

13-11

May 13

STAFF OFFICER'S

*Quick
Reference
Guide*
VERSION 2

Lessons and Best Practices



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CENTER FOR ARMY LESSONS LEARNED

SUPPORTING THE WARFIGHTER



Staff Officer's Quick Reference Guide Version 2

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Staff Officer's Quick Reference Guide

Purpose: The purpose of this guide is to provide company-grade staff officers and noncommissioned officers — whether they are on a brigade combat team, battalion, Security Forces Assistance Team, or Security Forces Assistance Brigade staff — a guide that will allow them to quickly reference relevant information. This guide is not meant to be all-encompassing; users are encouraged to modify or adapt it to their own needs.

Unified Land Operations

The Army's Operational Concept: Unified land operations is the Army's operational concept and the Army's contribution to unified action. The central idea of unified land operations is how the Army seizes, retains, and exploits the initiative to gain and maintain a position of relative advantage in sustained land operations through simultaneous offensive, defensive, and stability or defense support of civil authorities tasks to prevent or deter conflict, prevail in war, and create the conditions for favorable conflict resolution.

Decisive Action: Army forces demonstrate the Army's core competencies through decisive action — the continuous and simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks.

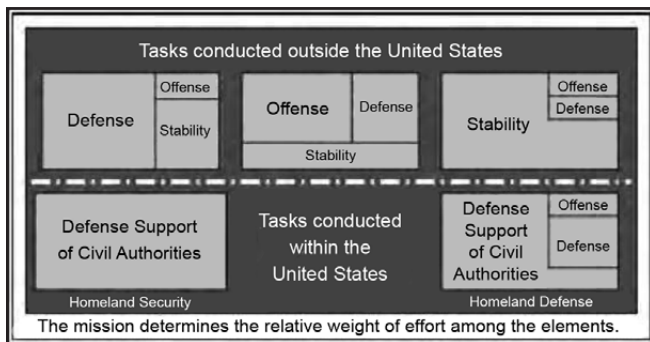


Figure 1

Army Core Competencies: Army forces demonstrate their core competencies of combined arms maneuver and wide area security by combining offensive, defensive, and stability or defense support of civil authorities tasks simultaneously. Although distinct by definition, combined arms maneuver and wide area security are inseparable and simultaneous.

Principles of War

The principles of war are guidelines that commanders can use to form and select a course of action (COA). No one principle should be considered without due consideration of the others.

unity of command — Ensure unity of effort under one responsible commander for every objective.

objective — Direct every military operation toward a clearly defined, decisive, and achievable goal.

offensive — Seize, retain, and exploit the initiative.

mass — Concentrate the effects of combat power at the most advantageous place and time to produce decisive results.

maneuver — Place the enemy in a position of disadvantage through the flexible application of combat power.

economy of force — Expend minimum essential combat power on secondary efforts in order to allocate the maximum possible combat power on primary efforts.

security — Prevent the enemy from acquiring unexpected advantage.

surprise — Strike at a time or place or in a manner for which the enemy is unprepared.

simplicity — Increase the probability that plans and operations will be executed as intended by preparing clear, uncomplicated plans and concise orders.

Key Concepts

operational framework — Army leaders are responsible for clearly articulating their visualization of operations in time, space, purpose, and resources: deep-close-security, decisive-shaping-sustaining, and main-supporting efforts.

area of operation — An operational area defined by the joint force commander for land and maritime forces that should be large enough to accomplish their missions and protect their forces (Joint Publication [JP] 3-0).

mission orders — Directives that emphasize to subordinates the results to be attained, not how they are to achieve them.

task — Specific activities that contribute to the accomplishment of encompassing missions. Tasks are expressed using an action verb relating to the enemy, terrain, or friendly forces. It is the “what” of the mission statement.

purpose — Desired or intended result of the tactical operation stated in terms relating to the enemy or to the desired situation. It is the “why” of the mission statement expressed using an action verb.

commander's intent — A clear and concise expression of the purpose of the operation and the desired military end state that supports mission command, provides focus to the staff, and helps subordinate and supporting commanders act to achieve the commander's desired results without further orders, even when the operation does not unfold as planned.

main effort — A designated subordinate unit whose mission at a given point in time is most critical to overall mission success.

decisive point — A geographic place, specific key event, critical factor, or function that when acted upon, allows commanders to gain a marked advantage over an adversary or contribute materially to achieving success (JP 5-0). Decisive points help commanders select clear, conclusive, attainable objectives that directly contribute to achieving the end state.

center of gravity — The source of power that provides moral or physical strength, freedom of action, or will to act (JP 5-0). This definition states in modern terms, the classic description offered by Clausewitz: "The hub of all power and movement, on which everything depends."

culmination point — That point in time and space at which a force no longer possesses the capability to continue its current form of operations. Culmination represents a crucial shift in relative combat power. It is relevant to both attackers and defenders at each level of war.

defeat mechanisms — The method through which friendly forces accomplish their mission against enemy opposition:

- Destroy.
- Dislocate.
- Disintegrate.
- Isolate.

stability mechanisms — A stability mechanism is the primary method through which friendly forces affect civilians in order to attain conditions that support establishing a lasting, stable peace:

- Compel.
- Control.
- Influence.
- Support.

Tenets of Unified Land Operations

flexibility — To achieve tactical, operational, and strategic success, commanders seek to demonstrate flexibility in spite of adversity.

integration — Army forces do not operate independently but as a part of a larger unified action. Army leaders integrate Army operations within this larger effort.

lethality — Effective decisive action relies on lethality. The capacity for physical destruction is a foundation of all other military capabilities, the most basic building block for military operations.

adaptability — Adaptability reflects a quality that Army leaders and forces exhibit through critical thinking, their comfort with ambiguity and uncertainty, their willingness to accept prudent risk, and their ability to rapidly adjust while continuously assessing the situation.

depth — The extension of operations in time, space, or purpose, including deep-close-security operations, to achieve definitive results.

synchronization — The arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time (JP 2-0).

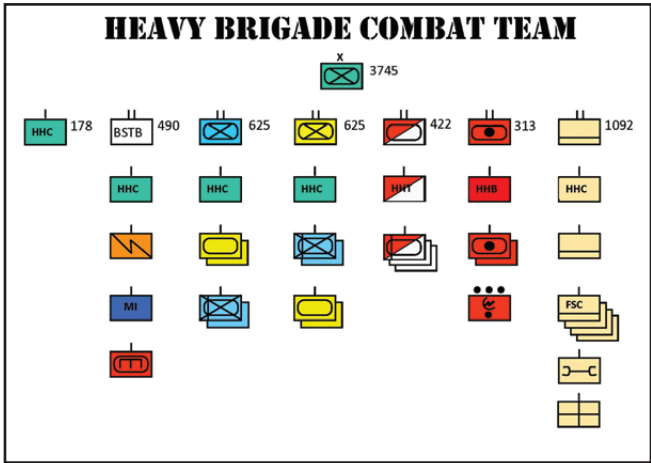


Figure 2

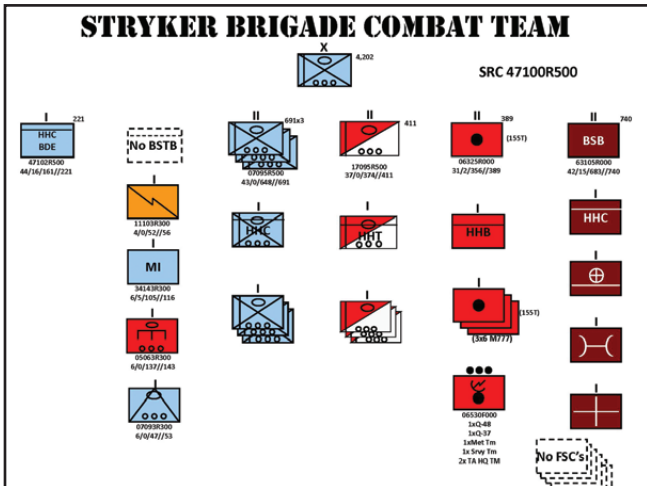


Figure 3

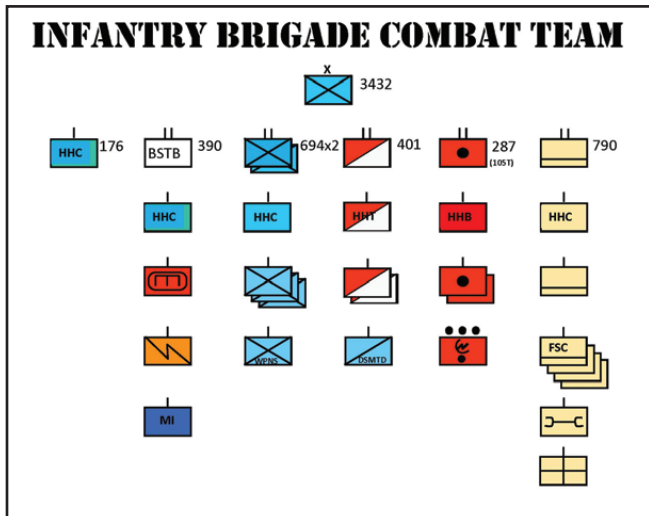


Figure 4



Figure 5

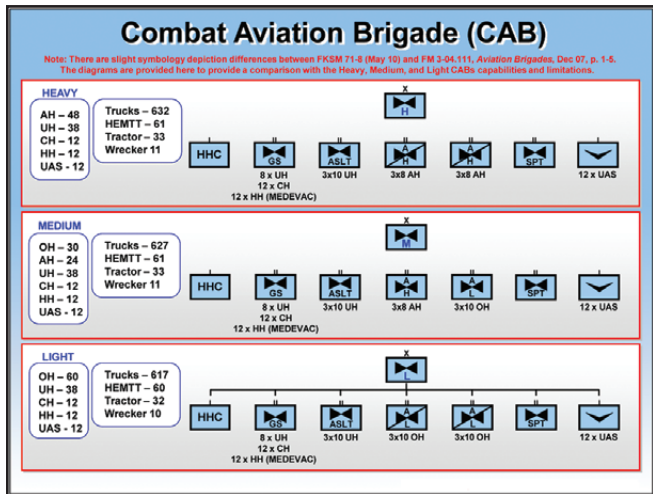


Figure 6

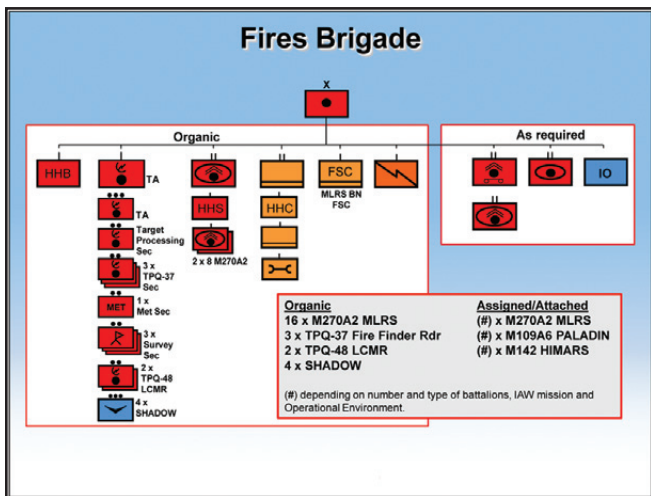


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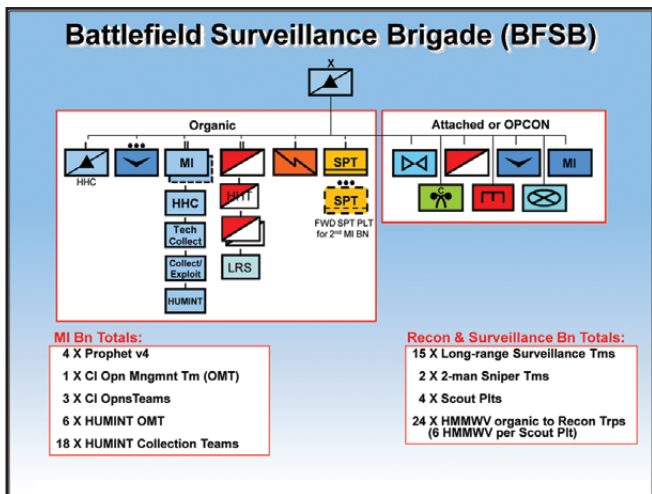


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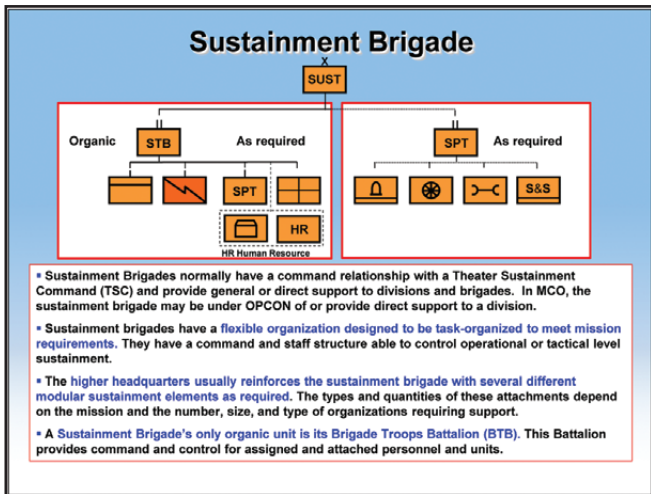


Figure 10

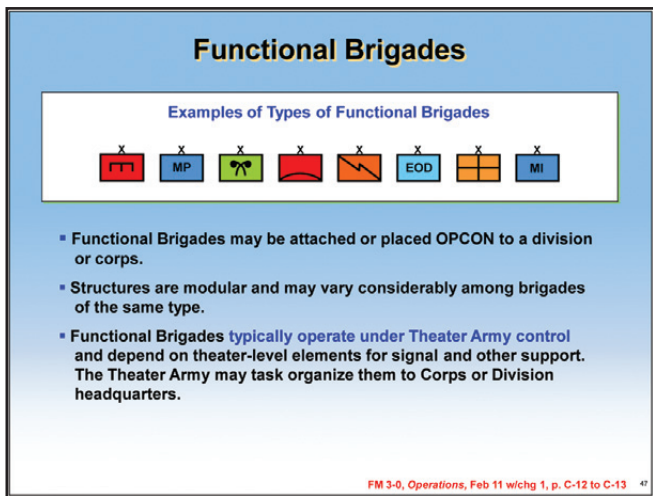


Figure 11

Command Relationships Defined

Combatant Command: Exercised exclusively by geographic combatant commanders. Has control over all assigned/apportioned forces in his theater.

Organic: Listed in the table of organization and equipment of the parent unit.

Assigned: Placed in organization on a permanent basis.

Operational Control: (Department of Defense [DOD]) Command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority) and may be delegated

within the command. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally, this authority is exercised through subordinate joint force commanders and service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called OPCON. See Army Doctrine Reference Publication (ADRP) 5-0.

Tactical Control: (DOD) Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command. Tactical control provides sufficient authority for controlling and directing the application of force or tactical use of combat support assets within the assigned mission or task. Also called ACON. See ADRP 5-0.

| Inherent responsibilities are: | If relationship is: | | |
|---|--|--|--|
| | COCOM | OPCON | TACON |
| Has command relationship with: | Gaining combatant commander; gaining service component commander | Gaining command | Gaining command |
| May be task organized by: | Gaining combatant commander; gaining service component commander | Gaining command | Parent unit |
| Receives logistic support from: | Gaining service component commander | Service component command; parent unit | Parent unit |
| Assigned position or AO by: | Gaining component commander | Gaining command | Gaining command |
| Provides liaison to: | As required by gaining component commander | As required by gaining command | As required by gaining command |
| Establishes and maintains communications with: | As required by gaining component commander | As required by gaining command | As required by gaining command & parent units |
| Has priorities established by: | Gaining component commander | Gaining command | Gaining command |
| Gaining unit can impose further command relationship/ authority of: | OPCON; TACON; direct support; mutual support; general support; close support | OPCON; TACON; direct support; mutual support; general support; close support | Direct support; mutual support; general support; close support |

Figure 12

Offensive Tasks

See ADRP 3-90.

An offensive task is a task conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers (ADRP 3-0). The four primary offensive tasks are movement to contact, attack, exploitation, and pursuit.

Movement to Contact: An offensive task designed to develop the situation and to establish or regain contact. The goal is to make initial contact with a small element while retaining enough combat power to develop the situation and mitigate the associated risk.

Attack: An offensive task that destroys or defeats enemy forces, seizes and secures terrain, or both. Attacks incorporate coordinated movement supported by fires. They may be either decisive or shaping operations. Attacks may be hasty or deliberate, depending on the time available for assessing the situation, planning, and preparing.

Exploitation: An offensive task that usually follows the conduct of a successful attack and is designed to disorganize the enemy in depth. Exploitations seek to disintegrate enemy forces to the point where they have no alternative but to surrender or take flight.

Pursuit: An offensive task designed to catch or cut off a hostile force attempting to escape, with the aim of destroying it. A pursuit normally follows a successful exploitation. However, any offensive task can transition into a pursuit if enemy resistance has broken down and the enemy is fleeing the battlefield.

Forms of Maneuver

Forms of maneuver are distinct tactical combinations of fire and movement with a unique set of doctrinal characteristics that differ primarily in the relationship between the maneuvering force and the enemy. The Army has six forms of maneuver: envelopment, flank attack, frontal attack, infiltration, penetration, and turning movement. Combined arms organizations accomplish their assigned mission by synchronizing

the contributions of all warfighting functions to execute these forms of maneuver. The commander generally chooses one form on which to build a COA. The higher commander rarely specifies the specific form of offensive maneuver. However, that higher commander's guidance and intent, along with the mission and any implied tasks, may impose constraints such as time, security, and direction of attack that narrow the forms of offensive maneuver to one alternative. Additionally, the AO's characteristics and the enemy's dispositions also help the commander determine the form of maneuver. A single operation may contain several forms of maneuver, such as a frontal attack to clear a security area followed by a penetration to create a gap in enemy defenses. Then, the commander might use a flank attack to expand that gap and destroy the enemy's first line of defense. See FM 3-90 for a discussion of these forms of maneuver.

Defensive Tasks

Area Defense: A defensive task that concentrates on denying enemy forces access to designated terrain for a specific time rather than destroying the enemy outright. The focus of the area defense is on retaining terrain where the bulk of the defending force positions itself in mutually supporting, prepared positions. Units maintain their positions and control the terrain between these positions. The decisive operation focuses on fires into engagement areas, possibly supplemented by a counterattack. The reserve may or may not take part in the decisive operation. The commander can use the reserve to reinforce fires, add depth, block, or restore the position by counterattack, seize the initiative, and destroy enemy forces. Units at all echelons can conduct an area defense. Units at all echelons may use an area defense in conjunction with pursuit to transition from a focus on the conduct of defensive tasks or offensive tasks to a focus on the conduct of stability tasks.

Mobile Defense: The mobile defense is a defensive task that concentrates on the destruction or defeat of the enemy through a decisive attack by a striking force. The mobile defense focuses on defeating or destroying the enemy by allowing enemy forces to advance to a point where they are exposed to a decisive counterattack by the striking force. The striking force is a dedicated counterattack force in a mobile defense constituted

with the bulk of available combat power. A fixing force supplements the striking force. The commander uses the fixing force to hold attacking enemy forces in position to help channel attacking enemy forces into ambush areas, and to retain areas from which to launch the striking force.

Retrograde: A defensive task that involves organized movement away from the enemy. The enemy may force these operations, or a commander may execute them voluntarily. The higher commander of the force executing the retrograde must approve the retrograde operation before its initiation in either case. The retrograde is a transitional operation; it is not conducted in isolation. It is part of a larger scheme of maneuver designed to regain the initiative and defeat the enemy.

Tactical Enabling Tasks

See ADRP 3-90.

Reconnaissance

Reconnaissance is a mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or adversary, or to secure data concerning the meteorological, hydrographical, or geographical characteristics and the indigenous population of a particular area (JP 2-0). Reconnaissance primarily relies on the human dynamic rather than technical means. Reconnaissance is a focused collection effort. It is performed before, during, and after other operations to provide information used in the intelligence preparation of the battlefield (IPB) process, as well as by the commander in order to formulate, confirm, or modify a COA.

There are seven fundamentals of successful reconnaissance operations. Commanders:

- Ensure continuous reconnaissance.
- Do not keep reconnaissance assets in reserve.
- Orient on the reconnaissance objective.
- Report information rapidly and accurately.

- Retain freedom of maneuver.
- Gain and maintain enemy contact.
- Develop the situation rapidly.

The Forms of Reconnaissance

Route Reconnaissance: A directed effort to obtain detailed information of a specified route and all terrain from which the enemy could influence movement along that route.

Zone Reconnaissance: A form of reconnaissance that involves a directed effort to obtain detailed information on all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries.

Area Reconnaissance: A form of reconnaissance that focuses on obtaining detailed information about the terrain or enemy activity within a prescribed area.

Reconnaissance in Force: A deliberate combat operation designed to discover or test the enemy's strength, dispositions, and reactions or to obtain other information.

Special Reconnaissance: Includes reconnaissance and surveillance actions conducted as a special operation in hostile, denied, or politically sensitive environments to collect or verify information of strategic or operational significance, employing military capabilities not normally found in conventional forces (JP 3-05). These actions provide an additional capability for commanders and supplement other conventional reconnaissance and surveillance actions.

Security Operations

Security operations are those operations undertaken by a commander to provide early and accurate warning of enemy operations, to provide the force being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow the commander to effectively use the protected force. The ultimate goal of security operations is to protect the force from surprise, and reduce the unknowns

in any situation. The force being protected may be the civilian population, civil institutions, and civilian infrastructure with the unit's area of operations. A commander may conduct security operations to the front, flanks, or rear of the friendly force. The main difference between security operations and reconnaissance operations is that security operations orient on the force or facility being protected, while reconnaissance is enemy and terrain oriented. Security operations are shaping operations. As a shaping operation, economy of force is often a consideration of tactical security operations.

