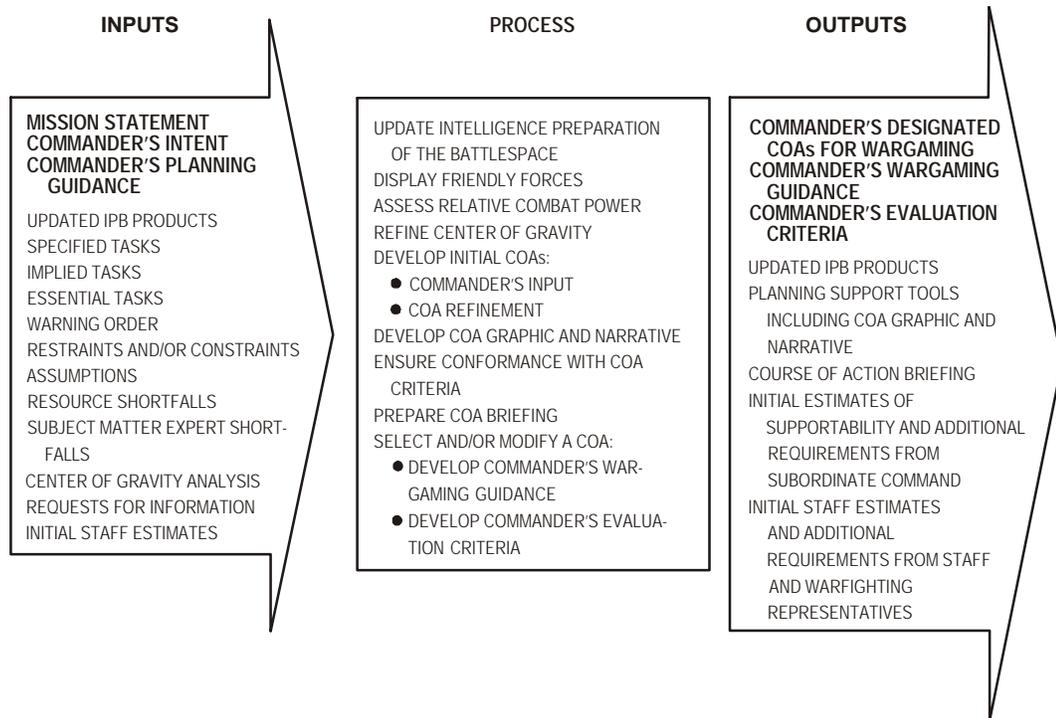


Chapter 3

Course of Action Development

“Decisionmaking requires both the situational awareness to recognize the essence of a given problem and the creative ability to devise a practical solution.”³

—MCDP 1, *Warfighting*



BOLD TEXT INDICATES MINIMUM REQUIREMENTS

A course of action (COA) is a broadly stated, potential solution to an assigned mission. The COA development step of the Marine Corps Planning Process is designed to generate options for follow-on wargaming and comparison that satisfy the mission, commander's intent, and guidance of the commander. During COA development, planners use the mission statement (which includes the higher headquarters commander's tasking and intent), commander's intent, and commander's planning guidance to develop courses of action.

Each prospective COA is examined to ensure that it is suitable, feasible, acceptable, distinguishable, and complete with respect to the current and anticipated situation, the mission, and the commander's intent.

Normally, the commander develops several COAs for follow-on wargaming and comparison. The commander may limit the number of COAs that the staff develops, especially if the staff is operating under severe time constraints.

3001. Inputs

Course of action development requires a mission statement, commander's intent, and commander's planning guidance before development can begin. Other planning tools useful in COA development include—

- Updated IPB products.
- Specified tasks.
- Implied tasks.
- Essential tasks.
- Warning order.
- Restraints and/or constraints.
- Assumptions.
- Resource shortfalls.
- Subject matter expert shortfalls.
- Centers of gravity analysis (friendly and enemy).
- Commander's critical information requirements.
- Requests for information.
- Initial staff estimates.

3002. Process

Planners develop broad COAs using METT-T, threat versus friendly capabilities assessment, and possible employment options. Using at least the minimum required inputs, planners consider two fundamental questions:

- What do I want to do?
- How do I want to do it?

Answering the question, "How do I want to do it?" is the essence of COA development. The following paragraphs address actions that assist COA development.

a. Update Intelligence Preparation of the Battlespace

Intelligence preparation of the battlespace enables planners to view the battlespace in terms of the threat and the environment. It helps planners determine how the enemy will react to proposed friendly COAs, the purpose of enemy actions, the most likely and most dangerous enemy COAs, and the type of friendly operations that the terrain and infrastructure will allow. It is critical that planners use IPB to answer the two fundamental questions—What do I want to do? How do I want to do it?—posed in COA development.

b. Display Friendly Forces

The graphic display of friendly forces allows planners to see the current and projected locations of friendly forces.

c. Assess Relative Combat Power

Relative combat power assessment provides planners with an understanding of friendly and threat force strengths and weaknesses relative to each other. While force ratios are important, the numerical comparison of personnel and major end items is just one factor that must be balanced with other factors such as weather, morale, level of training, and cultural orientation. The goals of relative combat power assessment are to identify threat weaknesses that can be exploited through asymmetric application of friendly strengths and identify friendly weaknesses that require protection from threat actions.

d. Refine Center of Gravity Analysis

Center of gravity analysis began during mission analysis. The commander and staff refine center of gravity analysis based on updated intelligence and IPB products, initial staff estimates, and input from the red cell. The refined centers of gravity and critical vulnerabilities are used in the development of the initial centers of gravity.

e. Develop Initial Courses of Action

Using the commander's planning guidance, as well as updated IPB products, the relative combat power assessment, and center of gravity analysis, planners begin developing possible ways that the force can accomplish the mission. This requires creativity, imagination, and unbiased and open-minded participants. The number and detail of the COAs to be developed depend on the time available for planning. Planners do not judge or eliminate potential COAs; all possibilities are recorded for potential use. It is critical that COAs provide the commander with a variety of employment options. Factors that impact COA variety include—

- Commander's planning guidance.
- Forms of maneuver.
- Type of attack.
- Designation of main effort.
- Requirement for supporting effort(s).
- Scheme of maneuver (land, air, or maritime).
- Sequential and simultaneous operations.
- Sequencing essential task accomplishment.
- Task organization.
- Use of reserves.
- Rules of engagement.

