Canadian Army Command and Staff College

The Operational Planning Process: OPP Handbook

CACSC-PUB-500
April 2018

Canadian Army Command and Staff College
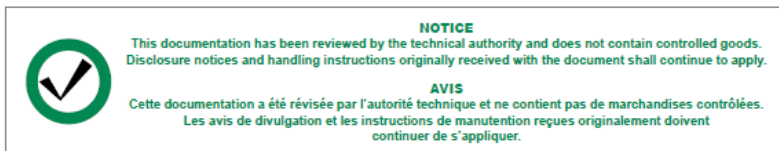
Warning

Although not classified, this publication, or any part of it, may be exempt from disclosure to the public under the Access to Information Act. All elements of information contained herein must be closely scrutinized to ascertain whether or not the publication or any part of it may be released.

NOTICE
This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document shall continue to apply.

AVIS
Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

Publication

CACSC-PUB-500, The Operational Planning Process: OPP Handbook
CCEMAC-PUB-500, Le processus de planification opérationnelle : Manuel du PPO (version française)

Issued under the authority of the Commandant, Canadian Army Command and Staff College.

OPI: CACSC Black Robe

Design and Production

Canadian Army Command and Staff College
Fort Frontenac, 317 Ontario Street
Kingston, Ontario, Canada K7K 7B7

The electronic version of this publication is accessible via:

- DWAN - http://cadtc.kingston.mil.ca/soh/
- Internet - http://armyapp.forces.gc.ca/SOH/index.html

Suggested amendments should be forwarded through normal channels to the CACSC, Black Robe and IMO.

Printed in Canada

Table of Contents

Introduction

The CF Operational Planning Process is a coordinated process to determine the best method of accomplishing assigned operational tasks and to plan possible future tasks. Planning may be inhibited by inadequate information, insufficient time and limited resources. The planning process is designed to optimize logical, analytical steps of decision making in conditions of uncertainty and ambiguity.

CFJP 5-0, The CF Operational Planning Process

Aim

The aim of this handbook is to provide Army planners with a handy guide to the Operational Planning Process (OPP) as it is applied at the tactical level.

About the OPP

The OPP is the standard method for planning major operations in the Canadian Armed Forces (CAF). It is a structured process, following a logical progression through:

- The identification and analysis of a problem;
- The development of options for solutions to the problem; and
- The translation of conceptual options into a plan that can be executed by commanders.

"Structured" does not mean "rigid": flexibility and adaptability are two of the inherent strengths of the OPP. The OPP should be thought of as a "toolbox", not as a "straitjacket". While the OPP is flexible enough to adapt itself to each service user's needs, there is no such thing as "Army OPP". There is one authoritative CF reference for the OPP: "*CFJP 5-0, The Canadian Forces Operational Planning Process*".

The rationale underlying the OPP is broadly shared by Canada's allies: the five stages of the OPP defined in *CFJP 5-0* and explained in this précis are also found, to one degree or another, in Allied planning processes such as the North Atlantic Treaty Organization's (NATO) Comprehensive Operations Planning Directive (COPD), the US Army's Military Decision Making Process (MDMP), the US Marine Corps' Planning Process (MCPP), the British Army's Tactical Estimate (TE), the French Méthode d'élaboration d'une décision opérationnelle (MEDO), and other NATO nations' planning process. The OPP need not be an exclusively military activity: this is particularly true when considering objectives of a non-military or mixed nature. Recent Canadian operational experience has shown that non-military partners can also contribute to the OPP, bringing their valuable expertise to the process. Finally, the

principles and processes of the OPP are not restricted to the resolution of combat-related problems: they are equally adaptable to operations in support of civil authorities in Canada or even to purely non-military situations. This handbook is solidly based in Canadian doctrine but synthesizes material from a range of sources.

Handbook Structure

This handbook is structured around the five stages of the OPP, with additional supporting material presented in other chapters. Each of the five stages is explained in the following manner:

- An explanation of how the stage fits into the OPP;
- Description of the components or sub-activities of the stage;
- The products of analysis and decision-making generated at that stage;
- The role of the Commander (Comd); and
- The function of the staff.

References

While there is no Army publication dedicated to the OPP, several current publications provide related or supporting information, which planners may find useful to consult.