Security Operations Tasks

- **Screen** is a security task that primarily provides early warning to the protected force.
- **Guard** is a security task to protect the main body by fighting to gain time while also observing and reporting information and preventing enemy ground observation of and direct fire against the main body. Units conducting a guard mission cannot operate independently because they rely upon fires and functional and multifunctional support assets of the main body.
- **Cover** is a security task to protect the main body by fighting to gain time while also observing and reporting information and preventing enemy ground observation of and direct fire against the main body.
- **Area security** is a security task conducted to protect friendly forces, installations, routes, and actions within a specific area.
- **Local security** is a security task that includes low-level security activities conducted near a unit to prevent surprise by the enemy.

The Five Fundamentals of Security Operations

- Provide early and accurate warning.
- Provide reaction time and maneuver space.
- Orient on the force or facility to be secured.

- Perform continuous reconnaissance.
- Maintain enemy contact.

Sustainment Warfighting Function

The sustainment warfighting function is one of the eight elements of combat power. The sustainment warfighting function is the related tasks and systems that provide support and services to ensure freedom of action, to extended operational reach, and to prolong endurance (ADRP 3-0). The endurance of Army forces is primarily a function of their sustainment. Sustainment determines the depth and duration of Army operations (Army Doctrine Publication [ADP] 3-0). Successful sustainment enables freedom of action by increasing the number and quality of options available to the commander. Sustainment is essential for retaining and exploiting the initiative. The sustainment warfighting function consists of three major elements: logistics, personnel services, and health service support.

Logistics

Planning and executing the movement and support of forces. It includes those aspects of military operations that deal with: design and development; acquisition, storage, movement, distribution, maintenance, and disposition of materiel; acquisition or construction, maintenance, operation, and disposition of facilities; and acquisition or furnishing of services. Army logistics include the following:

- Maintenance.
- Transportation.
- Supply.
- Field services.
- Distribution.
- Operational contract support.
- General engineering support.

Principles of Sustainment

The principles of sustainment are essential to maintaining combat power, enabling strategic and operational reach, and providing Army forces with endurance. While these principles are independent, they are also interrelated. The principles of sustainment and the principles of logistics are the same.

Integration: The combining all of the sustainment elements within operations assuring unity of command and effort. It requires deliberate coordination and synchronization of sustainment with operations across all levels of war. Army forces integrate sustainment with joint and multinational operations to maximize the complementary and reinforcing effects of each service component and national resources. One of the primary functions of the sustainment staff is to ensure the integration of sustainment with operations plans.

Anticipation: The ability to foresee operational requirements and initiate necessary actions that most appropriately satisfy a response without waiting for operations orders or fragmentary orders. It is shaped by professional judgment resulting from experience, knowledge, education, intelligence, and intuition. Commanders and staffs must understand and visualize future operations and identify appropriate required support. They must then start the process of acquiring the resources and capabilities that best support the operation. Anticipation is facilitated by automation systems that provide the common operational picture upon which judgments and decisions are based. Anticipation is also a principle of personnel services.

Responsiveness: The ability to react to changing requirements and respond to meet the needs to maintain support. It is providing the right support in the right place at the right time. It includes the ability to anticipate operational requirements. Responsiveness involves identifying, accumulating, and maintaining sufficient resources, capabilities, and information necessary to meet rapidly changing requirements. Through responsive sustainment, commanders maintain operational focus and pressure, set the tempo of friendly operations to prevent exhaustion, replace ineffective units, and extend operational reach.

Simplicity: Relates to processes and procedures to minimize the complexity of sustainment. Unnecessary complexity of processes and procedures leads to the confusion. Clarity of tasks, standardized and interoperable procedures, and clearly defined command relationships contribute to simplicity. Simplicity enables economy and efficiency in the use of resources, while ensuring effective support of forces. Simplicity is also a principle of financial management (see Field Manual [FM] 1-06).

Economy: Providing sustainment resources in an efficient manner that enables the commander to employ all assets to the greatest effect possible. Economy is achieved through efficient management, discipline, prioritization, and allocation of resources. Economy is further achieved by eliminating redundancies and capitalizing on joint interdependencies. Disciplined sustainment assures greatest possible tactical endurance and constitutes an advantage to commanders. Economy may be achieved by contracting for support or using host nation resources that reduce or eliminate the use of limited military resources.

Survivability: All aspects of protecting personnel, weapons, and supplies while simultaneously deceiving the enemy (JP 3-34). Survivability consists of a quality or capability of military forces to avoid or withstand hostile actions or environmental conditions while retaining the ability to fulfill their primary mission. This quality or capability of military forces is closely related to protection (the preservation of a military force's effectiveness) and to the protection/force protection warfighting function (the tasks or systems that preserve the force). Hostile actions and environmental conditions can disrupt the flow of sustainment and significantly degrade forces' abilities to conduct and sustain operations. In mitigating risks to sustainment, commanders often must rely on the use of redundant sustainment capabilities and alternative support plans.

Continuity: The uninterrupted provision of sustainment across all levels of war. Continuity is achieved through a system of integrated and focused networks linking sustainment to operations. Continuity is achieved through joint interdependence, linked sustainment organizations, a strategic to tactical level distribution system, and integrated information systems. Continuity assures confidence in sustainment allowing commanders freedom of action, operational reach, and endurance.

| <i>Class</i> | <i>Description</i> |
|--------------|--|
| Class I | Subsistence, including health and welfare items. |
| Class II | Clothing, individual equipment, tentage, tool sets and tool kits, hand tools, administrative, and housekeeping supplies and equipment (including maps). This includes items of equipment, other than major items, prescribed in authorization/allowance tables and items of supply (not including repair parts). |
| Class III | POL, petroleum and solid fuels, including bulk and packaged fuels, lubricating oils and lubricants, petroleum specialty products; solid fuels, coal, and related products. |
| Class IV | Construction materials, to include installed equipment and all fortification/barrier materials. |
| Class V | Ammunition of all types (including chemical, radiological, and special weapons), bombs, explosives, mines, fuses, detonators, pyrotechnics, missiles, rockets, propellants, and other associated items. |
| Class VI | Personal demand items (nonmilitary sales items.) |
| Class VII | Major items: A final combination of end products which is ready for its intended use: (principal item) for example, launchers, tanks, mobile machine shops, vehicles. |
| Class VIII | Medical materiel, including medical peculiar repair parts. |
| Class IX | Repair parts and components, including kits, assemblies and subassemblies, reparable and nonreparable, required for maintenance support of all equipment. |
| Class X | Material to support nonmilitary programs; such as, agricultural and economic development, not included in Class 1 through Class 9 |

Figure 13. Classes of Supply

Tactical Task Symbols

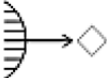
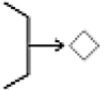
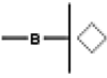
| Task | Symbol <i>Note: The friendly or hostile frame (gray) is not part of the symbol; it is for orientation only.</i> |
|----------------|--|
| Ambush |  |
| Attack by fire |  |
| Block |  |

Figure 14











| Task | Symbol <i>Note: The friendly or hostile frame (gray) is not part of the symbol, it is for orientation only.</i> |
|--|--|
| Breach |  |
| Bypass |  |
| Canalize |  |
| Clear |  |
| Contain |  |
| Control |  |
| Counterattack |  |
| Counterattack by fire |  |
| Delay or delay (until a specific time) |  |
| Demonstration |  |

Figure 15


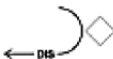
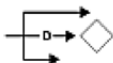
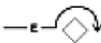

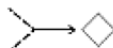




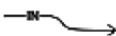
| Task | Symbol Note: The friendly or hostile frame (gray) is not part of the symbol; it is for orientation only. |
|-------------------------|---|
| Destroy |  |
| Disengage/disengagement |  |
| Disrupt |  |
| Envelopment |  |
| Exfiltrate |  |
| Exploit |  |
| Feint |  |
| Fix |  |
| Follow and assume |  |
| Follow and support |  |
| Infiltration/infiltrate |  |

Figure 16





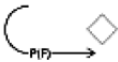
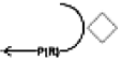
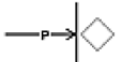



| Task | Symbol <i>Note: The friendly or hostile frame (gray) is not part of the symbol, it is for orientation only.</i> |
|-----------------------------|--|
| Interdict |  |
| Isolate |  |
| Neutralize |  |
| Occupy |  |
| Passage of lines (forward) |  |
| Passage of lines (rearward) |  |
| Penetration/penetrate |  |
| Relief in place |  |
| Retain |  |
| Retirement |  |

Figure 17

| Task | Symbol <i>Note: The friendly or hostile frame (gray) is not part of the symbol; it is for orientation only.</i> |
|--|--|
| Secure | |
| Security | |
| | |
| <i>Note: Unit to perform security is placed in the center of symbol.</i> | |
| Type | Icon |
| Security (screen) | S |
| Security (cover) | C |
| Security (guard) | G |
| Seize | |
| Support by fire | |
| Suppress | |
| Turn | |
| Withdraw | |
| Withdraw under pressure | |

Figure 18

Key Definitions

ambush — An attack by fire or other destructive means from concealed positions on a moving or temporarily halted enemy (FM 3-90).

attack by fire — A tactical mission task in which a commander uses direct fires, supported by indirect fires, to engage an enemy force without closing with the enemy to destroy, suppress, fix, or deceive that enemy (FM 3-90). See also **destroy, fix, frontal attack, support by fire, suppress, tactical mission task**.

block — A tactical mission task that denies the enemy access to an area or prevents his advance in a direction or along an avenue of approach. Block is also an obstacle effect that integrates fire planning and obstacle effort to stop an attacker along a specific avenue of approach or to prevent the attacking force from passing through an engagement area (FM 3-90). See also **avenue of approach, contain, disrupt, fix, tactical mission task, turn**.

breach — A tactical mission task in which the unit employs all available means to break through or establish a passage through an enemy defense, obstacle, minefield, or fortification (FM 3-90). See also **tactical mission task**.

bypass — A tactical mission task in which the commander directs his unit to maneuver around an obstacle, position, or enemy force to maintain the momentum of the operation while deliberately avoiding combat with an enemy force (FM 3-90). See also **tactical mission task**.

canalize — (Army) A tactical mission task in which the commander restricts enemy movement to a narrow zone by exploiting terrain coupled with the use of obstacles, fires, or friendly maneuver (FM 3-90). See also **tactical mission task**.

clear — **1.** A tactical mission task that requires the commander to remove all enemy forces and eliminate organized resistance within an assigned area (FM 3-90). **2.** To eliminate transmissions on a tactical radio net in order to allow a higher-precedence transmission to occur (FM 6-02.53). **3.** The total elimination or neutralization of an obstacle that is usually

performed by follow-on engineers and is not done under fire (Army Tactics, Techniques and Procedures [ATTP] 3-90.4). See also **reduce, tactical mission task**.

contain — A tactical mission task that requires the commander to stop, hold, or surround enemy forces or to cause them to center their activity on a given front and prevent them from withdrawing any part of their forces for use elsewhere (FM 3-90).

control — (Army) **1.** The regulation of forces and warfighting functions to accomplish the mission in accordance with the commander's intent (ADP 6-0). **2.** A tactical mission task that requires the commander to maintain physical influence over a specified area to prevent its use by an enemy or to create conditions necessary for successful friendly operations (FM 3-90). **3.** An action taken to eliminate a hazard or reduce its risk (FM 5-19).

counterattack — Attack by part or all of a defending force against an enemy attacking force for such specific purposes as regaining ground lost or cutting off or destroying enemy advance units, and with the general objective of denying to the enemy the attainment of the enemy's purpose in attacking. In sustained defensive operations, it is undertaken to restore the battle position and is directed at limited objectives (ADRP 1-02).

destroy — A tactical mission task that physically renders an enemy force combat-ineffective until it is reconstituted. Alternatively, to destroy a combat system is to damage it so badly that it cannot perform any function or be restored to a usable condition without being entirely rebuilt (FM 3-90). See also **reconstitution, tactical mission task**.

disengage — A tactical mission task where a commander has his unit break contact with the enemy to allow the conduct of another mission or to avoid decisive engagement (FM 3-90). See also **decisive engagement, tactical mission task**.

disrupt — **1.** A tactical mission task in which a commander integrates direct and indirect fires, terrain, and obstacles to upset an enemy's formation or tempo, interrupt his timetable, or cause his forces to commit

prematurely or attack in piecemeal fashion (FM 3-90). **2.** An obstacle effect that focuses fire planning and obstacle effort to cause the enemy to break up its formation and tempo, interrupt its timetable, commit breaching assets prematurely, and attack in a piecemeal effort (FM 90-7).

envelopment — A form of maneuver in which an attacking force seeks to avoid the principal enemy defenses by seizing objectives behind those defenses that allow the targeted enemy force to be destroyed in their current positions (ADP 3-90).

exploitation — (Army) An offensive task that usually follows a successful attack and is designed to disorganize the enemy in depth (ADRP 3-90). See also **attack, offensive operations**.

fix — A tactical mission task where a commander prevents the enemy from moving any part of his force from a specific location for a specific period. Fix is also an obstacle effect that focuses fire planning and obstacle effort to slow an attacker's movement within a specified area, normally an engagement area (FM 3-90). See also **block, contain, disrupt, support by fire, tactical mission task, turn**.

follow and assume — A tactical mission task in which a second committed force follows a force conducting an offensive operation and is prepared to continue the mission if the lead force is fixed, attrited, or unable to continue (FM 3-90). See also **attack, fix, follow and support, offensive operations, tactical mission task**.

follow and support — A tactical mission task in which a committed force follows and supports a lead force conducting an offensive operation (FM 3-90). See also **direct pressure force, encircling force, exploitation, follow and assume, offensive operations, tactical mission task**.

follow-on echelon — Those additional forces moved into the objective area after the assault echelon (FM 3-90). See also **air assault operation, assault echelon**.

infiltration — (Army) A form of maneuver in which an attacking force conducts undetected movement through or into an area occupied by enemy forces to occupy a position of advantage in the enemy rear while exposing only small elements to enemy defensive fires (ADP 3-90).

interdict — A tactical mission task where the commander prevents, disrupts, or delays the enemy's use of an area or route (FM 3-90). See also **delay, disrupt, tactical mission task**.

isolate — A tactical mission task that requires a unit to seal off, both physically and psychologically, an enemy from its sources of support, deny an enemy freedom of movement, and prevent an enemy unit from having contact with other enemy forces (FM 3-90). See also **encirclement, tactical mission task**.

key tasks — Those activities the force must perform as a whole to achieve the desired end state (ADRP 5-0).

key terrain — (DOD) Any locality, or area, the seizure or retention of which affords a marked advantage to either combatant. See FM 2-01.3.

neutralize — (Army) A tactical mission task that results in rendering enemy personnel or materiel incapable of interfering with a particular operation (FM 3-90).

no-fire area — (DOD) An area designated by the appropriate commander into which fires or their effects are prohibited. Also called NFA. See FM 3-09.

objective — (DOD) The clearly defined, decisive, and attainable goal toward which every operation is directed. See ADRP 5-0. (Army) A location on the ground used to orient operations, phase operations, facilitate changes of direction, and provide for unity of effort (ADRP 3-90).

occupy — A tactical mission task that involves a force moving a friendly force into an area so that it can control that area. Both the force's movement to and occupation of the area occur without enemy opposition (FM 3-90).

operational approach — (DOD) A description of broad actions the force must take to transform current conditions into those desired at end state. See ADRP 3-0 and ADRP 5-0.

operational art — (DOD) The cognitive approach by commanders and staffs, supported by their skill, knowledge, experience, creativity, and judgment, to develop strategies, campaigns, and operations to organize and employ military forces by integrating ends, ways, and means. See ADP 3-0, ADRP 3-0, and ADRP 5-0.

operational environment — (DOD) A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. Also called OE. See ADRP 3-0 and ADRP 6-0.

passage of lines — (Army) A tactical enabling operation in which one unit moves through another unit's positions with the intent of moving into or out of enemy contact (FM 3-90). See also **forward passage of lines**, **rearward passage of lines**.

penetration: A form of maneuver in which an attacking force seeks to rupture enemy defenses on a narrow front to disrupt the defensive system (FM 3-90).

piecemeal commitment — The immediate employment of units in combat as they become available instead of waiting for larger aggregations of units to ensure mass; the unsynchronized employment of available forces so that their combat power is not employed effectively (ADRP 3-90). See also **combat power**.

point of breach — The location at an obstacle where the creation of a lane is being attempted (ATTP 3-90.4).

point of departure — (Army) The point where the unit crosses the line of departure and begins moving along a direction of attack (ADRP 3-90). See also **line of departure**.

point of penetration — The location, identified on the ground, where the commander concentrates his efforts at the enemy's weakest point to seize a foothold on the far-side objective (ATTP 3-90.4).

priority intelligence requirement — (DOD) An intelligence requirement, stated as a priority for intelligence support, that the commander and staff need to understand the adversary or the operational environment. Also called PIR. See FM 2-01.3.

priority of fires — The commander's guidance to his staff, subordinate commanders, fire support planners, and supporting agencies to organize and employ fire support in accordance with the relative importance of the unit's mission (ADRP 3-09). See also **fire support**.

priority of support — A priority set by the commander to ensure a subordinate unit has support in accordance with its relative importance to accomplishing the mission (ADRP 5-0).

probable line of deployment — A phase line that designates the location where the commander intends to deploy the unit into assault formation before beginning the assault (ADRP 3-90). Also called PLD. See also **phase line**.

raid — (DOD) An operation to temporarily seize an area in order to secure information, confuse an adversary, capture personnel or equipment, or to destroy a capability culminating with a planned withdrawal. See FM 3-90.

rally point — **1.** An easily identifiable point on the ground at which air crews and passengers can assemble and reorganize following an incident requiring a forced landing. **2.** An easily identifiable point on the ground at which units can reassemble and reorganize if they become dispersed. Also called RP (ADRP 1-02).

reconnaissance objective — A terrain feature, geographical area, enemy force, adversary, or other mission or operational variable, such as specific civil considerations, about which the commander wants to obtain additional information (ADRP 3-90).

reduce — **1.** A tactical mission task that involves the destruction of an encircled or bypassed enemy force (FM 3-90). **2.** A mobility task to create and mark lanes through, over, or around an obstacle to allow the attacking force to accomplish its mission (ATTP 3-90.4). See also **assault, bypass, destroy, neutralize, obscure, secure, suppress, tactical mission task.**

regional mechanism — The primary method through which friendly forces affect indigenous populations, host nations, or the enemy to establish the conditions needed to safeguard our interests and those of our allies (ADP 3-05).

relief in place — (Army) An operation in which, by direction of higher authority, all or part of a unit is replaced in an area by the incoming unit. The responsibilities of the replaced elements for the mission and the assigned area of operations are transferred to the incoming unit. The incoming unit continues the operation as ordered (FM 3-90).

reorganization — All measures taken by the commander to maintain unit combat effectiveness or return it to a specified level of combat capability (FM 3-90). See also **reconstitution, regeneration.**

restrictive fire area — (DOD) An area in which specific restrictions are imposed and into which fires that exceed those restrictions will not be delivered without coordination with the establishing headquarters. Also called RFA. See FM 3-09.

restrictive fire line — (DOD) A line established between converging friendly surface forces that prohibits fires or their effects across that line. Also called RFL. See FM 3-09.

retrograde movement — Any movement of a command to the rear or away from the enemy. It may be focused by the enemy or may be made voluntarily. Such movements may be classified as a withdrawal, retirement, or delaying action (FM 3-90).

rules for the use of force — (DOD) Directives issued by competent military authority that delineate the circumstances and limitations under which U.S. forces will initiate and/or continue combat engagement with other forces encountered. See ADRP 3-0.

rules of engagement — (DOD) Directives issued by competent military authority that delineate the circumstances and limitations under which U.S. forces will initiate and/or continue combat engagement with other forces encountered. Also called ROE. See ADRP 3-0.

screen — A security task that primarily provides early warning to the protected force (ADRP 3-90). See also **concealment, flank guard, guard, security operations, sensor, surveillance.**

sector of fire — That area assigned to a unit, crew-served weapon, or an individual weapon within which it will engage targets as they appear in accordance with established engagement priorities (ADRP 1-02).

secure — A tactical mission task that involves preventing a unit, facility, or geographical location from being damaged or destroyed as a result of enemy action (FM 3-90). See also **assault, breach, denial measure, destroy, reduce, suppress, tactical mission task.**

security area — That area that begins at the forward area of the area of the battlefield and extends as far to the front and flanks as security forces are deployed. Forces in the security area furnish information on the enemy and delay, deceive, and disrupt the enemy and conduct counterreconnaissance (ADRP 3-90). See also **counterreconnaissance, delay, disrupt.**

security cooperation — (DOD) All DOD interactions with foreign defense establishments to build defense relationships that promote specific U.S. security interests, develop allied and friendly military capabilities for self-defense and multinational operations, and provide U.S. forces with peacetime and contingency access to a host nation. See ADRP 3-0.

security force assistance — (Army) The unified action to generate, employ, and sustain local, host nation, or regional security forces in support of legitimate authority (FM 3-07).

security operations — Those operations undertaken by a commander to provide early and accurate warning of enemy operations, to provide the force being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow the commander to effectively use the protected force (ADRP 3-90). See also **cover**, **guard**, **screen**.

security sector reform — The set of policies, plans, programs, and activities that a government undertakes to improve the way it provides safety, security, and justice (FM 3-07).

seize — (Army) A tactical mission task that involves taking possession of a designated area using overwhelming force (FM 3-90). See also **contain**, **tactical mission task**.

shaping operation — An operation that establishes conditions for the decisive operation through effects on the enemy, other actors, and the terrain (ADRP 3-0). See also **decisive operation**, **sustaining operation**.

striking force — A dedicated counterattack force in a mobile defense constituted with the bulk of available combat power (ADRP 3-90). See also **mobile defense**.

strong point — A heavily fortified battle position tied to a natural or reinforcing obstacle to create an anchor for the defense or to deny the enemy decisive or key terrain (ADRP 3-90). Also called SP. See also **battle position**, **mobile defense**.

subsequent position — A position that a unit expects to move to during the course of battle (ADRP 3-90).

supplementary position — A defensive position located within a unit's assigned area of operations that provides the best sectors of fire and defensive terrain along an avenue of approach that is not the primary avenue along where the enemy is expected to attack (ADRP 3-90). See also **alternate position**, **area of operations**, **avenue of approach**, **battle position**, **sector of fire**.

support by fire — A tactical mission task in which a maneuver force moves to a position where it can engage the enemy by direct fire in support of another maneuvering force (FM 3-90). See also **attack by fire, overwatch, tactical mission task**.