Planners use METT-T and an array of employment possibilities to design a broad plan of "how" they intend to accomplish the mission. How they intend to accomplish the mission becomes the course of action.

(1) Commander's Input to Initial Courses of Action. The commander reviews the initial COAs to see if they meet his commander's intent. This is normally an informal review that is conducted as rapidly as possible. This review ensures that valuable time is not spent developing COAs that will not be approved. The commander may direct modifications to the initial courses of action or that additional courses of action to be developed.

(2) Course of Action Refinement. Using the commander's planning guidance and input from the initial COAs, the staff further develops, expands, and refines the courses of action to be used in COA wargaming. The staff may also recommend to the commander how a course of action should be wargamed. This recommendation may include the war game method to be used and which enemy COAs should be wargamed. See appendix E for a discussion of wargaming.

f. Develop Course of Action Graphic and Narrative

The COA graphic and narrative clearly portray how the organization will accomplish the mission. Together, the graphic and narrative identify who (notional task organization), what (tasks), when, where, how, and why (intent). The COA graphic and narrative are essential and inseparable. Together, they help the commander, subordinate commanders, and the staff understand how the organization will accomplish its mission. The graphic clearly portrays the scheme of maneuver of the main and supporting efforts and critical maneuver and fire support control measures, such as objectives, boundaries, phase lines, and fire support coordination lines. The narrative provides the purpose and tasks of the main and supporting efforts, the reserve, and the sequencing of the operation. The COA graphic and narrative, when approved by the commander, form the basis for the concept of operations and operations overlay in the basic plan or order. See appendix D for more information.

g. Ensure Conformance with Course of Action Criteria

Once courses of action are developed, they should conform with the following criteria:

- Suitability: Does the COA accomplish the purpose and tasks? Does it comply with the commander's planning guidance?
- Feasibility: Does the COA accomplish the mission within the available time, space, and resources?

- **Acceptability:** Does the COA achieve an advantage that justifies the cost in resources?
- **Distinguishability:** Does the COA differ significantly from other COAs?
- **Completeness:** Does the COA include all tasks to be accomplished? Does it describe a complete mission (main and supporting efforts, reserve, and associated risks)?

h. Prepare Course of Action Brief

Developed courses of action, along with updated facts, assumptions, risk, etc., are briefed to the commander. Each course of action is briefed separately and is sufficiently developed to withstand the scrutiny of COA wargaming. Although the COA briefing is tailored to the needs of the commander and the time available, standardized briefing formats help focus the briefing and prevent omission of essential information. The COA briefing will include the COA graphic and narrative. It may also include—

- Updated intelligence estimate (terrain and weather analysis, threat evaluation).
- Possible enemy COAs (at a minimum the most likely and most dangerous, situation template[s]).
- Mission statement.
- Higher headquarters commander's intent.
- Own commander's intent.
- Commander's planning guidance.
- Relative combat power assessment.
- Rationale for each COA (why specific tactics were used, why selected control measures were used, why units are arrayed on the map as depicted).
- Updated facts and assumptions.
- Recommendations for wargaming (enemy COAs, evaluation criteria).

The COA briefing may also include initial estimates of supportability from subordinate commands and staff estimates. Estimates of supportability are provided by subordinate commanders. They evaluate the courses of action and

make recommendations on which course of action they can best support. Staff estimates are developed by the commander's staff and warfighting representatives. They summarize those significant aspects of the situation which influence the course of action, analyze the impact of all factors upon the course of action, and evaluate and determine how the means available can best support the course of action.

i. Select and/or Modify a Course of Action

Following the COA briefing, the commander may select or modify the courses of action to be evaluated during COA wargaming. He may also provide additional COA and wargaming guidance and express his desires concerning evaluation criteria.

(1) Develop Commander's Wargaming Guidance. The commander's wargaming guidance may include—

- A list of friendly courses of action to be wargamed against specific threat courses of action (e.g., COA 1 against the enemy's most likely, most dangerous, or most advantageous COA).
- The timeline for the phase or stage of the operation.
- A list of critical events (e.g., shifting the main effort).
- Level of detail (e.g., two levels down).

(2) Develop Commander's Evaluation Criteria. Before the staff can begin the next step—the COA war game—the commander must choose the evaluation criteria he will use to select the course of action that will become his concept of operations. The commander establishes evaluation criteria based on METT-T, judgment, and personal experience. Commanders may choose evaluation criteria related to the principles of war, such as mass or surprise. These evaluation criteria help focus the wargaming effort and provide the framework for data collection by the staff. The

commander uses the collected data during COA comparison and decision. Other criteria may include—

- Commander's intent and guidance.
- Limitation on casualties.
- Exploitation of enemy weaknesses and/or friendly strengths.
- Defeat of the threat centers of gravity.
- Degree of asymmetrical operations.
- Opportunity for maneuver.
- Concentration of combat power.
- Speed.
- Balance between mass and dispersion.
- Success despite terrain or weather restrictions.
- Risk.
- Phasing.
- Weighting the main effort.
- Logistical supportability.
- Political considerations.

- Force protection.
- Time available and timing of the operation.

3003. Outputs

Course of action development activities produce outputs that drive subsequent steps in the Marine Corps Planning Process. Required outputs of COA development are the commander's designated COAs for wargaming, commander's wargaming guidance, and commander's evaluation criteria. Additional outputs may include—

- Updated IPB products.
- Planning support tools including the COA graphic and narrative.
- Course of action briefing.
- Initial estimates of supportability and additional requirements from subordinate commands.
- Initial staff estimates and additional requirements from staff and warfighting function representatives.

