of dismounted infantry. The Army's heavy brigades have no peer in the world, but they are challenged to deploy rapidly. The Army's light brigades are the world's finest, but lack adequate lethality, survivability, and mobility once in theater in some scenarios. Transformation will affect all the Army's brigades by bringing about changes that will render them more responsive, deployable, agile, versatile, lethal, survivable, and sustainable. Reaching these objectives will require changing the organization and operational concepts of the Army's brigades, and then providing manning, equipping, and training to the brigades in accordance with the revised concepts.

In the near- and mid-term, SBCTs will use wheeled vehicles. The interim armored vehicle (IAV), now in production, will weigh less than 20 tons to enable its in-theater air deployment by tactical transport aircraft such as the C-130. An MGS will be similarly air transportable. In what were formerly light brigades, the IAVs and MGS will bring greater tactical mobility and firepower to the infantry. In what were formerly heavy brigades, these systems enable strategic mobility by replacing heavy tracked vehicles such as the M2A1 Bradley Infantry Fighting Vehicle, M3A1 Bradley Cavalry Fighting Vehicle, and M1A2 Abrams Main Battle Tank. Ultimately, the Army will develop and acquire its Future Combat System. The Future Combat System will be an integrated system of systems that exploits leap-ahead advances in scientific technologies.