support by fire position — The general position from which a unit conducts the tactical mission task of support by fire (ADRP 3-90).

supporting distance — The distance between two units that can be traveled in time for one to come to the aid of the other and prevent its defeat by an enemy or ensure it regains control of a civil situation (ADRP 3-0). See also **supporting range**.

supporting effort — A designated subordinate unit with a mission that supports the success of the main effort (ADRP 3-0).

supporting range — The distance one unit may be geographically separated from a second unit yet remain within the maximum range of the second unit's weapons systems (ADRP 3-0). See also **supporting distance**.

target — (DOD) **1.** An entity or object considered for possible engagement or other action. **2.** In intelligence usage, a country, area, installation, agency, or person against which intelligence operations are directed. **3.** An area designated and numbered for future firing. **4.** In gunfire support usage, an impact burst that hits the target. See FM 3-60.

trigger line — A phase line located on identifiable terrain that crosses the engagement area, used to initiate and mass fires into an engagement area at a predetermined range for all or like weapon systems. See also **engagement area, phase line** (ADRP 1-02).

turn — **1.** A tactical mission task that involves forcing an enemy force from one avenue of approach or mobility corridor to another. **2.** A tactical obstacle effect that integrates fire planning and obstacle effort to divert an enemy formation from one avenue of approach to an adjacent avenue of approach or into an engagement area (FM 3-90). See also **avenue of approach, tactical mission task**.

unified action — (DOD) The synchronization, coordination, and/or integration of the activities of governmental and nongovernmental entities with military operations to achieve unity of effort. See ADRP 3-0.

unified action partners — Those military forces, governmental and nongovernmental organizations, and elements of the private sector with whom Army forces plan, coordinate, synchronize, and integrate during the conduct of operations (ADRP 3-0).

wide area security — The application of the elements of combat power in unified action to protect populations, forces, infrastructure, and activities; to deny the enemy positions of advantage; and to consolidate gains in order to retain the initiative (ADP 3-0).

withdrawal operation — (DOD) A planned retrograde operation in which a force in contact disengages from an enemy force and moves in a direction away from the enemy.

working group — (Army) A grouping of predetermined staff representatives who meet to provide analysis, coordinate, and provide recommendations for a particular purpose or function (ATTP 5-0.1).

zone reconnaissance — A form of reconnaissance that involves a directed effort to obtain detailed information on all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries (ADRP 3-90).

| Elements of decisive action and their subordinate tasks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|---|--------|--------------------|--------|--------|-------|--------|---------|--------|-----------------------|--------|-----------|-------|------------|-----------------|---|--|-------|-----|----------|-----------|---------|---------|--------|------------|---------|----------|---------|------|
| <p>Offensive tasks</p> <ul style="list-style-type: none"> • Movement to contact <ul style="list-style-type: none"> - Search and attack - Cordon and search • Attack <ul style="list-style-type: none"> - Ambush* - Counterattack* - Demonstration* - Spoiling attack* - Feint* - Raid* • Exploitation • Pursuit | <p>Defensive tasks</p> <ul style="list-style-type: none"> • Area defense • Mobile defense • Retrograde operations <ul style="list-style-type: none"> - Delay - Withdrawal - Retirement | <p>Stability tasks</p> <ul style="list-style-type: none"> • Civil security • Civil control • Restore essential services • Support to governance • Support to economic and infrastructure development | <p>Defense support of civil authorities</p> <ul style="list-style-type: none"> • Provide support for domestic disasters • Provide support for domestic chemical, biological, radiological, and nuclear incidents • Provide support for domestic civilian law enforcement agencies • Provide other designated support | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Forms of maneuver</p> <ul style="list-style-type: none"> • Envelopment • Flank attack • Frontal attack • Infiltration • Penetration • Turning movement | <p>Forms of the defense</p> <ul style="list-style-type: none"> • Defense of a linear obstacle • Perimeter defense • Reverse slope defense | <p>*Also known as special purpose attacks</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tactical enabling tasks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Reconnaissance operations</p> <ul style="list-style-type: none"> • Zone • Area • Route • Recon in force | <p>Security operations</p> <ul style="list-style-type: none"> • Screen • Guard • Cover • Area (includes route and convoy) • Local | <p>Troop movement</p> <ul style="list-style-type: none"> • Administrative movement • Approach march • Road march | <p>Mobility operations</p> <ul style="list-style-type: none"> • Breaching operations • Clearing operations (area and route) • Gap-crossing operations • Combat roads and trails • Forward airfields and landing zones • Traffic operations | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <p>Encirclement operations</p> | <p>Relief in place Passage of lines</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tactical mission tasks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Actions by friendly force</p> <table border="0"> <tr> <td>Attack-by-fire</td> <td>Follow and assume</td> </tr> <tr> <td>Breach</td> <td>Follow and support</td> </tr> <tr> <td>Bypass</td> <td>Occupy</td> </tr> <tr> <td>Clear</td> <td>Reduce</td> </tr> <tr> <td>Control</td> <td>Retain</td> </tr> <tr> <td>Counterreconnaissance</td> <td>Secure</td> </tr> <tr> <td>Disengage</td> <td>Seize</td> </tr> <tr> <td>Exfiltrate</td> <td>Support-by-fire</td> </tr> </table> | | Attack-by-fire | Follow and assume | Breach | Follow and support | Bypass | Occupy | Clear | Reduce | Control | Retain | Counterreconnaissance | Secure | Disengage | Seize | Exfiltrate | Support-by-fire | <p>Effects on enemy force</p> <table border="0"> <tr> <td>Block</td> <td>Fix</td> </tr> <tr> <td>Canalize</td> <td>Interdict</td> </tr> <tr> <td>Contain</td> <td>Isolate</td> </tr> <tr> <td>Defeat</td> <td>Neutralize</td> </tr> <tr> <td>Destroy</td> <td>Suppress</td> </tr> <tr> <td>Disrupt</td> <td>Turn</td> </tr> </table> | | Block | Fix | Canalize | Interdict | Contain | Isolate | Defeat | Neutralize | Destroy | Suppress | Disrupt | Turn |
| Attack-by-fire | Follow and assume | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Breach | Follow and support | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bypass | Occupy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clear | Reduce | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Control | Retain | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Counterreconnaissance | Secure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Disengage | Seize | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exfiltrate | Support-by-fire | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Block | Fix | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Canalize | Interdict | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contain | Isolate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Defeat | Neutralize | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Destroy | Suppress | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Disrupt | Turn | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 19: Army Tactical Doctrinal Taxonomy (Army Doctrine Reference Publication 3-90)

Warfighting Functions

Mission Command: The related tasks and systems that develop and integrate those activities enabling a commander to balance the art of command and the science of control in order to integrate the other warfighting functions (ADRP 3-0).

Movement and Maneuver: The related tasks and systems that move and employ forces to achieve a position of relative advantage over the enemy and other threats (ADRP 3-0). Direct fire and close combat are inherent in maneuver.

Intelligence Warfighting: The related tasks and systems that facilitate understanding the enemy, terrain, and civil considerations (ADRP 3-0).

Fires: The related tasks and systems that provide collective and coordinated use of Army indirect fires, air and missile defense, and joint fires through the targeting process (ADRP 3-0).

Sustainment: The related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance (ADRP 3-0).

Protection: The related tasks and systems that preserve the force so the commander can apply maximum combat power to accomplish the mission (ADRP 3-0).

Basic Tactical Concepts

See ADRP 3-90 for complete definitions.

Area of Operations (AO): An operational area defined by the joint force commander for land and maritime forces that should be large enough to accomplish their missions and protect their forces (JP 3-0). The joint force land component commander, Army service component command commander, or Army forces commander will in turn assign subordinates their own AO. Those subordinates will further assign their subordinates AOs down to the battalion or company level based on the mission variables of METT-TC.

Clearance of Fires: Within its AO, the owning unit may employ any direct or indirect fire system without receiving further clearance from superior headquarters. There are three exceptions. The first and most common exception is that a unit may not use munitions within its own AO without receiving appropriate clearance if the effects of those munitions extend beyond its AO. For example, if a unit wants to use smoke, its effects cannot cross boundaries into another AO unless cleared with the adjacent owning unit. Second, higher headquarters may explicitly restrict the use of certain munitions, such as white phosphorus, within an AO or parts of an AO. Third, higher headquarters may impose a restrictive fire support coordination measure within an AO to protect some asset or facility, such as a no-fire area around a dislocated civilian camp.

Security: The security of all units operating within the AO is the responsibility of the owning commander. This does not require that commander to conduct area security operations throughout the AO. The commander must prevent surprise and provide the amount of time necessary for all units located within the AO to effectively respond to enemy actions by employing security forces around those units.

Personnel Recovery: Army personnel recovery is the sum of military, diplomatic, and civil efforts to prevent isolation incidents and to return isolated persons to safety or friendly control (FM 3-50.1). A person can become isolated by enemy action by becoming disoriented or by environmental conditions.

Minimum Essential Stability Tasks: Generally, the responsibility for providing for the basic needs of the people within a unit's AO rests with the host nation government or designated civil authorities, agencies, and organizations. When this is not possible, the unit owning the AO ensures the provision of minimum levels of civil security.

Combined Arms: The synchronized and simultaneous application of arms to achieve an effect greater than if each arm was used separately or sequentially (ADRP 3-0). Weapons and units are more effective when they operate in concert. No single action, weapon, branch, or warfighting

function generates sufficient power to achieve the effects required to dominate an opponent. Combined arms results from merging the elements of combat power: leadership, information, and each of the warfighting functions.

Concept of Operations: A verbal or graphic statement that clearly and concisely expresses what the joint force commander intends to accomplish and how it will be done using available resources (JP 5-0). The concept of operations expands on the commander's intent by describing how the commander wants the force to accomplish the mission. It states the principal tasks required, the responsible subordinate units, and how the principal tasks complement one another. The concept of operations promotes general understanding by stating the task (such as attack) that directly accomplishes the mission (the decisive operation) and the units that will execute it. See ADRP 3-0 for additional information.

Decisive Engagement: An engagement in which a unit is considered fully committed and cannot maneuver or extricate itself. In the absence of outside assistance, the action must be fought to a conclusion and either won or lost with the forces at hand. The unit's mission is what usually results in the acceptance of decisive engagement rather than the unit's physical ability to disengage itself.

Defeat in Detail: Achieved by concentrating overwhelming combat power against separate parts of a force rather than defeating the entire force at once. A smaller force can use this technique to achieve success against a larger enemy. Defeat in detail can occur sequentially (defeat of separate elements one at a time in succession).

Flanks: The right or left limit of a unit. For a stationary unit, flanks are designated in terms of an enemy's actual or expected location. For a moving unit, they are defined by the direction of movement. A commander tries to deny an enemy the opportunity to engage the flanks of subordinate units because a unit cannot concentrate as much direct fire on its flanks as it can to the front. Commanders seek to engage the flanks of enemy units for the same reason.

Maneuver: The employment of forces in the operational area through movement in combination with fires to achieve a position of advantage in respect to the enemy (JP 3-0). Maneuver creates and exposes enemy vulnerabilities to the massed effects of friendly combat power. A commander employs elements of combat power in symmetrical and asymmetrical ways to attain positional advantage over an enemy and be capable of applying those massed effects.

Operation: A military action or the carrying out of a strategic, tactical, service, training, or administrative military mission (JP 3-0). It includes the process of planning, preparing, executing, and assessing those offensive, defensive, stability, and defense support of civil authorities tasks needed to gain the objectives of any engagement, battle, major operation, or campaign. It also includes tactical shaping operations that enable the performance of operations.

Operational Frameworks: Army leaders are responsible for clearly articulating their visualization of operations in time, space, purpose, and resources. ADP 3-0 and ADRP 3-0 established three operational frameworks: decisive-shaping-sustaining, deep-close-security, and main and supporting efforts. The higher headquarters will direct the specific framework(s) to be used by subordinate headquarters, and the framework used should be consistent throughout all echelons for a given operation. See ADRP 3-0 for additional discussion of these operational frameworks.

Piecemeal Commitment: The immediate employment of units in combat as they become available instead of waiting for larger aggregations of units to ensure mass, or the unsynchronized employment of available forces so that their combat power is not employed effectively. Piecemeal commitment subjects the smaller committed forces to defeat in detail and prevents the massing and synchronizing of combat power with following maneuver and sustainment.

Reconstitution: In-theater reconstitution is the name for the extraordinary actions that commanders take to restore units to a desired level of combat effectiveness commensurate with mission requirements and available resources (ADP 4-0). Reconstitution includes regeneration and reorganization. Reconstitution is a total process. It is not solely a

sustainment operation, though sustainment plays an integral role. The commander conducts reconstitution when one or more subordinate units become combat ineffective, or when the commander can raise the combat effectiveness of a subordinate unit closer to the desired level by shifting available resources.

Reserve: The portion of a body of troops which is withheld from action at the beginning of an engagement in order to be available for a decisive movement. The reserve is not a committed force. A committed force is a force in contact with an enemy or deployed on a specific mission or COA which precludes its employment elsewhere. A force with an on-order mission is considered to be a committed force.

Rules of Engagement: Directives issued by competent military authority that delineate the circumstances and limitations under which U.S. forces will initiate and/or continue combat engagement with other forces encountered (JP 1-04). Operational requirements, policy, and law define the commander's rules of engagement. Rules of engagement impact on how a commander conducts operations by imposing political, practical, operational, and legal limitations.

Tactical Mobility: The ability of friendly forces to move and maneuver freely on the battlefield or in a given AO relative to the enemy. Tactical mobility is a function of the relationship between cross-country mobility, firepower, and protection. The terrain, soil conditions, and weather affect cross-country mobility. Armored ground maneuver units, such as combined arms battalions, have good tactical mobility, except in restrictive terrain, combined with maximum firepower and protection. They can move on the battlefield against most enemy forces unless faced with an enemy that can neutralize their protection and cannot be suppressed by friendly fires.

Uncommitted Force: A force that is not in contact with an enemy and is not already deployed on a specific mission or COA. A commander uses uncommitted forces to exploit success or deal with potential failure. Echelon reserves are examples of uncommitted forces.

Operational Framework

Army leaders are responsible for clearly articulating their visualization of operations in time, space, purpose, and resources.

Deep Operations: Involve efforts to prevent uncommitted enemy forces from being committed in a coherent manner. The purpose of deep operations is frequently tied to other events distant in time, space, or both. Deep operations might aim to disrupt the movement of operational reserves, for example, or prevent the enemy from employing long-range cannon, rocket, or missile fires. In an operational environment where the enemy recruits insurgents from within a population, deep operations might focus on interfering with the recruiting process, disrupting the training of recruits, or eliminating the underlying factors that enable the enemy to recruit.

Close Operations: Operations that are within a subordinate commander's area of operations. Operations projected in close areas are usually against hostile forces in immediate contact and are often the decisive operation. A close operation requires speed and mobility to rapidly concentrate overwhelming combat power at the critical time and place and to exploit success.

Security Operations: Involve efforts to provide an early and accurate warning of enemy operations and to provide time and maneuver space within which to react to the enemy. These operations protect the force from surprise and develop the situation to allow the commander to use the force effectively. Security operations include necessary actions to retain freedom of action and ensure uninterrupted support or sustainment of all other operations.

Decisive–Shaping–Sustaining

Decisive: The decisive-shaping-sustaining framework lends itself to a broad conceptual orientation. The decisive operation is the operation that directly accomplishes the mission. It determines the outcome of a major operation, battle, or engagement. The decisive operation is the focal point around which commanders design an entire operation. Multiple subordinate units may be engaged in the same decisive operation. Decisive

operations lead directly to the accomplishment of a commander's intent. Commanders typically identify a single decisive operation, but more than one subordinate unit may play a role in a decisive operation.

Shaping: A shaping operation is an operation that establishes conditions for the decisive operation through effects on the enemy, other actors, and the terrain. Inform and influence activities, for example, may integrate Soldier and leader engagement tasks into the operation to reduce tensions between Army units and different ethnic groups through direct contact between Army leaders and local leaders. In combat, synchronizing the effects of rotary- and fixed-wing aircraft, artillery fires, and obscurants to delay or disrupt repositioning forces illustrates shaping operations. Shaping operations may occur throughout the operational area and involve any combination of forces and capabilities. Shaping operations preserve conditions for the success of the decisive operation. Commanders may designate more than one shaping operation.

Sustaining: A sustaining operation is an operation at any echelon that enables the decisive operation or shaping operation by generating and maintaining combat power. Sustaining operations differ from decisive and shaping operations in that they focus internally (on friendly forces) rather than externally (on the enemy or environment). They typically address important sustainment and protection actions essential to the success of decisive and shaping operations. Sustaining operations include personnel and logistics support, rear area security, movement control, terrain management, and infrastructure development. While sustaining operations are inseparable from decisive and shaping operations, they are not usually decisive themselves.

Main and Supporting Efforts

Main Effort: A designated subordinate unit whose mission at a given point in time is most critical to overall mission success. It is usually weighted with the preponderance of combat power. Typically, commanders shift the main effort one or more times during execution. Designating a main effort temporarily prioritizes resource allocation. When commanders designate a unit as the main effort, it receives priority of support and resources. Commanders shift resources and priorities to the main effort

as circumstances and the commander's intent require. Commanders may designate a unit conducting a shaping operation as the main effort until the decisive operation commences. However, the unit with primary responsibility for the decisive operation becomes the main effort upon the execution of the decisive operation.

Supporting Effort: A designated subordinate unit with a mission that supports the success of the main effort. Commanders may provide augmentation to the main effort or develop a supporting plan synchronized with the higher plan. They resource supporting efforts with the minimum assets necessary to accomplish the mission. Forces often realize success of the main effort through success of supporting efforts.

Area of Operations (AO): When establishing the operational framework, commanders use control measures to assign responsibilities, coordinate fires and maneuver, and control combat operations. One of the most important control measures is the AO. An AO is an operational area defined by the joint force commander for land and maritime forces that should be large enough to accomplish their missions and protect their forces (JP 3-0). For land operations, an AO includes subordinate areas of operations as well.

Intelligence Preparation of the Battlefield/Battlespace

See FM 2-01.3.

Intelligence preparation of the battlefield (IPB) is the best process available for understanding the battlefield and the options it presents to friendly and threat forces.

IPB is a systematic, continuous process of analyzing the threat and environment in a specific geographic area. It is designed to support staff estimates and military decision making. Applying the IPB process helps the commander selectively apply and maximize his combat power at critical points in time and space on the battlefield by:

- Determining the threat's likely COA.
- Describing the environment the unit is operating in and the effects of the environment on the unit.

The four steps to perform are:

1. Define the operational environment/battlespace environment.
2. Describe the environmental effects on operations/describe the battlespace effects.
3. Evaluate the threat/adversary.
4. Determine threat/adversary COAs.

The IPB process is continuous. IPB is conducted prior to and during the command's initial planning for an operation, but IPB should also continue during the conduct of the operation. Each function in the process is performed continuously to ensure that:

- The products of IPB remain complete and valid.
- Support is provided to the commander and direction to the intelligence system throughout the current mission and into preparation for the next mission.

Key Products

terrain analysis — Observation and fields of fire, avenues of approach, key terrain, obstacles and movement, cover and concealment. Determine unrestricted, restricted, or severely restricted terrain (depends on unit).

doctrinal template — Arrays enemy forces by doctrinal formations disregarding weather and terrain.

situation template — Chief operating officer + doctrinal template + current intelligence. How the enemy might deploy based upon weather, terrain, obstacles, and current strength.

event template — Depicts locations where critical events are expected to occur. Helps to identify high value targets through use of named areas of interest. Named areas of interest are points where enemy activity or lack thereof will confirm or deny an enemy COA.

decision support template — Depicts decision points and target areas of interest keyed to significant events and activities. Target areas of interest is the point which, if interdicted, will cause the enemy to change or abandon its course of action to our favor.

The Military Decisionmaking Process

See ATTP 5-0.1 for the complete process layout.

| Key inputs | Steps | Key outputs |
|--|--|---|
| <ul style="list-style-type: none"> Higher headquarters' plan or order or a new mission anticipated by the commander | <p>Step 1: Receipt of Mission</p> | <ul style="list-style-type: none"> Commander's initial guidance Initial allocation of time |
| Warning order | | |
| <ul style="list-style-type: none"> Higher headquarters' plan or order Higher headquarters' knowledge and intelligence products Knowledge products from other organizations Design concept (if developed) | <p>Step 2: Mission Analysis</p> | <ul style="list-style-type: none"> Problem statement Mission statement Initial commander's intent Initial planning guidance Initial CCIRs and EEFls Updated IPB and running estimates Assumptions |
| Warning order | | |
| <ul style="list-style-type: none"> Mission statement Initial commander's intent, planning guidance, CCIRs, and EEFls Updated IPB and running estimates Assumptions | <p>Step 3: Course of Action (COA) Development</p> | <ul style="list-style-type: none"> COA statements and sketches <ul style="list-style-type: none"> Tentative task organization Broad concept of operations Revised planning guidance Updated assumptions |
| <ul style="list-style-type: none"> Updated running estimates Revised planning guidance COA statements and sketches Updated assumptions | <p>Step 4: COA Analysis (War Game)</p> | <ul style="list-style-type: none"> Refined COAs Potential decision points War-game results Initial assessment measures Updated assumptions |
| <ul style="list-style-type: none"> Updated running estimates Refined COAs Evaluation criteria War-game results Updated assumptions | <p>Step 5: COA Comparison</p> | <ul style="list-style-type: none"> Evaluated COAs Recommended COAs Updated running estimates Updated assumptions |
| <ul style="list-style-type: none"> Updated running estimates Evaluated COAs Recommended COA Updated assumptions | <p>Step 6: COA Approval</p> | <ul style="list-style-type: none"> Commander-selected COA and any modifications Refined commander's intent, CCIRs, and EEFls Updated assumptions |
| Warning order | | |
| <ul style="list-style-type: none"> Commander-selected COA with any modifications Refined commander's intent, CCIRs, and EEFls Updated assumptions | <p>Step 7: Orders Production</p> | <ul style="list-style-type: none"> Approved operation plan or order |
| <p>CCIR commander's critical information requirement</p> <p>COA course of action</p> | <p>EEFl essential element of friendly information</p> <p>IPB intelligence preparation of the battlefield</p> | |

Figure 20. Steps of the Military Decisionmaking Process

Step 1. Receipt of Mission

Commanders initiate the military decisionmaking process (MDMP) upon receipt or in anticipation of a mission. This step alerts all participants of the pending planning requirements, enabling them to determine the amount of time available for planning and preparation and decide on a planning approach, including guidance on design and how to abbreviate the MDMP, if required. When commanders identify a new mission, commanders and staffs perform the actions and produce the expected key outputs.