Appendix D

Marine Corps Planning Process Tools

The commander and his staff use Marine Corps Planning Process tools to record, track, and analyze critical planning information relative to the battlespace, the enemy, and friendly actions. These tools, when used properly, assist the commander and the staff in building situational awareness, assist in the preparation of plans and orders, facilitate the commander’s decisionmaking process, and increase tempo. Marine Corps Planning Process tools must serve the needs of the commander and the requirements of the situation. Use of Marine Corps Planning Process tools consists of IPB products and planning support tools.

Table D-1 identifies commonly used templates, worksheets, and matrices and how each tool supports the Marine Corps Planning Process. The examples in this appendix are at the MEF level, but these tools may be employed at any level of command. The formats and uses of these tools may be modified as required.

Table D-1. Marine Corps Planning Process Tools.

OVERLAYS, TEMPLATES, MATRICES, WORKSHEETS, AND GRAPHICS AND NARRATIVES	MISSION ANALY- SIS	COA DEVEL- OPMENT	COA WAR GAME	COMPARI- SON AND DECISION	ORDERS DEVELOP- MENT	TRANSI- TION
Modified Combined Obstacle Overlay (see fig. D-1, page D-4)	X	X	X			
Doctrinal Template (see fig. D-2, page D-5)	X	X	X			
Situation Template (see fig. D-3, page D-6)	X	X	X			
Event Template (see fig. D-4, page D-7)	X	X	X			
Event Matrix (see table D-3, page D-8)	X	X	X			
Decision Support Template (see fig. D-5, page D-9)		X	X	X	X	X
Decision Support Matrix (see table D-4, page D-10)		X	X	X	X	X

Table D-1. Marine Corps Planning Process Tools—Continued.

OVERLAYS, TEMPLATES, MATRICES, WORKSHEETS, AND GRAPHICS AND NARRATIVES	MISSION ANALYSIS	COA DEVELOPMENT	COA WAR GAME	COMPARISON AND DECISION	ORDERS DEVELOPMENT	TRANSITION
Course of Action Graphic and Narrative (see fig. D-6, page D-11)		X	X	X	X	
Synchronization Matrix (see table D-5, page D-12)		X	X	X	X	X
COA War Game Worksheet (see table D-6, page D-14)			X	X	X	
Comparison and Decision Matrix with Comments (see table D-7, page D-15)				X		
Comparison and Decision Matrix with Sample Ranking (see table D-8, page D-15)				X		

1. IPB Products

Intelligence preparation of the battlespace is a systematic, continuous process of analyzing the threat and the environment in a specific geographic area. The IPB process helps the commander selectively apply and maximize his combat power at critical points in time and space. It determines the threat's likely COA, and it describes the environment in which the command is operating and the effects of the environment on the command's operations. Battlespace and weather evaluations assist in identifying obstacles, mobility corridors, and avenues of approach; predicting weather effects for numerous mobility options; and estimating sea conditions. Intelligence preparation of the battlespace includes templating with a threat doctrinal assessment to show potential threat objectives and activities. This templating continues from planning to execution, both to assess current operations and to support planning for future operations.

Intelligence preparation of the battlespace products graphically record and display the results of the IPB process. Table D-2 identifies the major IPB products and shows where they are integrated into the planning process. Note that both the G-2/S-2 and the G-3/S-3 are responsible for specific products. While IPB starts as an intelligence effort, it expands to an operational process and has logistic and communications applications that are not shown in the table. The following subparagraphs provide a short description of each product.

Table D-2. IPB Integration Throughout the Marine Corps Planning Process.

		MISSION ANALYSIS	COA DEVELOPMENT	COA WAR GAME	COA COMPARISON/DECISION	ORDERS DEVELOPMENT	TRANSITION
Modified Combined Obstacle Overlay	G-2/S-2 →						
Doctrinal Template	G-2/S-2 →						Continuous ¹
Situation Template	G-2/S-2 →						Continuous ¹
Pertinent Threat COAs	G-2/S-2 →						Continuous ¹
Refined and Prioritized Threat COAs and Event Templates and Matrices		G-2/S-2 →					Continuous ¹
Initial Decision Support Template			G-3/S-3/OPT →				Continuous ¹
Decision Support Template Matrix				G-3/S-3/OPT →			Continuous ¹
¹ Templates are updated throughout the operation.							

a. Modified Combined Obstacle Overlay

The modified combined obstacle overlay is a graphic of the battlespace's effects on military operations. It is normally based on a product depicting all obstacles to mobility, and it is modified as necessary. Modifications can include cross-country mobility classifications, objectives, avenues of approach and mobility corridors, likely obstacles, defensible battlespace, likely engagement areas, key terrain, and built-up areas and civil infrastructure.