Canadian References

Canadian Forces Joint Publication:

- B-GJ-005-200/FP-001, CFJP 2-0 Intelligence
- B-GJ-025-201/FP-101, CFJP 2-1.1 Intelligence Preparation of the Environment
- B-GJ-005-309/FP-001, CFJP 3-9 Targeting
- B-GJ-005-500/FP-000, CFJP 5-0 The CF Operational Planning Process

Canadian Army Publications:

- B-GL-300-001/FP-001, Land Operations (Chapters 4-7)
- B-GL-300-003/FP-001, Command in Land Operations (Chapter 4)
- B-GL-331-001/FP-001, Command Support in Land Operations (Chapter 6)
- B-GL-331-002/FP-001, Staff Duties for Land Operations (Chapters 4-6)
- B-GL-357-001/FP-001, Intelligence Field Manual (Chapter 2)

Foreign References

NATO Publications:

- NATO AJP-5 Allied Joint Doctrine for Operational-Level Planning

British Army Publications:

- SOHB, Staff Officers' Handbook
- 3rd Division, Wargaming Aide-Memoire

US Army and Marine Corps Publications:

- ADP 2-0, Intelligence
- ADRP 2-0, Intelligence
- ADP 5-0, The Operations Process
- ADRP 5-0, The Operations Process
- FM 2-19.4, Brigade Combat Team Intelligence Techniques
- MCWP 5-10, Marine Corps Planning Process

Page intentionally left blank

Overview of the OPP

A Common Starting Point

As an Army planner learning to use the OPP for the first time, you are actually beginning from a position of strength. Your previous training in the formal estimate and battle procedure provides you with a familiar start point to begin practicing the OPP. This is because the OPP is essentially nothing more than an estimate carried out by a group, led by the Commander. Although the OPP typically deals with larger and more complex problems than those covered by a tactical estimate, the difference is only one of degree. If you understand the stages of the estimate process, and understand where planning fits into battle procedure, you are ready to begin learning about the OPP. You will quickly recognize that some activities found in the estimate, such as Mission Analysis (MA) and Course of Action (COA) Development, are very similar in the OPP.

A Logical and Intuitive Process

The OPP is both logical and intuitive. It's logical because it proceeds from the results of one rational, fact-based deductive process to the next. (Another similarity to the estimate process). It's intuitive, because it reflects a common-sense approach to solving a complex problem. The five stages of the OPP follow each other in a manner that is easy to recognize in any everyday problem-solving situation:

- You become aware that a problem exists, and that you must take action to resolve it (*OPP Stage One – Initiation*);
- You analyze the nature and probable causes of the problem, the conditions under which you must develop any solution to the problem, and identify the probable nature and content of a solution. At the same time, you formulate an idea of your desired "end state": the way things must look when you are finished. (*OPP Stage Two – Orientation*);
- You develop possible options to implement the solution, compare them against the problem and the requirements for a solution. Finally, you rate the solutions against each other, and then choose the solution you think will work best (*OPP Stage Three – Course of Action Development*);
- You determine exactly how you will implement the solution you have chosen: the stages you will follow; what resources and people you require; how much time you need, etc. (*OPP Stage Four – Plan Development*); and
- You compare the progress of your chosen solution against the reality of the situation, and ask: "is this solution working" and "do I need to change my plan?" (*OPP Stage Five – Plan Review*).

The Commander in the OPP

The Commander drives the OPP. The staff serve the Commander by executing the detailed analysis, planning and coordination required to make the OPP progress, but they do it in accordance with their Commander's guidance. Too often the OPP is imagined to be a staff-only process that somehow magically occurs in a "command vacuum", with the Commander acting mainly as a passive recipient of briefings. The OPP belongs to the Commander: the Chief of Staff (COS) and G5 manage it on his behalf. The primary tool for the Commander to drive the OPP is the expression of his intent, which is itself shaped by his own understanding of his higher commanders' intent. ***It is imperative that all planners know and understand their Commander's intent before they begin planning.*** The Commander may abbreviate or modify the OPP to suit his planning requirements: the staff will learn to adapt quickly to these changes.

The OPP as a Cycle

You will frequently hear the term "OPP cycle" being used. This term is well chosen, because it describes one of the important aspects and inherent strengths of the OPP: it runs as a never-ending evolution. The production of a plan, and its ultimate execution through orders, provides the start point or initiation for a follow-on OPP cycle to deal with changes, deficiencies or opportunities that will arise.

An important note for planners: never "fall in love with your plan": even though it may have seemed like a very good plan when you wrote it, it may have to be changed radically at short notice.