Alert the Staff and Other Key Participants

When the unit receives a new mission (or when the commander directs), the current operations integration cell alerts the staff of the pending planning requirement. Standard operating procedures (SOPs) should identify members of the planning staff who participate in mission analysis. In addition, the current operations integration cell also notifies other military, civilian, and host nation organizations of pending planning events as required.

Gather the Tools

The staff prepares for mission analysis by gathering the needed tools. These tools include, but are not limited to:

- Appropriate field manuals, including FM 1-02.
- All documents related to the mission and AO, including the higher headquarters' operation plan (OPLAN) and operation order (OPORD), maps and terrain products, and operational graphics.
- Intelligence and assessment products of higher headquarters and other organizations.
- Estimates and products of other military and civilian agencies and organizations.
- Both their own and the higher headquarters' SOPs.

- Current running estimates.
- Any design products, including the design concept.

Continue to gather knowledge products throughout the MDMP. Carefully review the reference sections. If the unit is replacing another unit, collect relevant documents, such as the current OPORD, branch plans, current assessments, operations and intelligence summaries, and SOPs from that unit.

Update Running Estimates

While gathering the necessary tools for planning, each staff section begins updating its running estimate, especially the status of friendly units and resources and key civil considerations that affect each functional area. Continue this throughout the process.

Conduct Initial Assessment

During receipt of mission, the commander and staff conduct an initial assessment of time and resources available to plan, prepare, and begin execution of an operation. Determine:

- The time needed to plan and prepare for the mission for both headquarters and subordinate units.
- Guidance on design and abbreviating the MDMP, if required.
- Which outside agencies and organizations to contact and incorporate into the planning process.
- The staff's experience, cohesiveness, and level of rest or stress.

Commanders allocate a minimum of two-thirds of available time for subordinate units to conduct their planning and preparation. This leaves one-third of the time for commanders and their staff to do their planning.

Chief of staff (COS) (executive officer [XO]) develops a staff planning timeline that outlines how long the headquarters can spend on each step of the MDMP. The staff planning timeline indicates what products are due, who is responsible for them, and who receives them.

Issue the Commander's Initial Guidance

Having determined the time available together with the scope and scale of the planning effort, commanders issue initial planning guidance. The initial guidance includes, but is not limited to:

- Initial time allocations.
- A decision to initiate design or go straight into the MDMP.
- How to abbreviate the MDMP, if required.
- Necessary coordination to exchange liaison officers.
- Authorized movements and initiation of any reconnaissance and surveillance.
- Collaborative planning times and locations.
- Initial information requirements.
- Additional staff tasks.

Issue the Initial Warning Order

The last task in receipt of mission is to issue a warning order (WARNO) to subordinate and supporting units. This order includes at a minimum the type of operation, the general location of the operation, the initial timeline and any movement or reconnaissance to initiate.

Step 2. Mission Analysis

The commander and staff conduct mission analysis to better understand the situation and problem, and to identify what the command must accomplish, when and where it must be done, and most importantly, why — the purpose of the operation.

No amount of subsequent planning can solve an insufficiently understood problem; mission analysis is the most important step in the MDMP. Understanding the situation and the problem allows commanders to visualize and describe how the operation may unfold in their initial commander's intent and planning guidance.

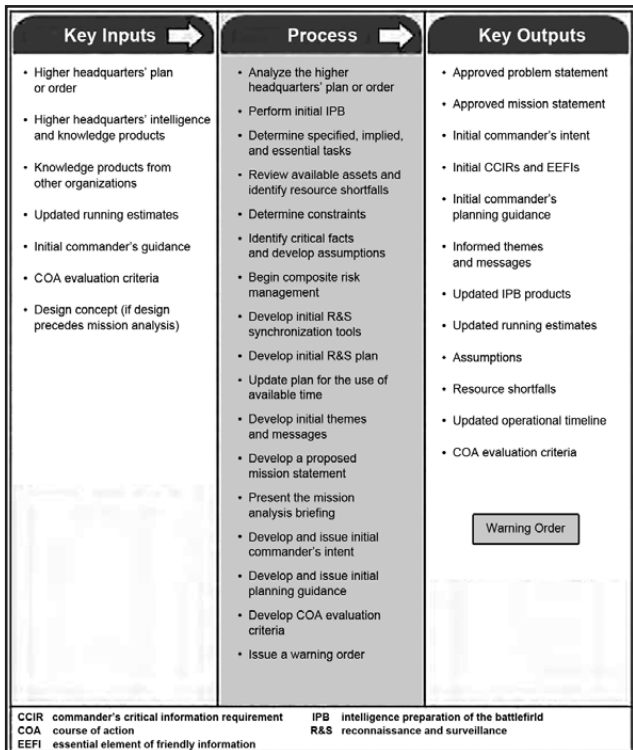


Figure 21. Mission Analysis

Analyze the Higher Headquarters' Plan or Order

Commanders and staffs thoroughly analyze the higher headquarters' plan or order and determine how its unit — by task and purpose — contributes to the mission. The commander and staff must completely understand:

- Commander's intent.
- Mission.
- Concept of operations.
- Available assets.
- Timeline.
- The missions of adjacent, supporting, and supported units and their relationships to the higher headquarters' plan.
- The missions of interagency, intergovernmental, and nongovernmental organizations that work in the operational areas.
- Their assigned area of operations.

Perform Initial Intelligence Preparation of the Battlefield

Intelligence preparation of the battlefield (IPB) and the products it produces help the commander and staffs understand situations. IPB is a systematic, continuous process of analyzing the threat and operational environment in a specific geographic area. Led by the intelligence officer, the entire staff participates in IPB to develop and maintain an understanding of the enemy, terrain and weather, and key civil considerations. See FM 2-01.3 for a more detailed discussion of IPB.

IPB continues throughout the operations process. Products include: terrain products and weather products (to include the modified combined obstacle overlay), likely enemy COAs, high-value target lists, and explanations of how key civil considerations affect the operation; the initial IPB identifies gaps in information that the commander uses to establish initial priority intelligence requirements and requests for information.

Determine Specified, Implied, and Essential Tasks

The staff analyzes the higher headquarters' order and the higher commander's guidance to determine their specified and implied tasks. In the context of operations, a task is a clearly defined and measurable

activity accomplished by Soldiers, units, and organizations that may support or be supported by other tasks. The “what” of a mission statement is always a task. From the list of specified and implied tasks, the staff determines essential tasks for inclusion in the recommended mission statement.

- A specified task is a task specifically assigned to a unit by its higher headquarters. Paragraphs two and three of the higher headquarters’ order or plan state specified tasks. Some tasks may be in paragraphs four and five. Specified tasks may be listed in annexes and overlays. They may also be assigned verbally during collaborative planning sessions or in directives from the higher commander.
- An implied task is a task that must be performed to accomplish a specified task or mission, but is not stated in the higher headquarters’ order. Implied tasks are derived from a detailed analysis of the higher headquarters’ order, the enemy situation, the terrain, and civil considerations. Additionally, analysis of doctrinal requirements for each specified task might disclose implied tasks.
- Identify any be-prepared or on-order missions. A be-prepared mission is a mission assigned to a unit that might be executed. Generally, a contingency mission, commanders execute it because something planned has or has not been successful. In planning priorities, commanders plan a be-prepared mission after any on-order mission. An on-order mission is a mission to be executed at an unspecified time. A unit with an on-order mission is a committed force. Commanders envision task execution in the concept of operations; however, they may not know the exact time or place of execution. Subordinate commanders develop plans and orders and allocate resources, task-organize, and position forces for execution.
- Ensure each task’s requirements and purpose is understood. Once accomplished, the staff then looks for essential tasks. An essential task is a specified or implied task that must be executed to accomplish the mission. Essential tasks are always included in the unit’s mission statement.

Review Available Assets and Identify Resource Shortfalls

- Examine additions to and deletions from the current task organization, command and support relationships, and status (current capabilities and limitations) of all units. This analysis also includes capabilities of civilian and military organizations (joint, special operations, and multinational) that operate within their unit's AO.
- Consider relationships among specified, implied, and essential tasks, and between them and available assets. From this analysis, staffs determine if they have the assets needed to complete all tasks. If shortages occur, they identify additional resources needed for mission success to the higher headquarters. Staffs also identify any deviations from the normal task organization and provide them to the commander to consider when developing the planning guidance. A more detailed analysis of available assets occurs during COA development.

Determine Constraints

- Identify any constraints placed on their command. A constraint is a restriction placed on the command by a higher command. A constraint dictates an action or inaction, thus restricting the freedom of action of a subordinate commander. Constraints are found in paragraph three of the OPLAN or OPORD. Annexes to the order may also include constraints. The operation overlay, for example, may contain a restrictive fire line or a no fire area.
- Constraints may also be based on resource limitations within the command, such as organic fuel transport capacity, or physical characteristics of the operational environment, such as the number of vehicles that can cross a bridge in a specified time.
- Coordinate with the staff judge advocate for a legal review of perceived or obvious constraints, restraints, or limitations in the OPLAN, OPORD, or related documents.

Identify Critical Facts and Develop Assumptions

- Plans and orders are based on facts and assumptions. Commanders and staffs gather facts and develop assumptions as they build their plan. A fact is a statement of truth or a statement thought to be true at the time. Facts concerning the operational and mission variables serve as the basis for developing situational understanding for continued planning, and when assessing progress during preparation and execution.
- In the absence of facts, the commander and staff consider assumptions from their higher headquarters and develop their own assumptions necessary for continued planning. An assumption is a supposition on the current situation or a presupposition on the future course of events, either or both assumed to be true in the absence of positive proof, necessary to enable the commander in the process of planning to complete an estimate of the situation and make a decision on the COA (JP 1-02).

Assumptions require commanders and staff to continually attempt to replace those assumptions with facts.

Begin Composite Risk Management

- The Army primarily uses composite risk management (CRM) for identifying hazards and controlling risks during operations. Risk management is the process of identifying, assessing, and controlling risks arising from operational factors and of making decisions that balance risk costs with mission benefits (FM 5-19). See FM 5-19 for a detailed discussion on CRM.
- The chief of protection (or S-3 in units without a protection cell) in coordination with the safety officer integrates CRM into the MDMP. All staff sections integrate CRM for hazards within their functional areas. Units conduct the first four steps of CRM in the MDMP. FM 5-19 addresses the details for conducting CRM, including products of each step.

Develop Initial Commander's Critical Information Requirements and Essential Elements of Friendly Information

- Information requirements (IR) are all information elements the commander and staff require to successfully conduct operations (FM 6-0). Some IRs are of such importance to the commander that staffs nominate them to the commander to become a commander's critical information requirement (CCIR). CCIRs consist of friendly force IRs and priority IRs. (See FM 6-0.)
- Commanders determine their CCIRs and consider the nominations of the staff. CCIRs are situation dependent and specified by the commander for each operation and continuously reviewed.
- The staff also identifies and nominates essential elements of friendly information (EEFIs). Although EEFIs are not CCIRs, they have the same priority as CCIRs and require approval by the commander. An EEFI establishes an element of information to protect rather than one to collect. EEFIs identify those elements of friendly force information that, if compromised, would jeopardize mission success. Like CCIRs, EEFIs change as an operation progresses.

Develop Initial Reconnaissance and Surveillance Synchronization Tools

The commander's requirements drive reconnaissance and surveillance activities and reporting in time to influence decisions and operations. Synchronizing includes all assets the commander controls, assets made available from lateral units or higher echelon units and organizations, requests for information, and intelligence reach to support intelligence production and dissemination that answer the CCIRs. During reconnaissance and surveillance synchronization, the G-2 (S-2):

- Identifies requirements and intelligence gaps.
- Evaluates available assets (internal and external) to collect information.
- Determines gaps in the use of those assets.

- Recommends those reconnaissance and surveillance assets controlled by the organization to collect on the IRs.
- Submits requests for information for adjacent and higher collection support.
- Submits information gathered during reconnaissance and surveillance synchronization to the G-3 (S-3) for integrating and developing the reconnaissance and surveillance plan.

During mission analysis, the staff identifies IRs to support situational understanding and continued planning. Based on the commander's guidance, the staff, led by the G-2 (S-2), determines the best way of satisfying those requirements. In some instances, the G-2 (S-2) recommends the use of internal reconnaissance or surveillance assets to collect information. In other instances, the G-2 (S-2) recommends a request for information to the higher headquarters.

Develop Initial Reconnaissance and Surveillance Plan

Reconnaissance and surveillance integration follows reconnaissance and surveillance synchronization. The G-3 (S-3) leads the staff through reconnaissance and surveillance integration to task available reconnaissance and surveillance assets to satisfy IRs identified in the initial reconnaissance and surveillance synchronization matrix. Reconnaissance and surveillance integration consists of developing the reconnaissance and surveillance plan by creating:

- The reconnaissance and surveillance scheme of support.
- The reconnaissance and surveillance tasking matrix.
- The reconnaissance and surveillance overlay.
- Issue order (warning, operation, or fragmentary order).

Task or dispatch reconnaissance and surveillance assets as soon as possible: as a WARNO, a fragmentary order, or an OPORD. The initial reconnaissance and surveillance plan becomes Annex L (reconnaissance and surveillance) of the plan or order.

Update Plan for the Use of Available Time

The commander and staff refine their initial plan for the use of available time. The commander and COS (XO) also refine the staff planning timeline. The refined timeline includes:

- Subject, time, and location of briefings the commander requires.
- Times of collaborative planning sessions and the medium over which they will take place.
- Times, locations, and forms of rehearsals.

Develop Initial Themes and Messages

- Gaining and maintaining the trust of key actors is an important aspect of operations. Faced with the many different actors (individuals, organizations, and the public) connected with the operation, commanders identify and engage those actors who matter to operational success. These actors' behaviors can help solve or complicate the friendly forces' challenges as commanders strive to accomplish missions.
- Information themes and messages support operations and military actions. An information theme is a unifying or dominant idea or image that expresses the purpose for military action. Information themes tie to objectives, lines of effort, and end state conditions. They are overarching and apply to capabilities of public affairs, military information support operations, and leader and Soldier engagements. A message is a verbal, written, or electronic communications that supports an information theme focused on a specific actor or the public and in support of a specific action (task). Units transmit information themes and messages to those actors or the public whose perceptions, attitudes, beliefs, and behaviors matter to the success of an operation. Commanders and their units coordinate what they do, say, and portray through information themes and messages.

- The G-7 (S-7) develops initial information themes and messages for the command; reviews the higher headquarters' information themes and messages and military information support operations approval guidelines; reviews internal design products, including the initial commander's intent, mission narrative, and planning guidance; and continuously refines.

Develop a Proposed Problem Statement

- A problem is an issue or obstacle that makes it difficult to achieve a desired goal or objective. As such, a problem statement is the description of the primary issue or issues that may impede commanders from achieving their desired end states.
- **Note:** The commander, staff, and other partners develop the problem statement as part of design. During mission analysis, the commander and staff review the problem statement and revise it as necessary based on the increased understanding of the situation. If design activities do not precede mission analysis, then the commander and staff develop a problem statement prior to moving to COA development.
- How the problem is formulated leads to particular solutions.
- As part of the discussion to help identify and understand the problem, the staff:
 - Compares the current situation to the desired end state.
 - Brainstorms and lists issues that impede the commander from achieving the desired end state.
 - Based on this analysis, the staff develops a proposed problem statement — a statement of the problem to be solved — for the commander's approval.

Develop a Proposed Mission Statement

The COS (XO) or operations officer prepares a proposed mission statement for the unit based on the mission analysis. The commander receives and approves the unit's mission statement normally during the mission analysis brief. A mission statement is a short sentence or paragraph that describes the organization's essential task (or tasks) and purpose — a clear statement of the action to be taken and the reason for doing so. The mission statement contains the elements of who, what, when, where, and why, but seldom specifies how (JP 5-0). The five elements of a mission statement answer the questions:

- Who will execute the operation (unit or organization)?
- What is the unit's essential task (tactical mission task)?
- When will the operation begin (by time or event) or what is the duration of the operation?
- Where will the operation occur (AO, objective, grid coordinates)?
- Why will the force conduct the operations (for what purpose)?

Example 1: Not later than 220400 AUG 09 (when), 1st Brigade (who) secures Route South Dakota (what/task) in AO Jackrabbit (where) to enable the movement of humanitarian assistance materials (why/purpose).

Example 2: One-505th Parachute Infantry Regiment (who) seizes (what/task) Jackson International Airport (where) not later than D-day, H+3 (when) to allow follow-on forces to air-land into AO Spartan (why/purpose).

Example 3: Two essential tasks/on order. One-509th Parachute Infantry Regiment (who) seizes (what/task) Jackson International Airport (where) not later than D-day, H+3 (when) to allow follow-on forces to air-land into AO Spartan (why/purpose). On order (when), secure (what/task) Objective Gold (where) to prevent the 2nd Pandor Guards Brigade from crossing the Blue River and disrupting operations in AO Spartan (why/purpose).

Present the Mission Analysis Briefing

A comprehensive mission analysis briefing helps the commander, staff, subordinates, and other partners develop a shared understanding of the requirements of the upcoming operation. Time permitting, the staff briefs the commander on its mission analysis using the following outline:

- Mission and commander's intent of the headquarters two levels up.
- Mission, commander's intent, and concept of operations of the headquarters one level up.
- A proposed problem statement.
- A proposed mission statement.
- Review of the commander's initial guidance.
- Initial IPB products, including civil considerations that impact the conduct of operations.
- Specified, implied, and essential tasks.
- Pertinent facts and assumptions.
- Constraints.
- Forces available and resource shortfalls.
- Initial risk assessment.
- Proposed information themes and messages.
- Proposed CCIRs and EEFIs.
- Initial reconnaissance and surveillance plan.
- Recommended timeline.
- Recommended collaborative planning sessions.

During the mission analysis briefing or shortly thereafter, commanders approve the mission statement and CCIRs. They then develop and issue their initial commander's intent and planning guidance.

Develop and Issue Initial Commander's Intent

Based on their situational understanding, commanders summarize their visualization in their initial commander's intent statement. The initial commander's intent links the operation's purpose with conditions that define the desired end state. Commanders may change their intent statement as planning progresses and more information becomes available. It must be easy to remember and clearly understood two echelons down. The shorter the commander's intent, the better it serves these purposes. Typically, the commander's intent statement is three to five sentences long.

Develop and Issue Initial Planning Guidance

Commanders provide planning guidance along with their initial commander's intent. Planning guidance conveys the essence of the commander's visualization. Guidance may be broad or detailed, depending on the situation. The initial planning guidance outlines an operational approach — a broad conceptualization of the general actions that will produce the conditions that define the desired end state. The guidance outlines specific COAs the commander desires the staff to look at as well as rules out any COAs the commander will not accept. That clear guidance allows the staff to develop several COAs without wasting effort on things that the commander will not consider. It reflects how the commander sees the operation unfolding. It broadly describes when, where, and how the commander intends to employ combat power to accomplish the mission within the higher commander's intent.

Develop Course of Action Evaluation Criteria

Evaluation criteria are standards the commander and staff will later use to measure the relative effectiveness and efficiency of one COA relative to other COAs. Developing these criteria during mission analysis or as part of the commander's planning guidance helps to eliminate a source of bias prior to COA analysis and comparison. Evaluation criteria address factors that affect success and those that can cause failure. Criteria change

from mission to mission and must be clearly defined and understood by all staff members before starting the war game to test the proposed COAs. Normally, the COS (XO) initially determines each proposed criterion with weights based on the assessment of its relative importance and the commander's guidance. Commanders adjust criterion selection and weighting according to their own experience and vision. The staff member responsible for a functional area scores each COA using those criteria. The staff presents the proposed evaluation criteria to the commander at the mission analysis brief for approval.

Issue a Warning Order

Immediately after the commander gives the planning guidance, the staff sends subordinate and supporting units a WARNO. It contains, at a minimum:

- The approved mission statement.
- The commander's intent.
- Changes to task organization.
- The unit AO (sketch, overlay, or some other description).
- CCIRs and EEFIs.
- Risk guidance.
- Priorities by warfighting functions.
- Military deception guidance.
- Essential stability tasks.
- Specific priorities.

Step 3. Course of Action Development

A COA is a broad potential solution to an identified problem. The COA development step generates options for follow-on analysis and comparison that satisfy the commander's intent and planning guidance. During COA

development, planners use the problem statement, mission statement, commander's intent, planning guidance, and various knowledge products developed during mission analysis.

| | | |
|------------------------------|--|---|
| Intelligence | Intelligence, surveillance, and reconnaissance Knowledge gaps Enemy courses of action Priority intelligence requirements High-value targets Terrain and weather factors | Local environment and civil considerations Counterintelligence Intelligence support requests Intelligence focus during phased operations Desired enemy perception of friendly forces |
| Protection | Protection priorities Priorities for survivability assets Air and missile defense positioning Terrain and weather factors Intelligence focus and limitations for security Acceptable risk Protected targets and areas | Vehicle and equipment safety or security constraints Environmental considerations Unexploded ordnance Operational security risk tolerance Rules of engagement Escalation of force and nonlethal weapons |
| Movement and Maneuver | Initial commander's intent Course of action development guidance Number of courses of action to consider or not consider Critical events Task organization Task and purpose of subordinate units Forms of maneuver Reserve composition, mission, priorities, and control measures | Security and counterreconnaissance Friendly decision points Branches and sequels Reconnaissance and surveillance integration Military deception Risk to friendly forces Collateral damage or civilian casualties Any condition that affects achievement of end state |
| Sustainment | Sustainment priorities—manning, fueling, fixing, arming, moving the force, and sustaining Soldiers and systems Army health system support Sustainment of internment and resettlement activities | Construction and provision of facilities and installations Detainee movement Anticipated requirements of classes III, IV, and V Controlled supply rates |
| Fires | Synchronization and focus of fires with maneuver Priority of fires High priority targets Special munitions Target acquisition zones Observer plan | Task and purpose of fires Suppression of enemy air defenses Fire support coordination measures Attack guidance Branches and sequels No strike list Restricted target list |
| Mission Command | Friendly forces information requirement Rules of engagement Command post positioning Commander's location Initial themes and messages Succession of command | Liaison officer guidance Planning and operational guidance timeline Type of order and rehearsal Communications guidance Civil affairs operations |

Figure 22. Commander's Planning Guidance by Warfighting Function

- Embedded in COA development is the application of operational and tactical art. Planners develop different COAs by varying combinations of the elements of operational design, such as phasing, lines of effort, and tempo (see FM 3-0.) Planners convert the approved COA into the concept of operations.
- The commander's direct involvement in COA development greatly aids in producing comprehensive and flexible COAs within the available time. To save time, the commander may also limit the number of COAs staffs develop or specify particular COAs not to explore. Planners examine each prospective COA for validity using the following screening criteria:
 - **Feasible:** The COA can accomplish the mission within the established time, space, and resource limitations.
 - **Acceptable:** The COA must balance cost and risk with the advantage gained.
 - **Suitable:** The COA can accomplish the mission within the commander's intent and planning guidance.
 - **Distinguishable:** Each COA must differ significantly from the others (such as scheme of maneuver, lines of effort, phasing, use of the reserve, and task organization).
 - **Complete:** A COA must incorporate:
 - * How the decisive operation leads to mission accomplishment.
 - * How shaping operations create and preserve conditions for success of the decisive operation or effort.
 - * How sustaining operations enable shaping and decisive operations or efforts.