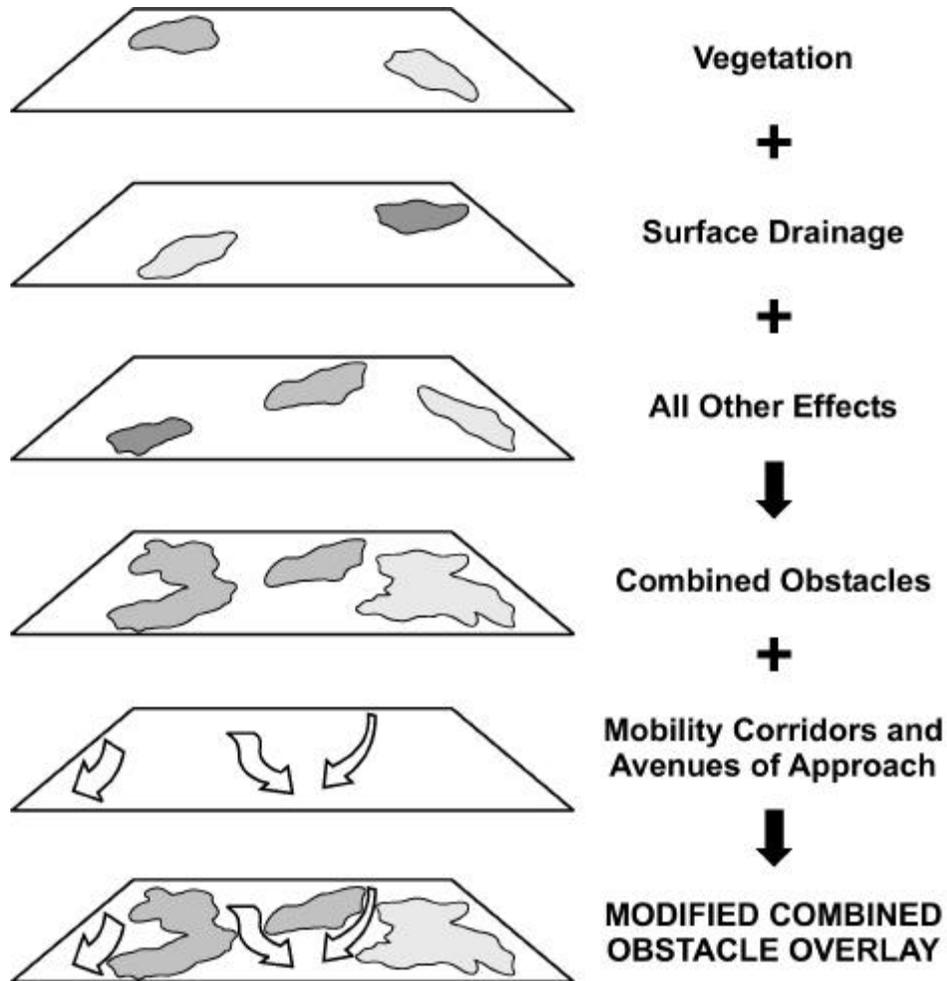


Figure D-1. Modified Combined Obstacle Overlay.

b. Doctrinal Template

Doctrinal templates are models based on postulated threat doctrine. They illustrate the disposition and activity of threat forces conducting a particular operation arrayed on ideal terrain. Doctrinal templates depict the enemy's nominal organization, frontages, depths, boundaries, and control measures for combat. They are usually scaled for use with a map background, and they are one part of a threat model. See figure D-2.

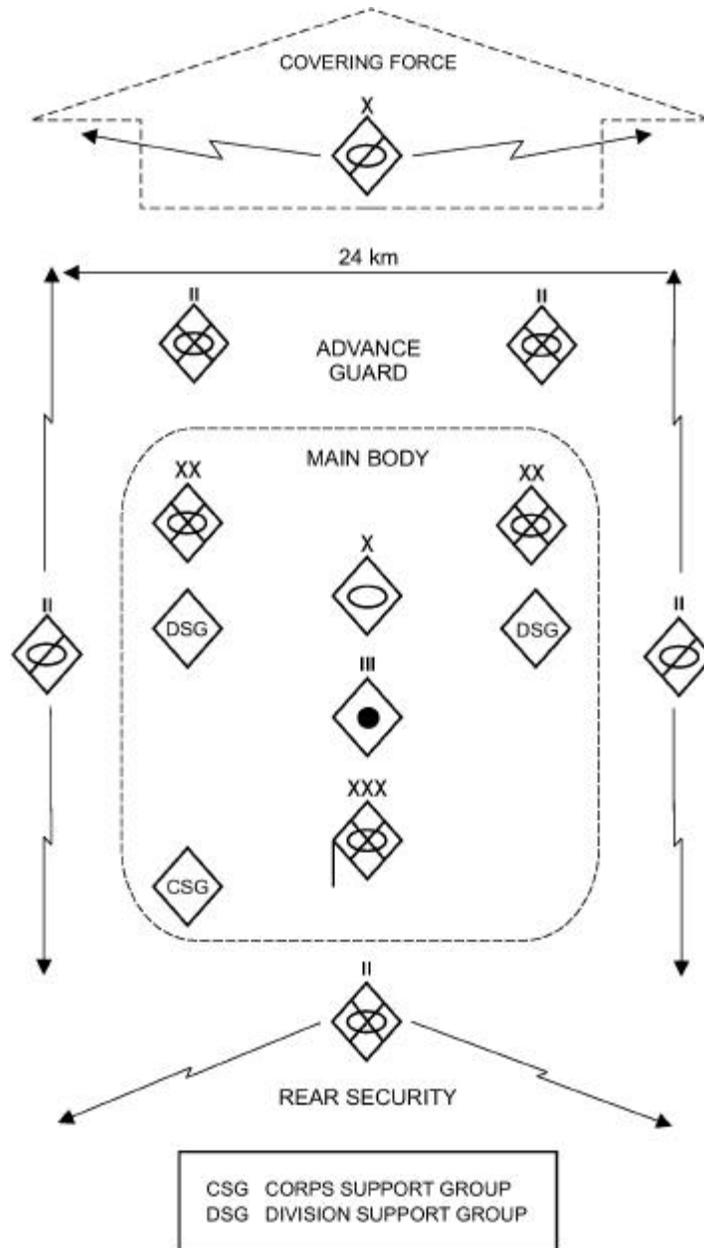


Figure D-2. Doctrinal Template.

c. Situation Template

A situation template is a doctrinal template that has been modified to depict threat dispositions based on the effects of the battlespace and the pursuit of a particular COA. This accounts for the threat's current situation with respect to the terrain, training and experience levels, logistic status, losses, and dispositions. Normally, the situation template depicts threat units two levels down and critical points in the COA. Situation templates are one part of a threat COA model. Models may contain more than one situation template to depict locations and formations at various times. See figure D-3.