THE OPP CYCLE

INITIATION

PLAN REVIEW

ORIENTATION

PLAN DEVELOPMENT

COA DEVELOPMENT
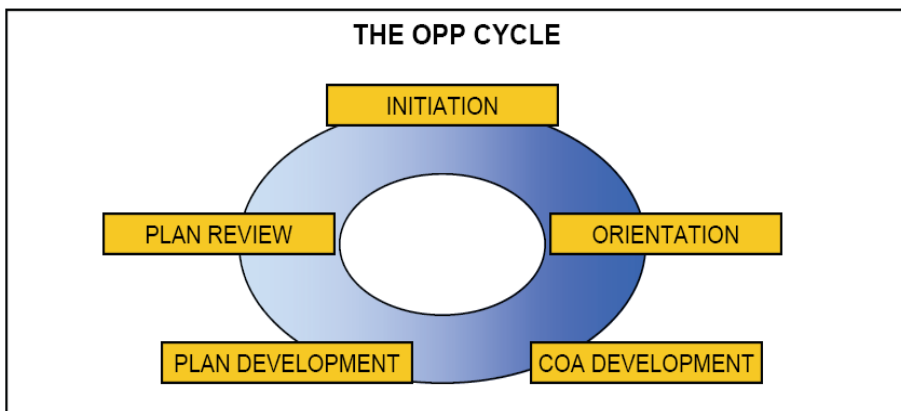
OPP Poster
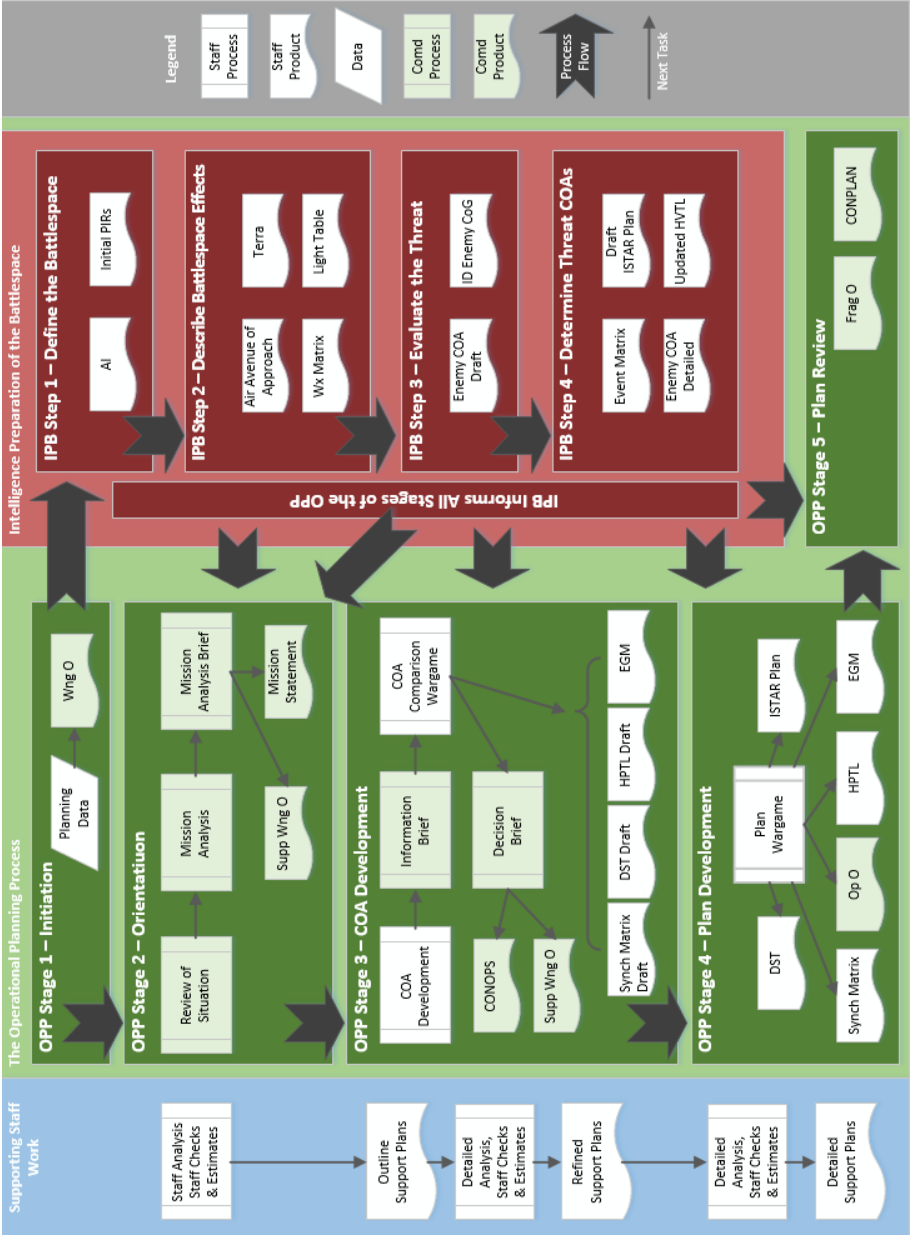
Stages of the OPP (Five Questions)

Each stage of the OPP poses (and then answers) a generic question about the problem and its solution. Keeping this question in mind will help you understand the purpose of each stage.