- * How to account for offensive, defensive, and stability or civil support tasks.
- * Tasks to be performed and conditions to be achieved.

A good COA positions the force for sequels and provides flexibility to meet unforeseen events during execution and permits subordinates the maximum latitude for initiative.

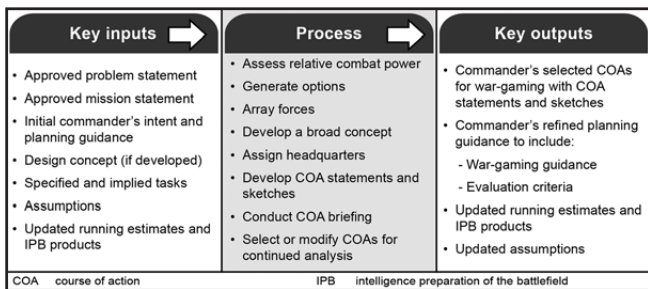


Figure 23. Course of Action Development

Assess Relative Combat Power

Combat power is the total means of destructive, constructive, and information capabilities that a military unit/formation can apply at a given time. Army forces generate combat power by converting potential into effective action (FM 3-0). Combat power is the effect created by combining the elements of intelligence, movement and maneuver, fires, sustainment, protection, mission command, information, and leadership. The goal is to generate overwhelming combat power to accomplish the mission at minimal cost. By analyzing force ratios and determining and comparing each force's strengths and weaknesses as a function of combat power, planners can gain insight into:

- Friendly capabilities that pertain to the operation.
- The types of operations possible from both friendly and enemy perspectives.
- How and where the enemy may be vulnerable.
- How and where friendly forces are vulnerable.
- Additional resources needed to execute the mission.
- How to allocate existing resources.

Generate Options

- Based on the commander's guidance and the initial results of the relative combat power assessment, the staff generates options. A good COA can defeat all feasible enemy COAs while accounting for essential stability tasks. In an unconstrained environment, planners aim to develop several possible COAs. Depending on available time, commanders may limit the options in the commander's guidance. Options focus on enemy COAs arranged in order of their probable adoption or on those stability tasks that are most essential to prevent the situation from deteriorating further.
- In developing COAs, staff members determine the doctrinal requirements for each proposed operation, including doctrinal tasks for subordinate units. For example, a deliberate breach requires a breach force, a support force, and an assault force. Essential stability tasks require the ability to provide a level of civil security, civil control, and certain essential services. In addition, the staff considers the potential capabilities of attachments and other organizations and agencies outside military channels.
- Start with the decisive operation identified in the commander's planning guidance. Check that the decisive operation nests within the higher headquarters' concept of operations. The staff clarifies the decisive operation's purpose and considers ways to mass the effects (lethal and nonlethal) of overwhelming combat power to achieve it.

- Next considered are shaping operations. The staff establishes a purpose for each shaping operation tied to creating or preserving a condition for the decisive operation's success. Shaping operations may occur before, concurrently with, or after the decisive operation. A shaping operation may be designated as the main effort if executed before or after the decisive operation.
- Next, determine sustaining operations necessary to create and maintain the combat power required for the decisive operation and shaping operation. After developing the basic operational organization for a given COA, the staff then determines the essential tasks for each decisive, shaping, and sustaining operation.
- Next, examine each COA to determine if it satisfies the screening criteria established previously.
- Change, add, or eliminate COAs as appropriate.

Avoid focusing on the development of one good COA among several throwaway COAs.

Array Forces

After determining the decisive and shaping operations and their related tasks and purposes, planners determine the relative combat power required to accomplish each task. Often, planners use minimum historical planning ratios (shown in Table 1) as a starting point. For example, historically defenders have over a 50 percent probability of defeating an attacking force approximately three times their equivalent strength. Therefore, as a starting point, commanders may depend on each avenue of approach with roughly a 1:3 force ratio.

| Friendly Mission | Position | Friendly:Enemy |
|------------------|-----------------------|----------------|
| Delay | | 1:5 |
| Defend | Prepared or Fortified | 1:3 |
| Defend | Hasty | 1:2.5 |
| Attack | Prepared or Fortified | 3:1 |
| Attack | Hasty | 2.5:1 |
| Counterattack | Flank | 1:1 |

Table 1. Historical Minimum Planning Ratios

- Determine whether these and other intangibles increase the relative combat power of the unit assigned the task to the point that it exceeds the historical planning ratio for that task. If it does not, planners determine how to reinforce the unit. Combat power comparisons are provisional at best. Arraying forces is tricky, inexact work, affected by factors that are difficult to gauge, such as impact of past engagements, quality of leaders, morale, maintenance of equipment, and time in position. Levels of electronic warfare support, fire support, close air support, civilian support, and many other factors also affect arraying forces.
- In counterinsurgency operations, planners can develop force requirements by gauging troop density — the ratio of security forces (including host nation military and police forces as well as foreign counterinsurgents) to inhabitants. Most density recommendations fall within a range of 20 to 25 counterinsurgents for every 1,000 residents in an AO. Twenty counterinsurgents per 1,000 residents are often considered the minimum troop density required for effective counterinsurgency operations; however, as with any fixed ratio, such calculations strongly depend on the situation (See FM 3-24).
- Planners also determine relative combat power with regard to civilian requirements and conditions that require attention and then array forces and capabilities for stability tasks. For example, a COA may require a follow-on force to establish civil security, maintain

civil control, and restore essential services in a densely populated urban area over an extended period. Planners conduct a troop-to-task analysis to determine the type of units and capabilities needed to accomplish these tasks.

- Planners then proceed to initially array friendly forces starting with the decisive operation and continuing with all shaping and sustaining operations. Planners normally array ground forces two levels down. The initial array focuses on generic ground maneuver units without regard to specific type or task organization and then considers all appropriate intangible factors. For example, at corps level, planners array generic brigades. During this step, planners do not assign missions to specific units; they only consider which forces are necessary to accomplish its task. In this step, planners also array assets to accomplish essential stability tasks.
- The initial array identifies the total number of units needed and identifies possible methods of dealing with the enemy and stability tasks. If the number arrayed is less than the number available, planners place additional units in a pool for use when they develop a broad concept. If the number of units arrayed exceeds the number available and the difference cannot be compensated for with intangible factors, the staff determines whether the COA is feasible. Ways to make up the shortfall include requesting additional resources, accepting risk in that portion of the AO, or executing tasks required for the COA sequentially rather than simultaneously. Commanders should also consider requirements to minimize and relieve civilian suffering. Establishing civil security and providing essential services such as medical care, food, water, and shelter are implied tasks for commanders during any combat operation. See FM 3-07 for a full discussion on stability tasks.

Develop a Broad Concept

The broad concept describes how arrayed forces will accomplish the mission within the commander's intent. It concisely expresses the how of the commander's visualization and will eventually provide the framework for the concept of operations. The broad concept summarizes the contributions of all warfighting functions. The staff develops a broad concept for each COA expressed in both narrative and graphic forms. A sound COA is more than the arraying of forces. It presents an overall combined arms idea that will accomplish the mission.

The broad concept includes the following, but is not limited to:

- The purpose of the operation.
- A statement of where the commander will accept risk.
- Identification of critical friendly events and transitions between phases (if the operation is phased).
- Designation of the decisive operation, along with its task and purpose, linked to how it supports the higher headquarters' concept.
- Designation of shaping operations, along with their tasks and purposes, linked to how they support the decisive operation.
- Designation of sustaining operations, along with their tasks and purposes, linked to how they support the decisive and shaping operations.
- Designation of the reserve, including its location and composition.
- Reconnaissance and security operations.
- Essential stability tasks.
- Identification of maneuver options that may develop during an operation.
- Assignment of subordinate AOs.

- Scheme of fires.
- Information themes, messages, and means of delivery.
- Military deception operations.
- Key control measures.

Planners select control measures, including graphics, to control subordinate units during an operation. These establish responsibilities and limits that prevent subordinate units' actions from impeding one another. These measures also foster coordination and cooperation between forces without unnecessarily restricting freedom of action. Good control measures foster decision making and individual initiative. See FM 3-90 for a discussion of control measures associated with offensive and defensive operations. See FM 1-02 for doctrinal control measures and rules for drawing control measures on overlays and maps.

Planners may use both lines of operations and lines of effort to build their broad concept. Lines of operations portray the more traditional links among objectives, decisive points, and centers of gravity. A line of effort, however, helps planners link multiple tasks with goals, objectives, and end state conditions.

Combining lines of operations with lines of efforts allows planners to include nonmilitary activities in their broad concept. This combination helps commanders incorporate stability or civil support tasks that when accomplished, help set end state conditions of the operation.

Based on the commander's planning guidance (informed by the design concept if the design preceded the MDMP), planners develop lines of effort by:

- Confirming end-state conditions from the initial commander's intent and planning guidance.
- Determining and describing each line of effort.
- Identifying objectives (intermediate goals) and determining tasks along each line of effort.

During COA development, lines of efforts are general and lack specifics, such as tasks to subordinate units associated to objectives along each line of effort. Units develop and refine lines of effort to include specific tasks to subordinate units during wargaming. See FM 3-0 and FM 3-07 for examples of operations depicted along lines of effort.

As planning progresses, commanders may modify lines of effort and add details while wargaming. Operations with other instruments of national power support a broader, comprehensive approach to stability operations. Each operation, however, differs. Commanders develop and modify lines of effort to focus operations on achieving the end state, even as the situation evolves.

Assign Headquarters

After determining the broad concept, planners create a task organization by assigning headquarters to groupings of forces. They consider the types of units to be assigned to a headquarters and the ability of that headquarters to control those units. Generally, a headquarters controls at least two subordinate maneuver units (but not more than five) for fast-paced offensive or defensive operations. The number and type of units assigned to a headquarters for stability operations vary based on factors of the mission variables (known as METT-TC). If planners need additional headquarters, they note the shortage and resolve it later. Task organization takes into account the entire operational organization. It also accounts for the special mission command requirements for operations, such as a passage of lines, gap crossing, or air assault.

Prepare Course of Action Statements and Sketches

The G-3 (S-3) prepares a COA statement and supporting sketch for each COA. The COA statement clearly portrays how the unit will accomplish the mission. The COA statement briefly expresses how the unit will conduct the combined arms concept. The sketch provides a picture of the movement and maneuver aspects of the concept, including the positioning of forces. Together, the statement and sketch cover the who (generic task organization), what (tasks), when, where, and why (purpose) for each subordinate unit.

The COA sketch includes the array of generic forces and control measures, such as:

- The unit and subordinate unit boundaries.
- Unit movement formations (but not subordinate unit formations).
- The line of departure or line of contact and phase lines, if used.
- Reconnaissance and security graphics.
- Ground and air axis of advance.
- Assembly areas, battle positions, strong points, engagement areas, and objectives.
- Obstacle control measures and tactical mission graphics.
- Fire support coordination and airspace coordinating measures.
- Main effort.
- Location of command posts and critical information systems nodes.
- Known or templated enemy locations.
- Population concentrations.

The sketch can include identifying features (such as cities, rivers, and roads) to help orient users. The sketch may be on any medium.

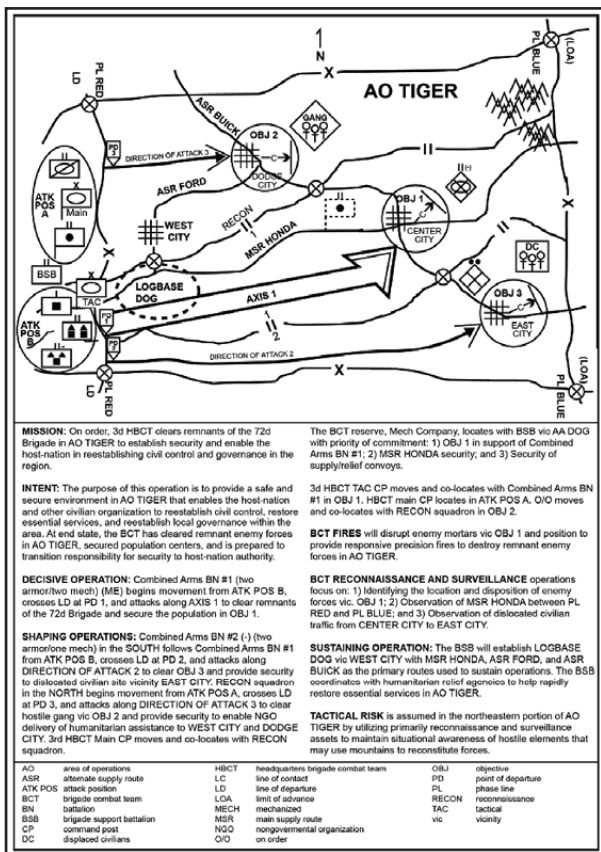


Figure 24. Sample Brigade Course of Action Sketch and Statement

Conduct a Course of Action Briefing

After developing COAs, the staff briefs them to the commander. A collaborative session may facilitate subordinate planning. The COA briefing agenda includes:

- An updated IPB.
- Possible enemy COAs.
- The approved problem statement and mission statement.
- The commander's and higher commander's intents.
- COA statements and sketches, including lines of effort if used.
- The rationale for each COA, including:
 - Considerations that might affect enemy COAs.
 - Critical events for each COA.
 - Deductions resulting from the relative combat power analysis.
 - The reason units are arrayed as shown on the sketch.
 - The reason the staff used the selected control measures.
 - The impact on civilians.
 - How it accounts for minimum essential stability tasks.
 - Updated facts and assumptions.
 - Refined COA evaluation criteria.

Select or Modify Courses of Action for Continued Analysis

After the COA briefing, the commander selects or modifies those COAs for continued analysis. The commander also issues planning guidance. If commanders reject all COAs, the staff begins again. If commanders accept one or more of the COAs, staff members begin COA analysis. The

commander may create a new COA by incorporating elements of one or more COAs developed by the staff. The staff then prepares to wargame this new COA. The staff incorporates those modifications and ensures all staff members understand the changed COA.

Step 4. Course of Action Analysis and Wargaming

- COA analysis enables commanders and staffs to identify difficulties or coordination problems as well as probable consequences of planned actions for each COA being considered. It helps them think through the tentative plan. COA analysis may require commanders and staffs to revisit parts of a COA as discrepancies arise. COA analysis not only appraises the quality of each COA but also uncovers potential execution problems, decisions, and contingencies. In addition, COA analysis influences how commanders and staffs understand a problem and may require the planning process to restart.
- Wargaming is a disciplined process, with rules and steps that attempt to visualize the flow of the operation, given the force's strengths and dispositions, enemy's capabilities and possible COAs, impact and requirements of civilians in the AO, and other aspects of the situation. The simplest form of wargaming is the manual method, often utilizing a tabletop approach with blowups of matrixes and templates. The most sophisticated form of wargaming is modern, computer-aided modeling and simulation. Regardless of the form used, each critical event within a proposed COA should be wargamed using the action, reaction, and counteraction methods of friendly and enemy forces interaction. This basic wargaming method (modified to fit the specific mission and environment) applies to offensive, defensive, and stability or civil support operations. When conducting COA analysis, commanders and staffs perform the process actions and produce the outputs shown in Figure 25.
- Wargaming results in refined COAs, a completed synchronization matrix, and decision support templates and matrixes for each COA. A synchronization matrix records the results of a war game. It depicts how friendly forces for a particular COA are synchronized in time, space, and purpose in relation to an enemy COA or other events in

stability or civil support operations. The decision support template and matrix portray key decisions and potential actions that are likely to arise during the execution of each COA.

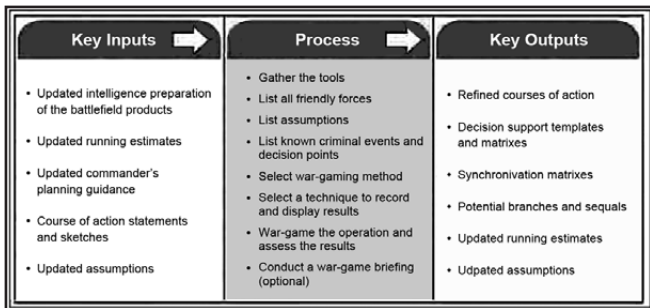


Figure 25. Course of Action Analysis and Wargaming

Wargaming seeks to:

- Determine how to maximize the effects of combat power while protecting friendly forces and minimizing collateral damage.
- Further develop a visualization of the operation.
- Anticipate operational events.
- Determine conditions and resources required for success.
- Determine when and where to apply force capabilities.
- Identify coordination needed to produce synchronized results.
- Determine the most flexible COA.

During the war game, the staff takes each COA and begins to develop a detailed plan while determining its strengths or weaknesses. Wargaming tests and improves COAs. The commander, staff, and other available partners (and subordinate commanders and staffs if the war game is conducted collaboratively) may change an existing COA or develop a new COA after identifying unforeseen events, tasks, requirements, or problems.

General Wargaming Rules

Participants in the wargaming session need to:

- Remain objective, not allowing personality or their sense of “what the commander wants” to influence them.
- Avoid defending a COA just because they personally developed it.
- Record advantages and disadvantages of each COA accurately as they emerge.
- Continually assess feasibility, acceptability, and suitability of each COA. If a COA fails any of these tests, reject it.
- Avoid drawing premature conclusions and gathering facts to support such conclusions.
- Avoid comparing one COA with another during the war game. This occurs during COA comparison.

Wargaming Responsibilities

Chief of Staff (Executive Officer): The COS (XO) coordinates actions of the staff during the war game. This officer is the unbiased controller of the process, ensuring the staff stays on a timeline and achieves the goals of the wargaming session. In a time-constrained environment, this officer ensures that, at a minimum, the decisive operation is wargamed.

Intelligence: During the war game, the assistant chief of staff (ACOS), G-2 (S-2) intelligence role-plays the enemy commander. This officer develops critical enemy decision points in relation to the friendly COAs, projects enemy reactions to friendly actions, and projects enemy losses.

The intelligence officer assigns different responsibilities to available staff members within the section (such as the enemy commander, friendly intelligence officer, and enemy recorder) for wargaming. The intelligence officer captures the results of each enemy action and counteraction as well as the corresponding friendly and enemy strengths and vulnerabilities. By trying to win the war game for the enemy, the intelligence officer ensures that the staff fully addresses friendly responses for each enemy COA. For the friendly force, the intelligence officer:

- Identifies IRs.
- Refines the situation and event templates, including named areas of interest that support decision points.
- Refines the event template with corresponding decision points, target areas of interest, and high value targets.
- Participates in targeting to select high-payoff targets from high-value targets identified during
- IPB.
- Recommends priority intelligence requirements that correspond to the decision points.

Movement and Maneuver: During the war game, the ACOS, G-3 (S-3); operations; and ACOS, G-5 (S-5) plans are responsible for movement and maneuver. The G-3 (S-3) normally selects the technique for the war game and role-plays the friendly maneuver commander. Various staff officers assist the G-3 (S-3), such as the aviation officer and engineer officer. The G-3 (S-3) executes friendly maneuver as outlined in the COA sketch and COA statement. The G-5 (S-5) assesses warfighting requirements, solutions, and concepts for each COA; develops plans and orders; and determines potential branches and sequels arising from various wargamed COAs. The G-5 (S-5) also coordinates and synchronizes warfighting functions in all plans and orders. The planning staff ensures that the war game of each COA covers every operational aspect of the mission. The members of the staff record each event's strengths and weaknesses and

the rationale for each action. They complete the decision support template and matrix for each COA. They annotate the rationale for actions during the war game and use it later with the commander's guidance to compare COAs.

Fires: The fire support officer assesses the fire support feasibility of each wargamed COA. The chief of fires develops the fire support execution matrix and evaluation criteria to measure the effectiveness of the fire support for each COA. This officer develops a proposed high-priority target list, target selection standards, and attack guidance matrix. The chief of fires identifies named and target areas of interest, high-value targets, high-priority targets, and additional events that may influence the positioning of fire support assets.

Protection: The chief of protection assesses protection element requirements, refines EEFI, and develops a scheme of protection for each wargamed COA. The chief:

- Refines the critical asset list and the defended asset list.
- Assesses threats and hazards.
- Develops risk control measures and mitigation measures of threats and hazards.
- Establishes personnel recovery coordination measures.
- Synchronizes air and missile defense.
- Implements operational area security to include security of lines of communications, antiterrorism measures, and law enforcement operations.
- Ensures that survivability measures reduce vulnerabilities.
- Refines chemical, biological, radiological, and nuclear operations.

Sustainment: The following officers are responsible for sustainment during the war game:

- ACOS, G-1 (S-1), personnel.
- ACOS, G-4 (S-4), logistics.
- ACOS, G-8, financial management.
- Surgeon.

During the war game, the G-1 (S-1) assesses the personnel aspect of building and maintaining the combat power of units. This officer identifies potential shortfalls and recommends COAs to ensure units maintain adequate manning to accomplish their mission. As the primary staff officer assessing the human resources planning considerations to support sustainment operations, the G-1 (S-1) provides human resources support for the operation.