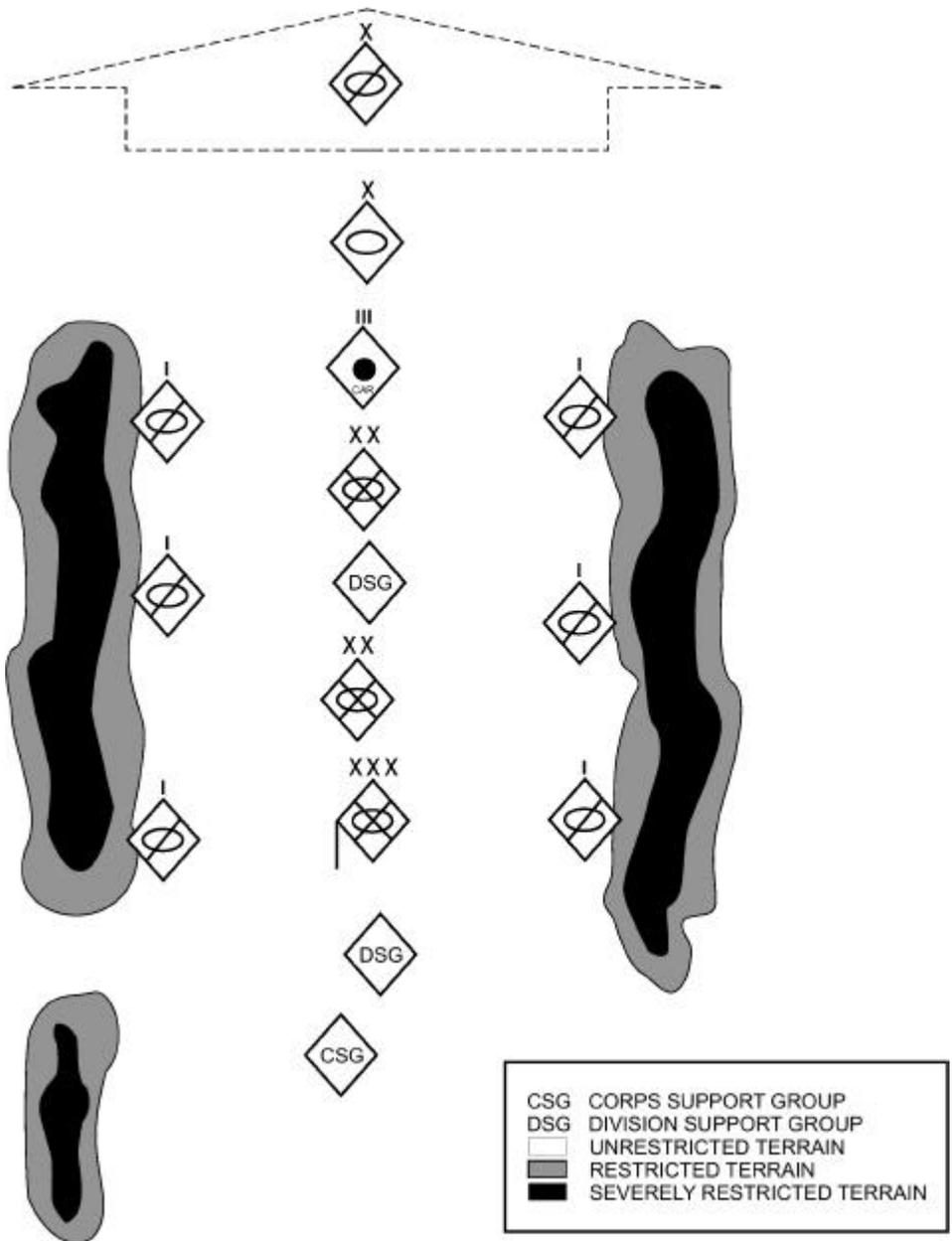


Figure D-3. Situation Template.

d. Event Template and Matrix

The event template is derived from the situation template and depicts the named areas of interest. Named areas of interest are areas where activity (or lack of activity) will indicate which COA the threat has adopted. Named areas of interest are described in FM 34-130/FMFRP 3-23-2, *Intelligence Preparation of the Battlefield*. Time phase lines indicate movement of forces and the expected flow of the operation, and they are also indicated on the event template. The event template is a guide for collection planning. The event matrix depicts types of activity expected in each named area of interest, when the named area of interest is expected to be active, and any additional information to aid in collection planning. See figure D-4 and table D-3.

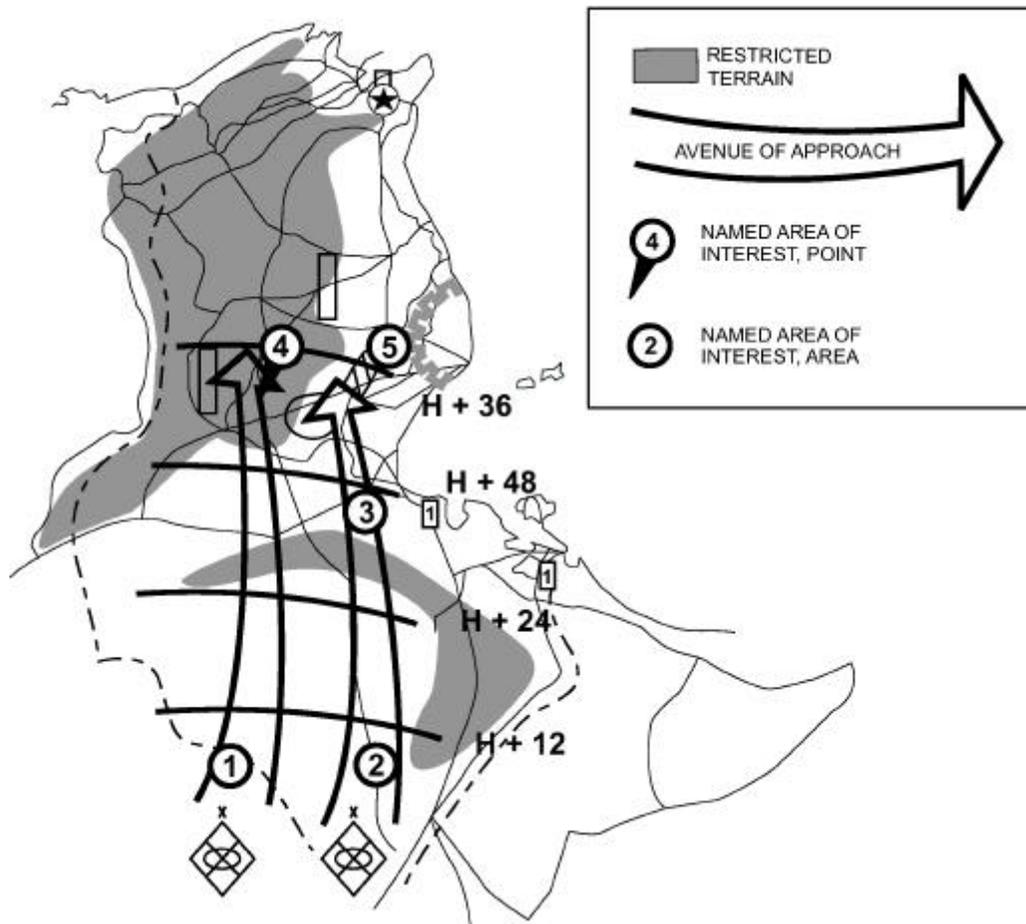


Figure D-4. Event Template.

Table D-3. Event Matrix.

NAMED AREA OF INTEREST	NO EARLIER THAN	NO LATER THAN	EVENT/INDICATOR
1	H + 6	H + 12	Brigade-sized forces moving north.
2	H + 6	H + 12	Brigade-sized forces moving north.
3	H + 12	H + 24	Orangeland forces enter Blue-land. Northern Operational Group driving on Jesara oil-fields.
4	H + 14	H + 24	Orangeland forces seize junction of Highways 7 and 8. Northern Operational Group turns northwest toward Jesara.
5	H + 18	H + 24	Orangeland forces enter Teal-ton. Northern Operational Group driving on Jesara.

e. Decision Support Template and Matrix

The decision support template is normally developed during COA wargaming. It is derived from doctrinal, situational, and event templates. The decision support template depicts decision points, time phase lines associated with movement of threat and friendly forces, the flow of the operation, and other information required to execute a specific friendly COA. The decision support template is a key planning tool for use during transition and execution. The decision support matrix provides a recap of expected events, decision points, and planned friendly actions in a narrative form. It shows where and when a decision must be taken if a specific action is to take place. It ties decision points to named areas of interest, targeted areas of interest, CCIRs, collection assets, and potential friendly response options. The decision support template and matrix may be refined as planning progresses after the war game. See figure D-5 and table D-4.

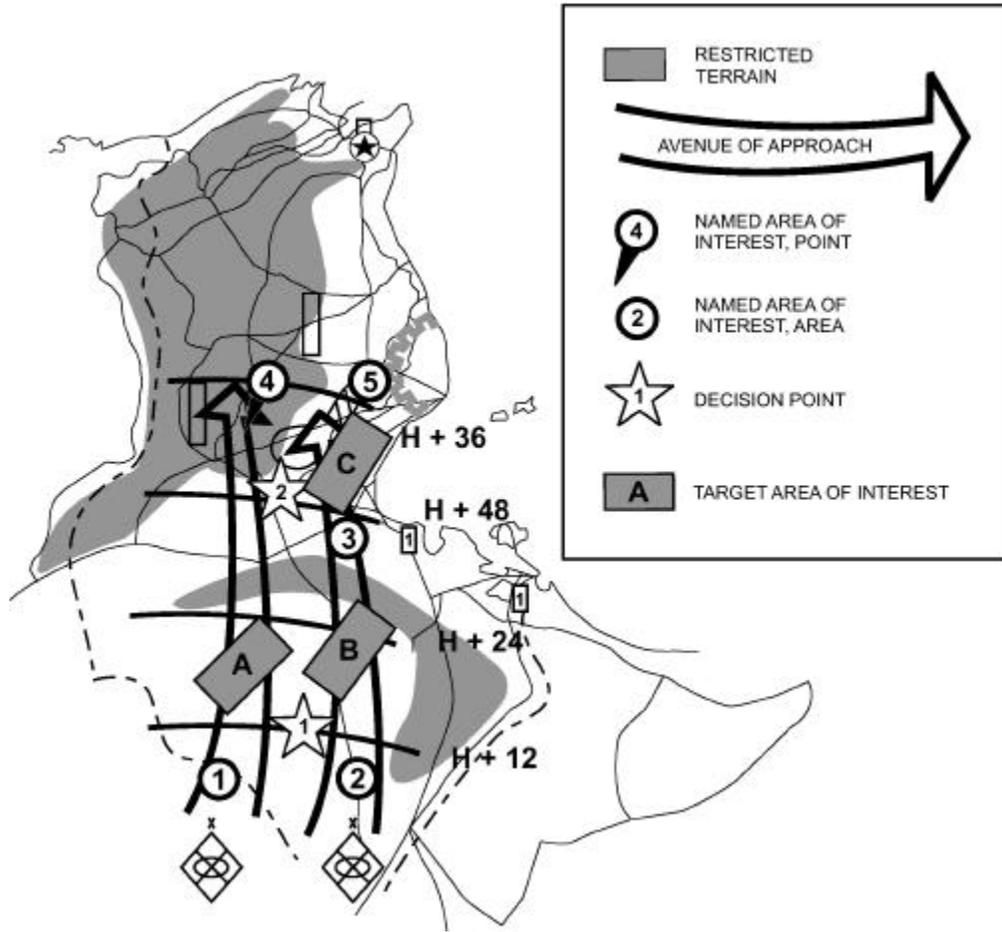


Figure D-5. Decision Support Template.