The G-4 (S-4) assesses the logistics feasibility of each wargamed COA. This officer determines critical requirements for each logistics function (Classes I through VII, IX, and X) and identifies potential problems and deficiencies. The G-4 (S-4) assesses the status of all logistics functions required to support the COA, including potential support required to provide essential services to the civilians and compares it to available assets. This officer identifies potential shortfalls and recommends actions to eliminate or reduce their effects. While improvising can contribute to responsiveness, only accurately predicting requirements for each logistics function can ensure continuous sustainment. The logistics officer ensures that available movement times and assets support each COA.

During the war game, the G-8 assesses the commander's area of responsibility to determine the best COA for use of resources. This assessment includes both core functions of financial management, resource management, and finance operations. This officer determines partner relationships (joint, interagency, intergovernmental, and multinational), requirements for special funding, and support to the procurement process.

The surgeon section coordinates, monitors, and synchronizes the execution of the Army health system activities for the command for each wargamed COA to ensure a fit and healthy force.

Mission Command: The following officers are responsible for aspects of mission command during the war game:

- ACOS, G-6 (S-6), signal.
- ACOS, G-7 (S-7), inform and influence activities.
- ACOS, G-9 (S-9), civil affairs operations.
- Red team officer.
- Staff judge advocate.
- Operations research and systems analysis officer.
- Safety officer.

The G-6 (S-6) assesses network operations, electromagnetic spectrum operations, network defense, and information protection feasibility of each wargamed COA. The G-6 (S-6) determines communication systems requirements and compares them to available assets, identifies potential shortfalls, and recommends actions to eliminate or reduce their effects.

The G-7 (S-7) assesses how effectively the operations reflect the inform and influence activities; the effectiveness of capabilities to execute (deliver) inform and influence activities in support of each wargamed COA; and how inform and influence activities impact various audiences of interest and populations in and outside the AO. The G-7 also integrates cyber/electromagnetic activities with inform and influence activities.

The G-9 (S-9) ensures each wargamed COA effectively integrates civil considerations (the “C” of METT-TC). The civil affairs operations officer considers not only tactical issues but also sustainment issues. This officer assesses how operations affect civilians and estimates the requirements for essential stability tasks commanders might have to undertake based on the ability of the unified action. Host nation support and care of dislocated civilians are of particular concern. The civil affairs operations officer’s analysis considers how operations affect public order and safety, the potential for disaster relief requirements, noncombatant evacuation

operations, emergency services, and the protection of culturally significant sites. This officer provides feedback on how the culture in the AO affects each COA. If the unit lacks an assigned civil affairs operations officer, the commander assigns these responsibilities to another staff member. Under mission command, the civil affairs operations officer integrates civil-military operations that relate to inform and influence activities. This integration gains efficiencies and presents coordinated, deconflicted messages to other organizations.

During the war game, the red team staff section provides the commander and G-2 with an independent capability to fully explore alternatives. The staff looks in plans, operations, concepts, organizations, and capabilities of the operational environment from the perspectives of adversaries, partners, and others.

The staff judge advocate advises the commander on all matters pertaining to law, policy, regulation, good order, and discipline for each wargamed COA. This officer provides legal advice across the spectrum of conflict on law of war, rules of engagement, international agreements, Geneva Conventions, treatment and disposition of noncombatants, and the legal aspects of lethal and nonlethal targeting.

During the war game, the operations research and systems analysis staff section provides analytic support to the commander for planning and assessment of operations. Specific responsibilities includes:

- Providing quantitative analytic support, including regression and trend analysis, to planning and assessment activities.
- Assisting other staff in developing customized analytical tools for specific requirements, providing a quality control capability, and conducting assessments to measure the effectiveness of operations.

The safety office is integral to providing input to influence accident and incident reductions by implementing composite risk management throughout the mission planning and execution process.

Recorders: The use of recorders is particularly important. Recorders capture coordinating instructions, subunit tasks and purposes, and information required to synchronize the operation. Recorders allow the staff to write part of the order before they complete the planning. Automated information systems enable recorders to enter information into preformatted forms that represent either briefing charts or appendixes to orders. Each staff section keeps formats available to facilitate networked orders production.

Course of Action Process Actions

COA analysis consists of eight actions:

1. Gather the tools. The first task for COA analysis is to gather the necessary tools to conduct the war game. The COS (XO) directs the staff to gather tools, materials, and data for the war game. Units wargame with maps, sand tables, computer simulations, or other tools that accurately reflect the terrain. The staff posts the COA on a map displaying the AO. Tools required include, but are not limited to:

- Running estimates.
- Event templates.
- A recording method.
- Completed COAs, including graphics.
- A means to post or display enemy and friendly unit symbols and other organizations.
- A map of the AO.

2. List all friendly forces. The commander and staff consider all units that can be committed to the operation, paying special attention to support relationships and constraints. This list includes assets from all participants operating in the AO. The friendly forces list remains constant for all COAs.

3. List assumptions. The commander and staff review previous assumptions for continued validity and necessity.

4. List known critical events and decision points. A critical event is an event that directly influences mission accomplishment. Critical events include events that trigger significant actions or decisions (such as commitment of an enemy reserve), complicated actions requiring detailed study (such as a passage of lines), and essential tasks. The list of critical events includes major events from the unit's current position through mission accomplishment. It includes reactions by civilians that potentially affect operations or require allocation of significant assets to account for essential stability tasks. A decision point is a point in space and time when the commander or staff anticipates making a key decision concerning a specific COA (JP 5-0). Decision points may be associated with the friendly force, the status of ongoing operations, and with CCIRs that describe what information the commander needs to make the anticipated decision. A decision point requires a decision by the commander. It does not dictate what the decision is, only that the commander must make one, and when and where it should be made to maximally impact friendly or enemy COAs or the accomplishment of stability tasks.

5. Select the wargaming method. Three recommended wargaming methods exist: belt, avenue-in-depth, and box. Each considers the area of interest and all enemy forces that can affect the outcome of the operation. Planners can use the methods separately or in combination and modified for long-term operations dominated by stability.

- **Belt.** Divides the AO into belts (areas) running the width of the AO. The shape of each belt is based on the factors of METT-TC. The belt method works best when conducting offensive and defensive operations on terrain divided into well-defined cross-compartments, during phased operations (such as gap crossings, air assaults, or airborne operations), or when the enemy is deployed in clearly defined belts or echelons. Belts can be adjacent to or overlap each other. This wargaming method is based on a sequential analysis of events in each belt. Commanders prefer it because it focuses simultaneously on all forces affecting a particular event. A belt might include more than one critical event. Under time-constrained

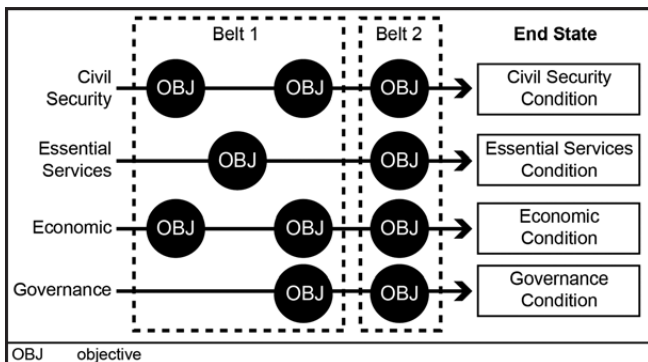


Figure 27

- Avenue in Depth:** The avenue-in-depth method focuses on one avenue of approach at a time, beginning with the decisive operation. This method is good for offensive COAs or in the defense when canalizing terrain inhibits mutual support. In stability operations, planners can modify the avenue-in-depth method. Instead of focusing on a geographic avenue, the staff wargames a line of effort. This method focuses on one line of effort at a time, beginning with the decisive line (see Figure 29). It includes not only wargaming events, objectives, or events and objectives in the selected line, but also wargaming relationships among events or objectives on all lines of effort with respect to events in the selected line.

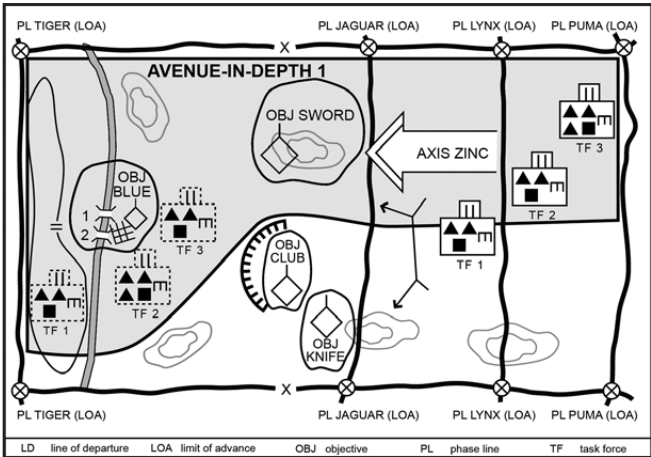


Figure 28. Sample Avenue-In-Depth Method

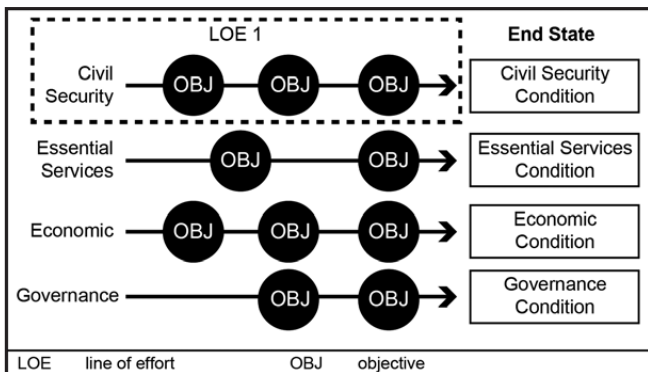


Figure 29. Sample Modified Avenue-In-Depth Method Using Lines of Effort

- Box:** The box method is a detailed analysis of a critical area, such as an engagement area, a river crossing site, or a landing zone (see Figure 30). It works best in a time-constrained environment, such as a hasty attack. It is particularly useful when planning operations in noncontiguous AOs. When using this method, the staff isolates the area and focuses on critical events in it. Staff members assume that friendly units can handle most situations in the AOs and focus their attention on essential tasks. In stability operations, the box method may focus analysis on a specific objective along a line of effort, such as development of local security forces as part of improving civil security (see Figure 31).

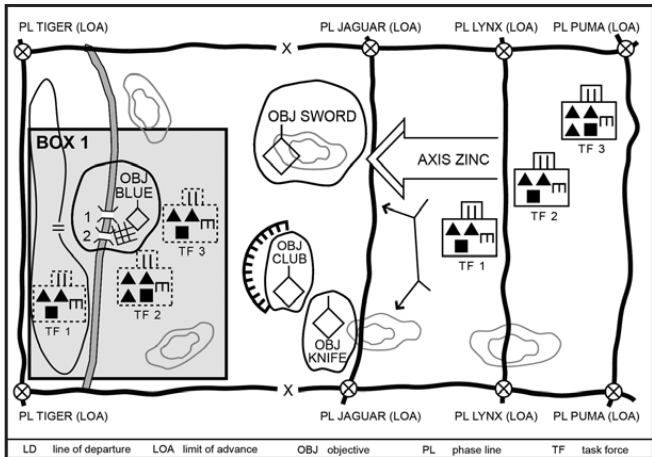


Figure 30. Sample Box Method

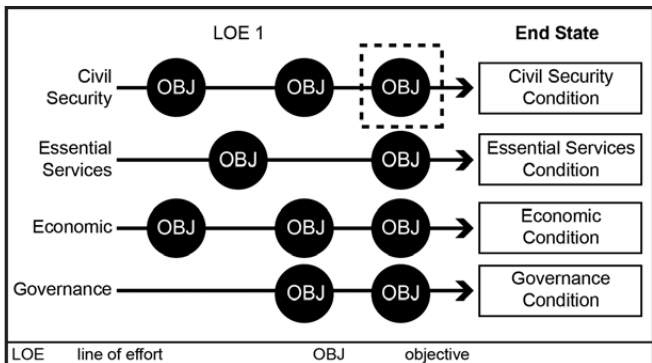


Figure 31. Sample Modified Box Method Using Lines of Effort

Select a Technique to Record and Display Results

The war game results provide a record from which to build task organizations, synchronize activities, develop decision support templates, confirm and refine event templates, prepare plans or orders, and compare COAs. Two techniques are commonly used to record and display results: The synchronization matrix technique and the sketch note technique. In both techniques, staff members record any remarks regarding the strengths and weaknesses they discover. The amount of detail depends on the time available. Unit SOPs address details and methods of recording and displaying wargaming results.

Synchronization Matrix: A tool the staff uses to record the results of wargaming and helps them synchronize a COA across time, space, and purpose in relationship to potential enemy and civil actions. The first entry is the time or phase of the operation. The second entry is the most likely enemy action. The third entry is the most likely civilian action. The fourth entry is the decision points for the friendly COA. The remainder of the matrix focuses on selected warfighting functions, their subordinate tasks, and the unit's major subordinate commands.

| Time/Event | | H - 24 hours | H-hour | H + 24 |
|--|---|--|----------------------------------|---------------------------------|
| Enemy or Adversary Action | | Monitors movements | Defends from security zone | Commits reserve |
| Population | | Orderly evacuation from area continues | | |
| Decision Points | | Conduct aviation attack of OBJ Irene | | |
| Control Measures | | | | |
| Movement and Maneuver | 1st BCT | Move on Route Irish | Cross LD | Seize on OBJ Irene |
| | 2d BCT | Move on Route Longstreet | Cross LD | Seize on OBJ Rose |
| | 3d BCT | | | FPOL with 1st BCT |
| | Avn Bde | Attack enemy reserve on OBJ Irene | | |
| | R&S | | | |
| Reserve | | | | |
| Intelligence | | | | |
| Fires | | Prep fires initiated at H-5 | | |
| Protection | Engineer | | | |
| | PMO | | | |
| | AMD | | | |
| | CBRN | | | |
| Sustainment | | | | |
| Mission Command | | | Main CP with 1st BCT | |
| Close Air Support | | | | |
| Electronic Warfare | | | Enemy command and control jammed | |
| Nonlethal | | Surrender broadcasts and leaflets | | |
| Host Nation | | | | |
| Interagency | | | | |
| NGOs | | | Begins refugee relief | |
| Note: The first column is representative only and can be modified to fit formation needs. | | | | |
| AMD | air and missile defense | | LD | line of departure |
| Avn Bde | aviation brigade | | NGO | nongovernmental organization |
| BCT | brigade combat team | | OBJ | objective |
| CBRN | chemical, biological, radiological, and nuclear | | PMO | provost marshal office |
| CP | command post | | R&S | reconnaissance and surveillance |
| FPOL | forward passage of lines | | | |

Figure 32. Sample Synchronization Matrix Technique

Sketch Note Technique: The sketch note technique uses brief notes concerning critical locations or tasks and purposes. These notes refer to specific locations or relate to general considerations covering broad areas. The commander and staff mark locations on the map and on a separate war game worksheet. Staff members use sequential numbers to link the notes to the corresponding locations on the map or overlay. Staff members also

identify actions by placing them in sequential action groups, giving each subtask a separate number. They use the war game worksheet to identify all pertinent data for a critical event. They assign each event a number and title and use the columns on the work sheet to identify and list in sequence:

- Units and assigned tasks.
- Expected enemy actions and reactions.
- Friendly counteractions and assets.
- Total assets needed for the task.
- Estimated time to accomplish the task.
- The decision point tied to executing the task.
- CCIRs.
- Control measures.
- Remarks.

| <i>Critical Event</i> | <i>Seize OBJ Sword</i> |
|--|--|
| Sequence number | 1 |
| Action | TF 3 attacks to destroy enemy company on OBJ Sword |
| Reaction | Enemy company on OBJ Club counterattacks |
| Counteraction | TF 1 suppresses enemy company on OBJ Club |
| Assets | TF 3, TF 1, and 1-78 FA (155-SP) |
| Time | H+1 to H+4 |
| Decision point | DP 3a and 3b |
| Commander's critical information requirements | Location of enemy armor reserve west of PL Jaguar |
| Control measures | Axis Zinc and support by fire position 1 |
| Remarks | |

Figure 33. Sample Sketch Note Technique

Wargame the Operation and Assess the Results

- Wargaming is a conscious attempt to visualize the flow of operations, given the friendly force's strengths and disposition, the enemy's capabilities, possible COAs, and civilians. During the war game, the commander and staff try to foresee the actions, reactions, and counteractions of all participants to include civilians. The staff analyzes each selected event. They identify tasks that the force must accomplish one echelon down, using assets two echelons down. Identifying strengths and weaknesses of each COA allows the staff to adjust the COAs as necessary.
- The war game focuses not so much on the tools used, but on the people who participate. Staff members who participate in wargaming should be the individuals deeply involved in developing COAs. Red team members (who can provide alternative points of view) provide insight on each COA. In stability operations, subject matter experts in areas such as economic or local governance can also help assess results of planned actions, including identifying possible unintended effects.
- The war game follows an action-reaction-counteraction cycle. Actions are those events initiated by the side with the initiative. Reactions are the opposing side's actions in response. With regard to stability operations, the war game tests the effects of actions, including intended and unintended effects, as they stimulate anticipated responses from civilians and civil institutions. Counteractions are the first side's responses to reactions. This sequence of action-reaction-counteraction continues until the critical event is completed or until the commander decides to use another COA to accomplish the mission.
- The staff considers all possible forces, including templated enemy forces outside the AO, which can influence the operation. The staff also considers the actions of civilians in the AO, the diverse kinds of coverage of unfolding events, and their consequences in the global media. The staff evaluates each friendly move to determine the assets and actions required to defeat the enemy at that point or to accomplish stability tasks. The staff continually considers branches

to the plan that promote success against likely enemy counteractions or unexpected civilian reactions. Lastly, the staff lists assets used in the appropriate columns of the work sheet and lists the totals in the assets column (not considering any assets lower than two command levels down).

- The commander and staff examine many areas during the war game. These include, but are not limited to:
 - All friendly capabilities.
 - All enemy capabilities.
 - Civilian reactions to all friendly actions.
 - Global media responses to proposed actions.
 - Movement considerations.
 - Closure rates.
 - Lengths of columns.
 - Formation depths.
 - Ranges and capabilities of weapon systems.
 - Desired effects of fires.
- The commander and staff consider how to create conditions for success, protect the force, and shape the operational environment. Experience, historical data, SOPs, and doctrinal literature provide much of the necessary information. During the war game, staff officers perform a risk assessment for their functional areas for each COA. They then propose appropriate controls. They continually assess the risk of adverse reactions from population and media resulting from actions taken by all sides in the operation. Staff officers develop ways to mitigate those risks.

- The staff continually assesses the risk to friendly forces from catastrophic threats, seeking a balance between mass and dispersion. When assessing the risk of weapons of mass destruction to friendly forces, planners view the target that the force presents through the eyes of an enemy target analyst. They consider ways to reduce vulnerability and determine the appropriate level of mission-oriented protective posture, consistent with mission accomplishment. The staff identifies the required assets of the warfighting functions to support the concept of operations, including those needed to synchronize sustaining operations. If requirements exceed available assets, the staff recommends priorities based on the situation, commander's intent, and planning guidance. To maintain flexibility, the commander may decide to create a reserve to account for assets for unforeseen tasks or opportunities.

- The commander can modify any COA based on how things develop during the war game. When doing this, the commander validates the composition and location of the decisive operation, shaping operations, and reserve forces. Control measures are adjusted as necessary. The commander may also identify situations, opportunities, or additional critical events that require more analysis. The staff performs this analysis quickly and incorporates the results into the wargaming record.

- An effective war game results in the commander and staff refining, identifying, analyzing, developing, and determining several effects. They refine:
 - Or modify each COA, to include identifying branches and sequels that become on-order or be-prepared missions.
 - The locations and times of decisive points.
 - The enemy event template and matrix.
 - The task organization, including forces retained in general support.

- Control requirements, including control measures and updated operational graphics.
- CCIRs and IRs — including the last time information of value — and incorporate them into the reconnaissance and surveillance plan and information management plan.
- An effective war game results in the commander and staff identifying:
 - Key or decisive terrain and determining how to use it.
 - Tasks the unit retains and tasks assigned to subordinates.
 - Likely times and areas for enemy use of weapons of mass destruction and friendly chemical, biological, radiological, and nuclear defense requirements.
 - Potential times or locations for committing the reserve.
 - The most dangerous enemy COA.
 - The most likely enemy COA.
 - The most dangerous civilian reaction.
 - Locations for the commander and command posts.
 - Critical events.
 - Requirements for support of each warfighting function.
 - Effects of friendly and enemy actions on civilians and infrastructure and on military operations.
 - Or confirming the locations of named areas of interest, target areas of interest, decision points, and IRs needed to support them.
 - Analyzing and evaluating strengths and weaknesses of each COA.

- Hazards, assessing their risk, developing controls for them, and determining residual risk.
- The coordination required for integrating and synchronizing interagency, host nation, and nongovernmental organization involvement.
- An effective war game results in the commander and staff analyzing:
 - Potential civilian reactions to operations.
 - Potential media reaction to operations.
 - Potential impacts on civil security, civil control, and essential services in the AO.
- An effective war game results in the commander and staff developing:
 - Decision points.
 - A synchronization matrix.
 - A decision support template and matrix.
 - Solutions to achieving minimum essential stability tasks in the AO.
 - The reconnaissance and surveillance plan and graphics.
 - Initial information themes and messages.
 - Fires, protection, and sustainment plans and graphic control measures.
- Lastly, an effective war game results in the commander and staff:
 - Determining requirements for military deception and surprise.
 - Determining the timing for concentrating forces and starting the attack or counterattack.

- Determining movement times and tables for critical assets, including information systems nodes.
- Estimating the duration of the entire operation and each critical event.
- Projecting the percentage of enemy forces defeated in each critical event and overall.
- Projecting the percentage of minimum essential tasks that the unit can or must accomplish.
- Anticipating media coverage and impact on key audiences.
- Integrating targeting into the operation, to include identifying or confirming high-payoff targets and establishing attack guidance.
- Allocating assets to subordinate commanders to accomplish their missions.