Table D-4. Decision Support Matrix.

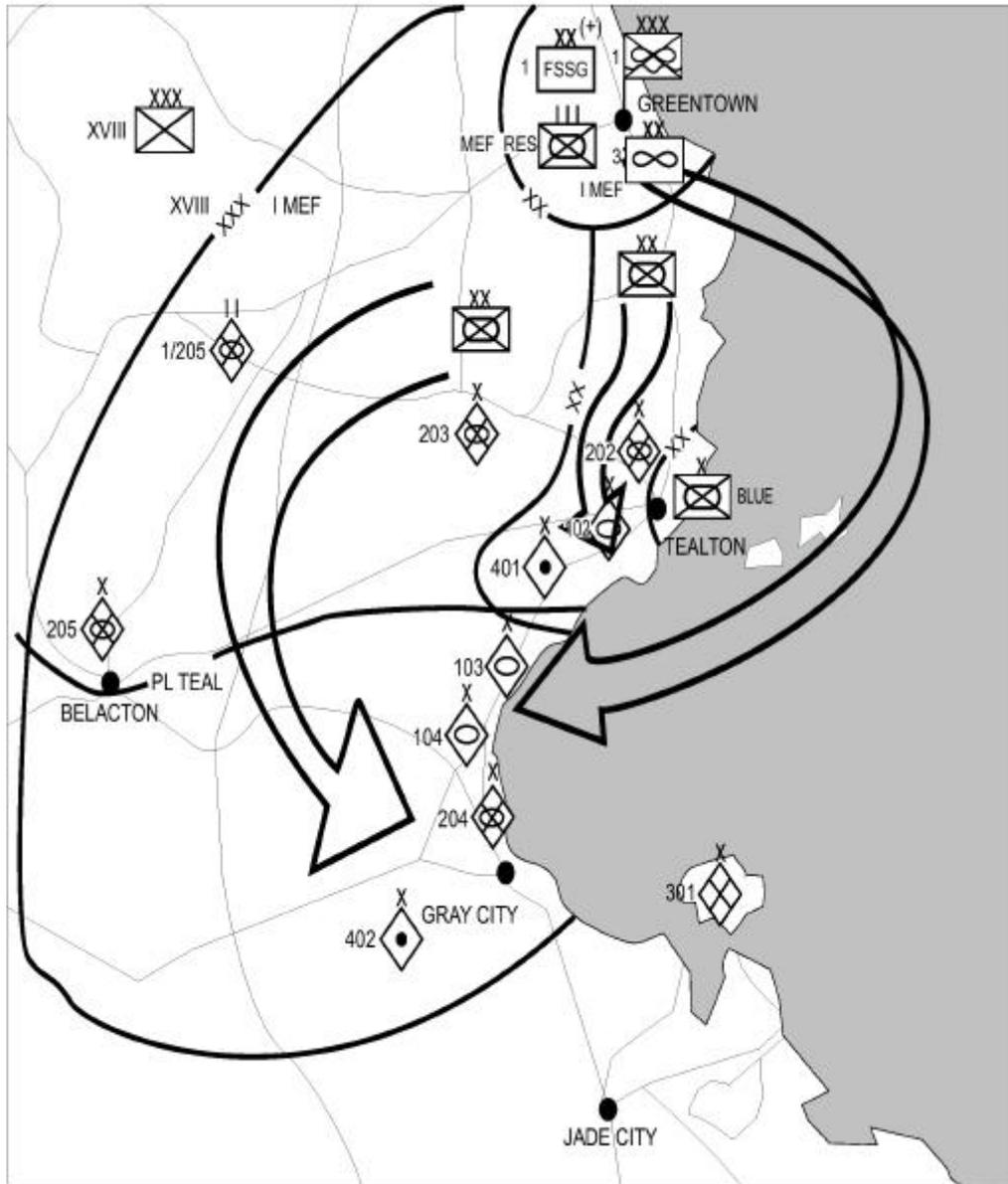
EVENT NUMBER	EVENT	NO EARLIER THAN/NO LATER THAN	NAMED AREA OF INTEREST	TARGETS AREAS OF INTEREST	FRIENDLY ACTION
1	Orangeland forces enter Blueland, Northern Operational Group division driving on Tealton.	H + 14/H + 24	1, 2	A, B	Covering force withdraws; Marine aircraft wing (MAW) conducts interdiction west of phase line TEAL.
2	Orangeland forces seize junction of Highways 7 and 8. Northern Operational Group turns northwest on Jesara.	H + 18/H + 24	3, 4	C	1 st and 3 ^d Marine Divisions (MARDIVs) execute branch plan HAWK.

2. Planning Support Tools

Planning support tools support the commander's and staff's planning effort by recording and displaying critical planning information on the COAs and the commander's decisions and guidance. They aid the commander in decisionmaking by displaying critical information in a useful format. Planning support tools include the COA graphic and narrative, synchronization matrix, COA war game worksheets, and the comparison and decision matrix.

a. Course of Action Graphic and Narrative

The COA graphic and narrative are a visual depiction and written description of a COA. They clearly portray how the organization will accomplish the mission, identifying the who (notional task organization), what (tasks), when, where, how, and why (intent). It should include the tasks and purpose of the main effort, supporting efforts, and reserve. It also includes maneuver control measures, such as boundaries. The COA narrative and graphic, when approved by the commander, forms the basis for the concept of operations and operations overlay in the OPLAN or OPORD. See figure D-6.