Conduct a War Game Briefing (Optional)

Time permitting, the staff delivers a briefing to all affected elements to ensure everyone understands the results of the war game. The staff uses the briefing for review and ensures that it captures all relevant points of the war game for presentation to the commander, COS (XO), or deputy or assistant commander. In a collaborative environment, the briefing may include selected subordinate staffs. A war game briefing format includes the following:

- Higher headquarters' mission, commander's intent, and military deception plan.
- Updated IPB.
- Friendly and enemy COAs that were wargamed, including:
 - Critical events.
 - Possible enemy actions and reactions.

- Possible impact on civilians.
- Possible media impacts.
- Modifications to the COAs.
- Strengths and weaknesses.
- Results of the war game.
- Assumptions.
- Wargaming technique used.

Step 5. Course of Action Comparison

COA comparison is an objective process to evaluate COAs independently and against set evaluation criteria approved by the commander and staff. The goal is to identify the strengths and weaknesses of COAs, enable selecting a COA with the highest probability of success, and further developing it in an OPLAN or OPORD. The commander and staff perform certain actions and processes that lead to the key outputs in Figure 34.

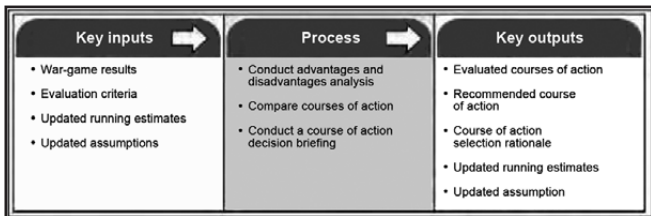


Figure 34. Course of Action Comparison

Conduct Advantages and Disadvantages Analysis

The COA comparison starts with all staff members analyzing and evaluating the advantages and disadvantages of each COA from their perspectives (see Figure 35). Staff members each present their findings for the others' consideration. Using the evaluation criteria developed before the war game, the staff outlines each COA, highlighting its advantages and disadvantages. Comparing the strengths and weaknesses of the COAs identifies their advantages and disadvantages with respect to each other.

| <i>Course of Action</i> | <i>Advantages</i> | <i>Disadvantages</i> |
|-------------------------|--|---|
| COA 1 | Decisive operation avoids major terrain obstacles. Adequate maneuver space available for units conducting the decisive operation and the reserve. | Units conducting the decisive operation face stronger resistance at the start of the operation. Limited resources available to establishing civil control to Town X. |
| COA 2 | Shaping operations provide excellent flank protection of the decisive operations. Upon completion of decisive operations, units conducting shaping operations can quickly transition to establish civil control and provide civil security to the population in Town X. | Operation may require the early employment of the division's reserve. |

Figure 35. Sample Advantages and Disadvantages

Compare Courses of Action

Comparison of COAs is critical. The staff uses any technique that helps develop those key outputs and recommendations and assists the commander to make the best decision. A common technique is the decision matrix. This matrix uses evaluation criteria developed during mission analysis and refined during COA development to help assess the effectiveness and efficiency of each COA.

| Weight ¹ | 1 | 2 | 1 | 1 | 2 | |
|-----------------------|------------|----------|-------|---------------|---------------------------------|-----------|
| Criteria ² | | | | | | |
| Course of Action | Simplicity | Maneuver | Fires | Civil control | Inform and influence activities | TOTAL |
| COA 1 ³ | 2 | 2 (4) | 2 | 1 | 1 (2) | 8 (11) |
| COA 2 ³ | 1 | 2 (2) | 1 | 2 | 2 (4) | 7 (10) |

Notes:
¹ The COS (XO) may emphasize one or more criteria by assigning weights to them based on a determination of their relative importance.
² Criteria are those assigned in step 5 of COA analysis.
³ COAs are those selected for war-gaming with values assigned to them based on comparison between them with regard to relative advantages and disadvantages of each, such as when compared for relative simplicity COA 2 is by comparison to COA 1 simpler and therefore is rated as 1 with COA 1 rated as 2.

Figure 36. Sample Decision Matrix

Decision Matrix: The decision matrix is a tool to compare and evaluate COAs thoroughly and logically. However, the process is based on highly subjective judgments that may change dramatically during the course of evaluation. In Figure 36, values reflect the relative advantages or disadvantages of each criterion for each COA as initially estimated by a COS (XO) during mission analysis. At the same time, the COS (XO) determines weights for each criterion based on a subjective determination of their relative value. The lower values signify a more favorable advantage, such as the lower the number, the more favorable the score. After comparing COAs and assigning values, the staff adds and totals the unweighted assigned scores in each column vertically under each COA. The staff multiplies the same values by the weighted score associated with each criterion and notes the product in parenthesis in each appropriate box. They add these weighted products vertically and note in parenthesis in the space for “weighted total” below each COA column. Then the staff compare the totals to determine the “best” (lowest number) COA based on both criteria alone and then on weighted scores. Upon review and consideration, the commander, based on personal judgment, may elect to change either the value for the basic criterion or the weighted value. Although the lowest value denotes a “best” solution, the process for

estimating relative values assigned to criterion and weighting is highly subjective. The “best” COA may not be supportable without additional resources. This result enables the decision maker to decide whether to pursue additional support, alter the COA in some way, or determine that it is not feasible.

- The decision matrix is one highly structured and effective method used to compare COAs against criteria that, when met, suggest a great likelihood of producing success. Staff officers give specific broad categories of COA characteristics a basic numerical value based on evaluation criteria. They assign weights based on subjective judgment regarding their relative importance to existing circumstances. Then they multiply basic values by the weight to yield a given criterion’s final score. A staff member then totals all scores to compare COAs.
- Commanders and staffs cannot solely rely on the outcome of a decision matrix, as it only provides a partial basis for a solution. During the decision matrix process, planners carefully avoid reaching conclusions from mainly subjective judgments from purely quantifiable analysis. Comparing and evaluating COAs by category of criterion is probably more useful than merely comparing total scores. Often judgments change with regard to relative weighting of criterion of importance during close analysis of COAs, which would change matrix scoring.
- The staff compares feasible COAs to identify the one with the highest probability of success against the most likely enemy COA, the most dangerous enemy COA, the most important stability task, or the most damaging environmental impact. The selected COA should also:
 - Pose the minimum risk to the force and mission accomplishment.
 - Place the force in the best posture for future operations.
 - Provide maximum latitude for initiative by subordinates.

- Provide the most flexibility to meet unexpected threats and opportunities.
- Provide the most secure and stable environment for civilians in the AO.
- Best facilitate information themes and messages.
- Staff officers often use their own matrix to compare COAs with respect to their functional areas. Matrixes use the evaluation criteria developed before the war game. Their greatest value is providing a method to compare COAs against criteria that, when met, produce operational success. Staff officers use these analytical tools to prepare recommendations. Commanders provide the solution by applying their judgment to staff recommendations and making a decision.

Conduct a Course of Action Decision Briefing

After completing its analysis and comparison, the staff identifies its preferred COA and makes a recommendation. If the staff cannot reach a decision, the COS (XO) decides which COA to recommend.

The staff then delivers a decision briefing to the commander. The COS (XO) highlights any changes to each COA resulting from the war game. The decision briefing includes:

- The commander's intent of the higher and next higher commanders.
- The status of the force and its components.
- The current IPB.
- The COAs considered, including:
 - Assumptions used.
 - Results of running estimates.
 - A summary of the war game for each COA, including critical events, modifications to any COA, and war game results.

- Advantages and disadvantages (including risks) of each COA.
- The recommended COA. If a significant disagreement exists, then the staff should inform the commander and, if necessary, discuss the disagreement.

Step 6. Course of Action Approval

- After the decision briefing, the commander selects the COA to best accomplish the mission. If the commander rejects all COAs, the staff starts COA development again. If the commander modifies a proposed COA or gives the staff an entirely different one, the staff wargames the new COA and presents the results to the commander with a recommendation.
- After selecting a COA, the commander issues the final planning guidance. The final planning guidance includes a refined commander's intent (if necessary) and new CCIRs to support execution. It also includes any additional guidance on priorities for the warfighting functions, orders preparation, rehearsal, and preparation. This guidance includes priorities for resources needed to preserve freedom of action and ensure continuous sustainment.
- Commanders include risk they are willing to accept in the final planning guidance. If there is time, commanders use a video teleconference (VTC) to discuss acceptable risk with adjacent, subordinate, and senior commanders. However, commanders still obtain the higher commander's approval to accept any risk that might imperil accomplishing the higher commander's mission.
- Based on the commander's decision and final planning guidance, the staff issues a WARNO to subordinate headquarters. This WARNO contains the information subordinate units need to refine their plans. It confirms guidance issued in person or by VTC and expands on details not covered by the commander personally. The WARNO issued after COA approval normally contains:
 - Mission.
 - Commander's intent.

- Updated CCIRs and EEFI.
- Concept of operations.
- The AO.
- Principal tasks assigned to subordinate units.
- Preparation and rehearsal instructions not included in the SOPs.
- A final timeline for the operations.

Step 7. Orders Production

The staff prepares the order or plan by turning the selected COA into a clear, concise concept of operations and the required supporting information. The COA statement becomes the concept of operations for the plan. The COA sketch becomes the basis for the operation overlay. If time permits, the staff may conduct a more detailed war game of the selected COA to more fully synchronize the operation and complete the plan. The staff writes the OPORD or OPLAN using the Army's OPORD format. Commanders review and approve orders before the staff reproduces and disseminates them unless commanders have delegated that authority. Subordinates immediately acknowledge receipt of the higher order. If possible, the higher commander and staff brief the order to subordinate commanders in person. The commander and staff conduct confirmation briefings with subordinates immediately afterwards. Confirmation briefings can be done collaboratively with several commanders at the same time or with single commanders. These briefings may be conducted in person or by a VTC.

Operation Plan or Operation Order Format

[CLASSIFICATION]

Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking (TS), (S), (C), or (U) at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

Copy ## of ## copies

Issuing headquarters

Place of issue

Date-time group of signature

Message reference number

The first line of the heading is the copy number assigned by the issuing headquarters. Maintain a log of specific copies issued to addressees. The second line is the official designation of the issuing headquarters (for example, 1st Infantry Division). The third line is the place of issue. It may be a code name, postal designation, or geographic location. The fourth line is the date or date-time group that the plan or order was signed or issued and becomes effective unless specified otherwise in the coordinating instructions. The fifth line is a headquarters internal control number assigned to all plans and orders in accordance with unit SOPs.

Operation Plan/Order [number] [(code name)] [(classification of title)]

Number plans and orders consecutively by calendar year. Include code name, if any.

[page number]

[CLASSIFICATION]

[CLASSIFICATION]

(U) **References:** *List documents essential to understanding the OPLAN or OPORD. List references concerning a specific function in the appropriate attachments.*

(a) *List maps and charts first. Map entries include series number, country, sheet names, or numbers, edition, and scale.*

(b) *List other references in subparagraphs labeled as shown.*

(U) **Time Zone Used Throughout the OPLAN/OPORD:** *State the time zone used in the area of operations during execution. When the OPLAN or OPORD applies to units in different time zones, use Greenwich Mean (ZULU) Time.*

(U) **Task Organization:** *Describe the organization of forces available to the issuing headquarters and their command and support relationships. Refer to Annex A (task organization) if long or complicated.*

1. (U) **Situation.** *The situation paragraph describes the conditions of the operational environment that impact operations in the following subparagraphs:*

a. (U) **Area of Interest.** *Describe the area of interest. Refer to Annex B (Intelligence) as required.*

b. (U) **Area of Operations.** *Describe the area of operations (AO). Refer to the appropriate map by its subparagraph under references, for example, "Map, reference (b)." Refer to the Appendix 2(Operation Overlay) to Annex C (Operations) as required.*

(1) (U) **Terrain.** *Describe the aspects of terrain that impact operations. Refer to Annex B (Intelligence) as required.*

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(2) (U) **Weather.** *Describe the aspects of weather that impact operations. Refer to Annex B (Intelligence) as required.*

c. (U) **Enemy Forces.** *Identify enemy forces and appraise their general capabilities. Describe the enemy's disposition, location, strength, and probable courses of action. Identify known or potential terrorist threats and adversaries within the AO. Refer to Annex B (Intelligence) as required.*

d. (U) **Friendly Forces.** *Briefly identify the missions of friendly forces and the objectives, goals, and missions of civilian organizations that impact the issuing headquarters in following subparagraphs:*

(1) (U) **Higher Headquarters Mission and Intent.** *Identify and state the mission and commander's intent for headquarters two levels up and one level up from the issuing headquarters.*

(a) (U) **Higher Headquarters Two Levels Up.** *Identify the higher headquarters two levels up the paragraph heading (for example, Joint Task Force-18).*

1. (U) **Mission.**

2. (U) **Commander's Intent.**

(b) (U) **Higher Headquarters.** *Identify the higher headquarters one level up in the paragraph heading (for example, 1st U.S. Armored Division).*

[page number]

[CLASSIFICATION]

[CLASSIFICATION]

1. (U) **Mission.**

2. (U) **Commander's Intent.**

(2) (U) **Missions of Adjacent Units.** *Identify and state the missions of adjacent units and other units whose actions have a significant impact on the issuing headquarters.*

e. (U) **Interagency, Intergovernmental, and Nongovernmental Organizations.** *Identify and state the objective or goals and primary tasks of those non-Department of Defense organizations that have a significant role within the AO. Refer to Annex V (Interagency Coordination) as required.*

f. (U) **Civil Considerations.** *Describe the critical aspects of the civil situation that impact operations. Refer to Appendix 1 (Intelligence Estimate) to Annex B (Intelligence) as required.*

g. (U) **Attachments and Detachments.** *List units attached to or detached from the issuing headquarters. State when each attachment or detachment is effective (for example, on order, on commitment of the reserve) if different from the effective time of the OPLAN or OPORD. Do not repeat information already listed in Annex A (Task Organization).*

h. (U) **Assumptions.** *List assumptions used in the development of the OPLAN or OPORD.*

2. (U) **Mission.** *State the unit's mission — a short description of the who, what (task), when, where, and why (purpose) that clearly indicates the action to be taken and the reason for doing so.*

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3. (U) **Execution.** *Describe how the commander intends to accomplish the mission in terms of the commander's intent, an overarching concept of operations, schemes of employment for each warfighting function, assessment, specified tasks to subordinate units, and key coordinating instructions in the subparagraphs below.*

a. (U) **Commander's Intent.** *Commanders develop their intent statement personally. The commander's intent is a clear, concise statement of what the force must do and conditions the force must establish with respect to the enemy, terrain, and civil considerations that represent the desired end state. It succinctly describes what constitutes the success of an operation and provides the purpose and conditions that define that desired end state. The commander's intent must be easy to remember and clearly understood two echelons down.*

b. (U) **Concept of Operations.** *The concept of operations is a statement that directs the manner in which subordinate units cooperate to accomplish the mission and establishes the sequence of actions the force will use to achieve the end state. It is normally expressed in terms of decisive, shaping, and sustaining operations. It states the principal tasks required, the responsible subordinate units, and how the principal tasks complement one another. Normally, the concept of operations projects the status of the force at the end of the operation. If the mission dictates a significant change in tasks during the operation, the commander may phase the operation. The concept of operations may be a single paragraph, divided into two or more subparagraphs, or if unusually lengthy, summarize here with details located in Annex C (Operations). If the concept of operations is phased, describe each phase in a subparagraph. Label these subparagraphs as "Phase" followed by the appropriate Roman numeral, for example,*

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“Phase I.” If the operation is phased, all paragraphs and subparagraphs of the base order and all annexes must mirror the phasing established in the concept of operations. The operation overlay and graphic depictions of lines of effort help portray the concept of operations and are located in Annex C (Operations).

c. (U) Scheme of Movement and Maneuver. *Describe the employment of maneuver units in accordance with the concept of operations. Provide the primary tasks of maneuver units conducting the decisive operation and the purpose of each. Next, state the primary tasks of maneuver units conducting shaping operations, including security operations, and the purpose of each. For offensive operations, identify the form of maneuver. For defensive operations, identify the type of defense. For stability operations, describe the role of maneuver units by primary stability tasks. If the operation is phased, identify the main effort by phase. Identify and include priorities for the reserve. Refer to Annex C (Operations) as required.*

(1) (U) Scheme of Mobility/Counter mobility. *State the scheme of mobility/counter mobility including priorities by unit or area. Refer to Annex G (Engineer) as required.*

(2) (U) Scheme of Battlefield Obscuration. *State the scheme of battlefield obscuration, including priorities by unit or area. Refer to Appendix 9 (Battlefield Obscuration) to Annex C (Operations) as required.*

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(3) (U) **Scheme of Reconnaissance and Surveillance.** *Describe how the commander intends to use reconnaissance and surveillance to support the concept of operations. Include the primary reconnaissance objectives. Refer to Annex L (Reconnaissance and Surveillance) as required. (Note: Army forces do not conduct reconnaissance and surveillance within the U.S. and its territories. For domestic operations, this paragraph is titled "Information Awareness and Assessment" and the contents of this paragraph comply with Executive Order 12333.)*

d. (U) **Scheme of Intelligence.** *Describe how the commander envisions intelligence supporting the concept of operations. Include the priority of effort to situation development, targeting, and assessment. State the priority of intelligence support to units and areas. Refer to Annex B (Intelligence) as required.*

e. (U) **Scheme of Fires.** *Describe how the commander intends to use fires to support the concept of operations with emphasis on the scheme of maneuver. State the fire support tasks and the purpose of each task. State the priorities for, allocation of, and restrictions on fires. Refer to Annex D (Fires) as required.*

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f. (U) **Scheme of Protection.** *Describe how the commander envisions protection supporting the concept of operations. Include the priorities of protection by unit and area. Include survivability. Address the scheme of operational area security, including security for routes, bases, and critical infrastructure. Identify tactical combat forces and other reaction forces. Use subparagraphs for protection categories (for example, air and missile defense and explosive ordnance disposal) based on the situation. Refer to Annex E (Protection) as required.*

g. (U) **Stability Operations.** *Describe how the commander envisions the conduct of stability operations in coordination with other organizations through the primary stability tasks. (See FM 3-07.) If other organizations or the host nation are unable to provide for civil security, restoration of essential services, and civil control, then commanders with an assigned AO must do so with available resources, request additional resources, or request relief for these requirements from higher headquarters. Commanders assign specific responsibilities for stability tasks to subordinate units in paragraph 3i (Tasks to Subordinate Units) and paragraph 3j (Coordinating Instructions). Refer to Annex C (Operations) and Annex K (Civil Affairs Operations) as required.*

h. (U) **Assessment.** *Describe the priorities for assessment and identify the measures of effectiveness used to assess end state conditions and objectives. Refer to Annex M (Assessment) as required.*

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i. (U) **Tasks to Subordinate Units.** *State the task assigned to each unit that reports directly to the headquarters issuing the order. Each task must include who (the subordinate unit assigned the task), what (the task itself), when, where, and why (purpose). Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 3j (Coordinating Instructions).*

j. (U) **Coordinating Instructions.** *List only instructions and tasks applicable to two or more units not covered in unit SOPs.*

(1) (U) *Time or condition when the OPORD becomes effective.*

(2) (U) **Commander's Critical Information Requirements.** *List commander's critical information requirements (CCIRs).*

(3) (U) **Essential Elements of Friendly Information.** *List essential elements of friendly information (EEFIs).*

(4) (U) **Fire Support Coordination Measures.** *List critical fire support coordination or control measures.*

(5) (U) **Airspace Coordinating Measures.** *List critical airspace coordinating or control measures.*

(6) (U) **Rules of Engagement.** *List rules of engagement. Refer to Appendix 11 (Rules of Engagement) to Annex C (Operations) as required. Note: For operations within the U.S. and its territories, title this paragraph "Rules for the Use of Force."*

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(7) (U) **Risk Reduction Control Measures.** *State measures specific to this operation not included in unit SOPs. They may include mission-oriented protective posture, operational exposure guidance, troop-safety criteria, and fratricide avoidance measures. Refer to Annex E (Protection) as required.*

(8) (U) **Personnel Recovery Coordination Measures.** *Refer to Appendix 2 (Personnel Recovery) to Annex E (Protection) as required.*

(9) (U) **Environmental Considerations.** *Refer to Appendix 5 (Environmental Considerations) to Annex G (Engineer) as required.*

(10) (U) **Themes and Messages.** *List information themes and messages.*

(11) (U) **Other Coordinating Instructions.** *List in subparagraphs any additional coordinating instructions and tasks that apply to two or more units, such as the operational timeline and any other critical timing or events.*

4. (U) **Sustainment.** *Describe the concept of sustainment, including priorities of sustainment by unit or area. Include instructions for administrative movements, deployments, and transportation — or references to applicable appendixes — if appropriate. Use the following subparagraphs to provide the broad concept of support for logistics, personnel, and Army health system support. Provide detailed instructions for each sustainment sub-function in the appendixes to Annex F (Sustainment) listed in Table E-2.*

a. (U) **Logistics.** *Refer to Annex F (Sustainment) as required.*

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- b. (U) **Personnel.** *Refer to Annex F (Sustainment) as required.*
- c. (U) **Army Health System Support.** *Refer to Annex F (Sustainment) as required.*

5. (U) **Command and Signal.**

a. (U) **Command.**

- (1) (U) **Location of Commander.** *State where the commander intends to be during the operation, by phase if the operation is phased.*
- (2) (U) **Succession of Command.** *State the succession of command if not covered in the unit's SOPs.*
- (3) (U) **Liaison Requirements.** *State liaison requirements not covered in the unit's SOPs.*

b. (U) **Control.**

- (1) (U) **Command Posts.** *Describe the employment of command posts (CPs), including the location of each CP and its time of opening and closing, as appropriate. State the primary controlling CP for specific tasks or phases of the operation (for example, "Division tactical command post will control the air assault").*
- (2) (U) **Reports.** *List reports not covered in SOPs. Refer to Annex R (Reports) as required.*
- c. (U) **Signal.** *Describe the concept of signal support, including location and movement of key signal nodes and critical electromagnetic spectrum considerations throughout the operation. Refer to Annex H (Signal) as required.*

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ACKNOWLEDGE: *Include instructions for the acknowledgement of the OPLAN or OPORD by addressees. The word “acknowledge” may suffice. Refer to the message reference number if necessary. Acknowledgement of a plan or order means that it has been received and understood.*

[Commander’s last name]

[Commander’s rank]

The commander or authorized representative signs the original copy. If the representative signs the original, add the phrase “For the Commander.” The signed copy is the historical copy and remains in the headquarters’ files.