A MARDIV, as the main effort, conducts an envelopment to defeat enemy forces north of Gray City. A MARDIV(-)(Rein); as a supporting effort, it attacks in zone to fix and defeat enemy forces west of Tealton and conducts a link up with Blueland forces in Tealton. The MAW, as a supporting effort, isolates the MEF battlespace from enemy reinforcement from the south, while focusing efforts against the 102^d and 103^d Armored Brigades and the 401st and 402^d Artillery Regiments. The supporting MARDIV(-)(Rein) designates one infantry regiment as the MEF reserve and one battalion as the MEF tactical combat force. This phase concludes with enemy forces defeated north of Gray City.

Figure D-6. Course of Action Graphic and Narrative.

b. Synchronization Matrix

A synchronization matrix is a planning support tool designed to integrate the efforts of the force across the warfighting functions and to record the results of the COA war game. It depicts, over time, the diverse actions of the entire force that are necessary to execute the COA. When completed, it provides the basis for an execution matrix or Annex X, Execution Checklist, to the OPLAN or OPORD. See table D-5.

Table D-5. Synchronization Matrix.

TIME/EVENT		PRE D-DAY	D-DAY – D + 2	D + 3 – D + 4	D + 5 – D + 6
Enemy Action					
Decision Points				1	2
Intelligence		MEF conducts reconnaissance in zone.			
	Named area of interest		1, 2	3, 4	5
Force Protection	Survivability	Establish combat air patrol over MEF area of operation.			
	NBC		Priority of support to aviation combat element (ACE).		

Table D-5. Synchronization Matrix—Continued.

TIME/EVENT		PRE D-DAY	D-DAY – D + 2	D + 3 – D + 4	D + 5 – D + 6
Maneuver	Deep		MAW attacks Northern Operational Group armor and artillery, command and control (C2), and combat service support (CSS) facilities.	MAW attacks 102, 103, 401, and 402.	
	Security		Covering forces conduct security operations		
	Close		1 st and 3 ^d MARDIVs complete rupture of enemy defenses.	1 st MARDIV attacks enemy forces south of phase line TEAL. 3 ^d MARDIV conducts link up with Blue-land forces.	1 st MARDIV and MAW defeat enemy forces south of phase line TEAL. The 3 ^d MARDIV conducts a link up with Special Purpose MAGTF-B (SPMAGTF-B).
	Reserve	3 ^d MARDIV— one regiment to MEF reserve.			
	Rear	3 ^d MARDIV— one battalion to tactical combat force.			
	Mobility	Priority of main supply route development in main effort zone.			
	Counter-mobility			Complete execution of Barrier Plan South.	
	Fires	Lethal			
Nonlethal				Fire expendable jammer to disrupt Northern Operational Group attack.	
Targeted areas of interest				A	B

Table D-5. Synchronization Matrix—Continued.

TIME/EVENT		PRE D-DAY	D-DAY – D + 2	D + 3 – D + 4	D + 5 – D + 6
Logistics	Sustainment	Logistic Throughput Plan.			
	Transport	Movement Control Plan.			
C2				MEF assumes tactical control of Blueland Forces in the vicinity of Tealton.	
	Information warfare and C2 warfare	Build enemy electronic order of battle nodal analysis.	Attack Northern Operational Group C2 nodes.		

c. Course of Action War Game Worksheet

The COA war game worksheet is used during the war game to record friendly action, enemy reaction, and friendly counter-action involved in each COA. It is also used to capture critical information that may be identified during the war game, such as potential CCIRs, decision points, and named areas of interest. See table D-6.

Table D-6. Course of Action War Game Worksheet.

COA 1, STAGE A; BOX: MOST LIKELY							
ACTION	REACTION	COUNTER ACTION	ASSETS	APPROX. TIME	DECISION POINT (DP)	CCIR	REMARKS
MARDIV envelops Orangeland forces north of Gray City.	102 ^d and 103 ^d Armored Brigades counter-attack.	MAW interdicts moving enemy forces. MARDIV engages and destroys enemy armor at long range.	Surge MAW attack assets to interdict enemy armor.	D + 3	DP 3	Will 102 ^d and 103 ^d Armored Brigades move west to counter-attack.	MARDIV has priority of close air support.

d. COA Comparison and Decision Matrix

The COA comparison and decision matrix is a planning support tool designed to assist the commander and staff in recording the advantages and disadvantages of each COA as it is compared against the commander’s evaluation criteria. It may reflect various techniques for weighing the COA against the commander’s evaluation criteria, as shown below in tables D-7 and D-8. The commander may use the COA comparison and decision matrix to aid his decisionmaking process during the selection of a COA for execution.

Table D-7. Comparison and Decision Matrix with Comments.

COMMANDER'S EVALUATION CRITERIA	COA 1	COA 2	COA 3
Force Protection	Moderate casualties.	High casualties. Increased nuclear, biological, and chemical threat.	Light casualties.
Tempo, Surprise		Achieving surprise unlikely.	High chance of achieving surprise.
Shapes the Battlespace	ACE interdiction of enemy lines of communication limits enemy's ability to reinforce.		Deception likely to be effective.
Asymmetrical Operations	ACE operates against second echelon armor forces. Ground combat element (GCE) mechanized forces attack enemy dismounted infantry.	MEF mechanized forces against enemy mechanized forces.	
Maneuver	Frontal attack followed by penetration.	Frontal attack.	Turning movement.
Decisive Actions	ACE disrupts deployment of second echelon forces through interdiction.		Isolate first echelon forces. Disrupt lines of communication, logistics facilities, and assembly areas.
Simplicity		Simplest.	Demanding command and coordination requirements.

Table D-8. Comparison and Decision Matrix with Sample Ranking.

COMMANDER'S EVALUATION CRITERIA	COA 1	COA 2	COA 3
Intelligence	3	2	1
Force Protection	2	1	3
Tempo, Surprise	1	2	3
Focus, Speed, Concentration	3	2	1
Shapes the Battlespace	3	2	1
Asymmetrical Operations and Combined Arms	1	2	3
Maneuver	2	1	3
Decisive Actions	3	2	1
Simplicity	2	3	1
Friendly Casualties	2	3	1
TOTAL	22	20	18

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