OFFICIAL:

[Authenticator’s name]

[Authenticator’s position]

Use only if the commander does not sign the original order. If the commander signs the original, no further authentication is required. If the commander does not sign, the signature of the preparing staff officer requires authentication and only the last name and rank of the commander appear in the signature block.

ANNEXES: *List annexes by letter and title. Army and joint OPLANs or OPORDs do not use Annexes I and O as attachments and in Army orders label these annexes “Not Used.” Annexes Q, T, W, X, and Y are available for use in Army OPLANs or OPORDs and are labeled as “Spare.” When an attachment required by doctrine or an SOP is unnecessary, label it “Omitted.”*

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- Annex A – Task Organization**
- Annex B – Intelligence**
- Annex C – Operations**
- Annex D – Fires**
- Annex E – Protection**
- Annex F – Sustainment**
- Annex G – Engineer**
- Annex H – Signal**
- Annex I – Not Used**
- Annex J – Inform and Influence Activities**
- Annex K – Civil Affairs Operations**
- Annex L – Reconnaissance and Surveillance**
- Annex M – Assessment**
- Annex N – Space Operations**
- Annex O – Not Used**
- Annex P – Host-Nation Support**
- Annex Q – Spare**
- Annex R – Reports**
- Annex S – Special Technical Operations**
- Annex T – Spare**
- Annex U – Inspector General**
- Annex V – Interagency Coordination**
- Annex W – Spare**
- Annex X – Spare**
- Annex Y – Spare**
- Annex Z – Distribution**

DISTRIBUTION: *Furnish distribution copies either for action or for information. List in detail those who are to receive the plan or order. Refer to Annex Z (Distribution) if lengthy.*

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[CLASSIFICATION]

METT–TC: Mission, Enemy, Terrain and Weather, Troops and Support Available–Time Available, and Civilian Considerations

Mission

1. What are the missions of the unit (specified, implied, essential tasks)?
2. What are the implications of the mission?

Enemy

1. What is the enemy's composition and capability?
2. What is the enemy's strength, weakness, and center of gravity?
3. What is the enemy's disposition (location, mood, status of logistics)?
4. How will the enemy react to the plan?

Terrain and Weather

1. What effect will current weather and weather changes have on terrain?
2. **Terrain analysis** is the collection, analysis, evaluation, and interpretation of geographic information on the natural and man-made features of the terrain, combined with other relevant factors, to predict the effect of the terrain on military operations (JP 1-02). It involves the study and interpretation of natural and man-made features of an area, their effects on military operations, and the effects of weather and climate on these features. Terrain analysis is a continuous process. Changes in the operational environment/battlespace environment may change the analysis of its effect on the operation or threat/adversary COA. The best terrain analysis is based on a reconnaissance of the area of operations and area of interest. Analysts should identify gaps in knowledge of the terrain that a map or imagery analysis cannot satisfy. Those gaps can be used as a guide for reconnaissance planning. If there are time constraints, focus the reconnaissance on the areas most important to the commanders and their mission. It is likely that the tasking for a terrain reconnaissance will occur during the mission analysis step of the military decisionmaking process/ Marine Corps planning process.

Troops and Support Available

1. What types of forces are available?
2. What is the state of training, strength, and logistics?
3. What are the capabilities of subordinate and support elements?

Time Available

1. How much time is there to plan the mission?
2. How much time is there before the operation begins?
3. How much time will it take the enemy to close?
4. How much time will it take our forces to get there?
5. How much time is available for reconstitution?
6. How long will it take to prepare logistically (fuel, arm, move supplies)?

Civilian Considerations

1. What are the applicable rules of engagement and/or rules of interaction?
2. What procedures and guidelines will the platoon use in dealing with refugees, prisoners, and other civilians?
3. Will the unit be working with civilian organizations, such as governmental agencies, private groups, or the media?
4. Will the unit be tasked to conduct stability operations (such as peace operations or noncombatant evacuation) or support operations (such as humanitarian or environmental assistance)?

Joint Tactics, Techniques, and Procedures/References

Joint Publication 3-0 Joint Operations

1 August 2011

Unified Action: a comprehensive approach that synchronizes, coordinates, and when appropriate, integrates military operations with the activities of other governmental and nongovernmental organizations to achieve unity of effort.

Operational Art
The use of creative thinking by commanders and staffs to design strategies, campaigns, and major operations and organize and employ military forces. Operational art integrates ends, ways, and means, while accounting for risk, across the levels of war.

Principles of Joint Operations

| | |
|------------------|--------------|
| Objective | Security |
| Offensive | Surprise |
| Mass | Simplicity |
| Maneuver | Restraint |
| Economy of force | Perseverance |
| Unity of command | Legitimacy |

Joint Phases
Phase 1 – Shape. Shape phase missions, task, and actions are those that are designed to dissuade or deter adversaries and assure friends, as well as set conditions for the contingency plan and are generally conducted through security cooperation activities.
Phase 2 – Deter. The intent of this phase is to deter an adversary from undesirable actions because of friendly capabilities and the will to use them.
Phase 3 – Seize Initiative. JFCs seek to seize the initiative in all situations through decisive use of joint force capabilities.
Phase 4 – Dominate. This phase focuses on breaking the enemy's will to resist or, in noncombat situations, to control the operational environment.
Phase 5 – Stabilize. The stabilize phase is typically characterized by a shift in focus from sustained combat operations to stability operations.
Phase 6 – Enable Civil Authority. This phase is predominantly characterized by joint force support to legitimate civil governance. The commander provides this support by agreement with the appropriate civil authority.

The Levels War

Joint Force Options

Combatant Commands. A CCMD is a unified or specified command with a broad continuing mission under a single commander established and so designated by the President, through SecDef, and with the advice and assistance of the CJCS.

Subordinate Unified Commands. When authorized by SecDef through the CJCS, commanders of unified (not specified) commands may establish subordinate unified commands (also called subunified commands) to conduct operations on a continuing basis in accordance with the criteria set forth for unified commands.

Joint Task Forces (JTFs). A JTF is a joint force that is constituted and so designated by SecDef, a CCDR, a subordinate unified command commander, or an existing commander, joint task force (CTF) to accomplish missions with specific, limited objectives and which do not require centralized control of logistics.

COMMON OPERATING PRECEPT
Maintain operational and organizational flexibility.

Range of Military Operations

Our national leaders can use the military instrument of national power across the conflict continuum in a wide variety of operations that are commonly characterized in three groups as this figure depicts.

Joint Functions:

| | |
|---------------------|-----------------------|
| Command and Control | Intelligence |
| Fires | Movement and Maneuver |
| Protection | Sustainment |

Figure 37. Joint Doctrine Notes

The Elements of Operational Design

Operational design employs various elements to develop and refine the commander's operational approach. These conceptual tools help commanders and their staffs think through the challenges of understanding the operational environment, defining the problem, and developing this approach, which guides planning and shapes the concept of operations.

termination — To plan effectively for termination, the supported joint force commander must know how the President and Secretary of Defense intend to terminate the joint operation and ensure that its outcomes endure.

military end state — Military end state is the set of required conditions that defines achievement of all military objectives.

objectives — An objective is a clearly defined, decisive, and attainable goal toward which every military operation should be directed.

effects — An effect is a physical and/or behavioral state of a system that results from an action, a set of actions, or another effect. A desired effect can also be thought of as a condition that can support achieving an associated objective, while an undesired effect is a condition that can inhibit progress toward an objective.

center of gravity (COG) — A COG is a source of power that provides moral or physical strength, freedom of action, or will to act. An objective is always linked to a COG. In identifying COGs, it is important to remember that irregular warfare focuses on legitimacy and influence over a population, unlike traditional warfare, which employs direct military confrontation to defeat an adversary's armed forces, destroy an adversary's war-making capacity, or seize or retain territory to force a change in an adversary's government or policies.

decisive points — A decisive point is a geographic place, specific key event, critical factor, or function that when acted upon, allows a commander to gain a marked advantage over an adversary or contributes materially to achieving success (e.g., creating a desired effect, achieving an objective).

lines of operation and lines of effort — A line of operation defines the interior or exterior orientation of the force in relation to the enemy or that connects actions on nodes and/or decisive points related in time and space to an objective(s). A line of effort links multiple tasks and missions using the logic of purpose — cause and effect — to focus efforts toward establishing operational and strategic conditions.

direct and indirect approach — The approach is the manner in which a commander contends with a COG. A direct approach attacks the enemy's COG or principal strength by applying combat power directly against it. An indirect approach attacks the enemy's COG by applying combat power against a series of decisive points that lead to the defeat of the COG while avoiding enemy strength.

anticipation — Anticipation is key to effective planning. Joint force commanders must consider what might happen and look for the signs that may bring the possible event to pass.

operational reach — Operational reach is the distance and duration across which a joint force can successfully employ military capabilities.

culmination — Culmination is that point in time and/or space at which the operation can no longer maintain momentum.

arranging operations — Commanders must determine the best arrangement of joint force and component operations to conduct the assigned tasks and joint force mission. This arrangement often will be a combination of simultaneous and sequential operations to reach the end state conditions with the least cost in personnel and other resources.

Center of Gravity Analysis Tactics, Techniques, and Procedures

Key Definitions

center of gravity (COG) — The source of power that provides moral or physical strength, freedom of action, or will to act (JP 5-0).

critical capability — A means that is considered a crucial enabler for a COG to function as such and is essential to the accomplishment of the specified or assumed objective(s) (JP 5-0).

critical requirement — An essential condition, resource, and means for a critical capability to be fully operational (JP 5-0).

critical vulnerability — An aspect of a critical requirement which is deficient or vulnerable to direct or indirect attack that will create decisive or significant effects (JP 5-0).

Threat: Center of Gravity Analysis Tactics, Techniques, and Procedures

Threat Center of Gravity Analysis and the Military Decisionmaking Process

The purpose of performing a threat COG analysis is to determine and evaluate the enemy's (and others') critical vulnerabilities for exploitation.

Since this tool is used to evaluate the threat, the appropriate time to perform this analysis is during Step 3 (Evaluate the Threat) of the IPB. The results of COG analysis are later used during COA development to exploit identified vulnerabilities.

COG analysis of the threat should be conducted by the G2. The information objectives staff will provide input to, and use, COG analysis to determine what aspects of the threat information objectives should engage.

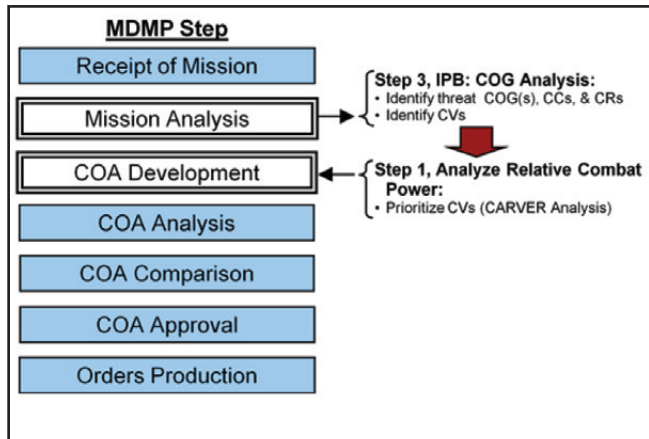


Figure 38

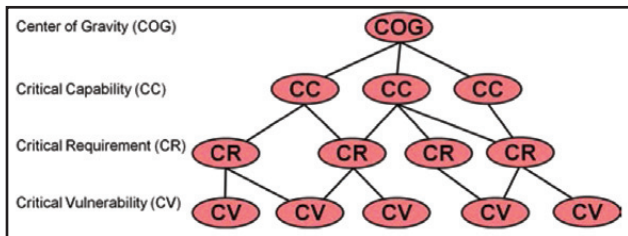


Figure 39. Center of Gravity Hierarchy

Center of Gravity Hierarchy

Center of Gravity (COG): At the strategic level there is usually only one COG. At operational and tactical levels there may be more than one COG. A COG may shift as an operation changes phases.

Critical Capability: Each COG can have multiple critical capabilities in the context of the battlefield and friendly mission.

Critical Requirement: Each critical capability can have several critical requirements. Critical requirements may be shared by multiple critical capabilities.

Critical Vulnerability: Each critical requirement can have several critical vulnerabilities. Critical vulnerabilities may be shared by multiple critical requirements.

Center of Gravity Analysis Steps

1. Identify threat center(s) of COG. Visualize the threat as a system of functional components. Based upon how the threat organizes, fights, makes decisions, and its physical and psychological strengths and weaknesses, select the threat's primary source of moral or physical strength, power, and resistance. **Note:** Depending on the level (i.e., strategic, operational, tactical), COGs may be tangible entities or intangible concepts.

Validity Testing for COGs

- Will the destruction, neutralization, or substantial weakening of the COG result in changing the threat's COA or denying its objective(s)?

2. Identify critical capabilities. Each COG is analyzed to determine what primary abilities (functions) the threat possesses in the context of the battlefield and friendly mission that can prevent friendly forces from accomplishing the mission. **Note:** Critical capabilities are not tangible objects but rather are threat functions.

Validity Testing for Critical Capabilities

- Is the identified critical capability a primary ability in context with the given missions of both threat and friendly forces?
- Is the identified critical capability directly related to the COG?

3. Identify critical requirements. Each critical capability is analyzed to determine what conditions, resources, or means that enables threat functions or mission. **Note:** Critical requirements are usually tangible elements such as communications means, weapons systems, or even geographical areas or terrain features.

Validity Testing for Critical Requirements

- Will the absence or loss of the identified critical requirement disable the threat's critical capability?
- Does the threat consider the identified critical requirement to be critical (do not mirror image)?

4. Identify critical vulnerabilities: Each critical capability is analyzed to determine which critical requirements, or components thereof, are vulnerable to neutralization, interdiction, or attack. **Note:** Critical vulnerabilities may be tangible structures or equipment, or it may be an intangible perception, populace belief or susceptibility.

Validity Testing for Critical Vulnerabilities

- Will exploitation of the critical vulnerability disable the associated critical requirement?
- Does the friendly force have the resources to effect the identified critical vulnerability?

5. Prioritize critical vulnerabilities. Criticality, accessibility, recuperability, vulnerability, effect, and recognizability (CARVER) is a special operations forces methodology used to prioritize targets. The methodology can be used to rank-order critical vulnerabilities, thereby

prioritizing the targeting process. Apply the six criteria against each critical vulnerability to determine impact on the threat organization. See Appendix D, FM 34-36 for more information on CARVER.

- **Criticality.** An estimate of the critical vulnerability's importance to the enemy. To what extent will the vulnerability influence the enemy's ability to conduct or support operations.
- **Accessibility.** A determination of whether the critical vulnerability is accessible to the friendly force in time and place. In other words, does the friendly force have the resources and capability to accomplish destruction or neutralization of the critical vulnerability?
- **Recuperability.** An evaluation of how much effort, time, and resources the enemy must expend if the critical vulnerability is successfully affected.
- **Vulnerability.** A determination of whether the friendly force has the means or capability to affect the critical vulnerability.
- **Effect.** A determination of the extent of the effect achieved if the critical vulnerability is successfully exploited.
- **Recognizability.** A determination if the critical vulnerability, once selected for exploitation, can be identified during the operation by the friendly force, and can be assessed for the impact of the exploitation.

Friendly: Center of Gravity Analysis Tactics, Techniques, and Procedures

Fitting Friendly Center of Gravity Analysis into the Military Decisionmaking Process

The purpose of performing a friendly COG analysis is to determine and evaluate the friendly force's critical vulnerabilities. Once identified, these vulnerabilities are addressed as a defensive plan within the overall concept of the operation.

Since this tool is used to identify friendly force vulnerabilities relative to the planned scheme of maneuver, the best time to perform this analysis is during COA development.

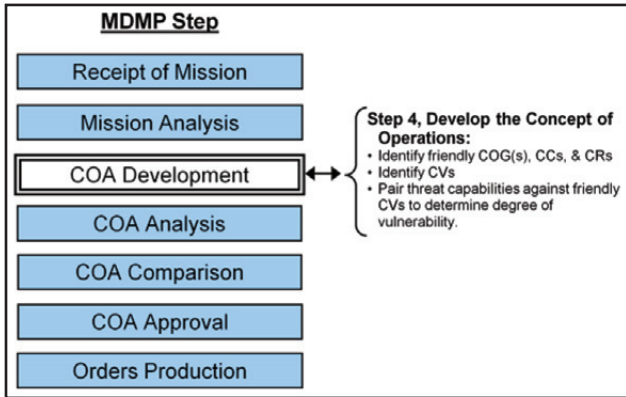


Figure 40

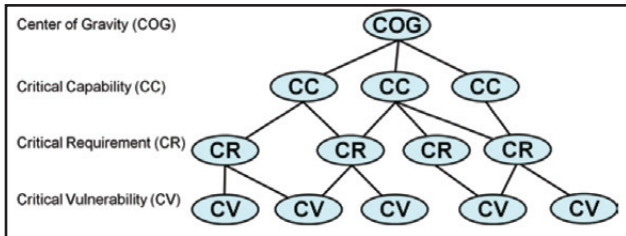


Figure 41. Center of Gravity Hierarchy

Center of Gravity Hierarchy

Center of Gravity (COG): The friendly tactical/operational COG is the force designated to execute the main effort. Since the main effort shifts as an operation changes phases, so will the COG.

Critical Capability: Critical capabilities of the friendly COG are those key task(s) that the main effort must accomplish.

Critical Requirement: Each critical requirement can have several critical requirements. Critical requirements may be shared by multiple critical requirements.

Critical Vulnerability: Each critical requirement can have several critical vulnerabilities. Critical vulnerabilities may be shared by multiple critical requirements.

Center of Gravity Analysis Steps

Note: This methodology for analyzing the friendly force is based on the assumption that the friendly force COG is the main effort for the operation. This concept is most valid at the operational and tactical levels.

1. Identify friendly COG(s). Select the friendly force designated to execute the operation's main effort as the COG. If the main effort changes during the operation (i.e., by phase), then so will the COG.

Validity Testing for COGs

- Will the destruction, neutralization, or substantial weakening of the COG result in changing the friendly COA or denying its objective(s)?

2. Identify critical requirements. Select the main effort's key tasks identified by the G3 planner. These tasks become the critical capabilities for that phase of the operation.

Validity Testing for critical requirements

- Is this task critical to the success of the main effort in the context of the given mission (task)?

- If the COG does not successfully execute the critical capability, will the COA change?

3. Identify critical requirements. Each critical capability (task) needs critical assets in order to execute the task. These critical assets become the critical requirements for that critical capability.

Validity Testing for Critical Requirements

- Can the COG conduct the critical requirement with the loss of the identified critical requirement?

4. Identify critical vulnerabilities. The critical requirements identified have inherent vulnerabilities as well as vulnerabilities based upon threat capabilities. These identified critical vulnerabilities must be accounted for when developing COAs so reduce the operational risk associated with the mission.

Validity Testing for Critical Vulnerabilities

- Will exploitation of the critical vulnerability disable the associated critical requirement?
- Does the threat have the resources to effect the identified critical vulnerability?
- Can the critical vulnerability be effected by any other entity other than the threat?

5. Prioritize critical vulnerabilities. The CARVER methodology can be used to rank-order critical vulnerabilities, thereby prioritizing the operations to mitigate these vulnerabilities. See Appendix D, FM 34-36 for more information on CARVER.

- **Criticality.** An estimate of the critical vulnerability's importance to the friendly force. To what extent will the vulnerability influence the friendly force's ability to conduct or support operations.

- **Accessibility.** A determination of whether the critical vulnerability is accessible to the threat in time and place. In other words, does the threat have the resources and capability to accomplish destruction or neutralization of the critical vulnerability?
- **Recuperability.** An evaluation of how much effort, time, and resources the friendly force must expend if the critical vulnerability is successfully affected.
- **Vulnerability.** A determination of whether the threat has the means or capability to affect the critical vulnerability.
- **Effect.** A determination of the extent of the effect achieved if the critical vulnerability is successfully exploited.
- **Recognizability.** A determination if the critical vulnerability, once selected for exploitation, can be identified during the operation by the threat, and can be assessed for the impact of the exploitation.

Joint Fires Control Measures

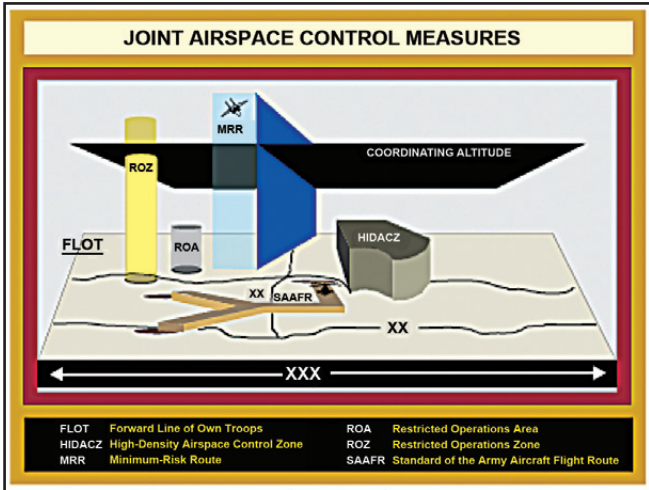


Figure 42. Joint Airspace Control Measures

Fire Coordination Measures

See JP 3-09.3.

Permissive

- Fire support coordination line (FSCL):** Air/surface weapons can employ beyond without coordination with affected commander (no fire effects inside FSCL without coordination). Air attacks inside FSCL are usually close air support; outside are usually air interdiction (theater dependent). However, doctrinally close air support and air interdiction can be on either side of the FSCL.

- **Free fire area:** Specific area where surface fire can fire without coordination.
- **Killbox:** Methodology defined as a 3-D area reference that enables timely, effective coordination and control and facilitates rapid attacks used to create a “digital FSCL.”

Restrictive

- **Restrictive fires line:** No fire inside line without coordination with the ground commander.
- **Restrictive fire area:** No fire in area without coordination.
- **No fire area:** No fire or fire effects.

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**Center for Army Lessons Learned
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Combat Studies Institute (CSI)

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Combined Arms Doctrine Directorate (CADD)

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Military Review (MR)

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