Stage One: Initiation

"What is happening?"

Initiation can be imagined as an "alarm bell" or "lightning bolt" that triggers the OPP. Initiation is the collective realization that the situation has changed sufficiently to generate some kind of operational problem requiring analysis and resolution. This analysis and resolution will be conducted through the following stages of the OPP. There are several means by which Initiation can occur: these are discussed in "*OPP Stage One – Initiation*". An important note is that in order for Initiation to be timely, planners must always be aware of what is developing in the operational situation; the OPP does not stop with the issue of orders.

Stage Two: Orientation

"Do I understand the problem and the requirements for a solution?"

Orientation might also be called "Understanding" because shared understanding must be the primary product of Stage Two. If the OPP is envisioned as a human form, then Orientation provides the "head" where analysis and comprehension take place before anything else can occur. Attempting a solution without understanding the nature of the problem, or the required end state, is not only ineffective but might also be a lethal mistake. There are several activities that take place during Orientation, the core activity being Mission Analysis, but the aim of all effort at this point in the OPP must be to establish a mutually shared understanding of several things:

- What is the nature of the problem facing us?
- What is causing the problem? (Answering this is the first stage to developing a solution)
- What are the factors, conditions and limitations that will affect the situation as we try to solve the problem?
- What does any solution have to achieve? (What will success look like?)
- What, exactly, is expected of us, and where will our actions fit into the bigger picture around us? (Normally expressed as a Mission Statement)

An important note here is that relying on a shallow "checklist mentality" approach to Orientation is unlikely to produce true understanding, particularly in a complex operational situation. A number of methods have been developed for use in analyzing and understanding the nature both of the problem and of a solution: these are discussed in "*OPP Stage Two – Orientation*".

Stage Three: Course of Action Development

"What options are there for solving the problem, and which option is best?"

Stage Three flows naturally from the understanding you developed in Stage Two: Orientation. Once you understand the nature of the problem, and the requirements any solution must meet, you are ready to start developing different options to produce that solution. Each conceptual option for a solution is known as a Course of Action (COA); a clearly articulated theory that provides the essential elements for a solution, but is not as well-developed as a plan must be. The COA will be compared against the potential actions of the enemy, against the limitations and requirements affecting a solution, and finally against each other to determine which COA should be selected to become a plan. It is in the "*OPP Stage Three – Course of Action Development*" that the wargame becomes a powerful planning tool for visualization and assessment of COAs.

Stage Four: Plan Development

"How do I translate the chosen solution into a plan for action?"

Stage Four begins when the Commander decides which of the proposed COA will be developed into a plan for execution. The conceptual framework provided by the selected COA is filled out with the comprehensive details needed to make it work in reality. While Stages One through Three require close involvement by the Commander, Plan Development relies heavily on staff team work: detailed analysis, staff estimates, and the finalization of the various constituent plans such as Fire Support (Fire Sp), Engineer (Engr) and Information Operations (IO). The Wargame is important in Stage Four both to coordinate the many "moving parts" of the main plan, and to develop the contingency plans that arise from it. These contingency plans are called "Branches and Sequels" and are explained in the "*OPP Stage Four – Plan Development*".

Stage Five: Plan Review

"Is my plan still relevant?"

Stage Five is a reminder that the OPP never stops: every plan, whether for a current operation today or for a contingency plan in the future, must be constantly compared

against the changing reality of the problem it was designed to solve. The old saying "...a plan never survives first contact with the enemy…" is very true in the OPP. Once an OPP cycle has produced a plan, the Commander and the staff must monitor its progress, decide if it is still relevant and effective, and make the changes required. These changes could be minor, such as an adjustment of timings, or major such as the triggering of a new OPP cycle to generate an entirely new plan. This is described in the "*OPP Stage Five – Plan Review*".

Land Command Support System and the OPP

The Tactical Command and Control Information System (TacC2IS) Suite of the Land Command Support System (LCSS) is used to support the OPP within the Headquarters (HQ).

At the present time the primary roles of the Battleview Command and Control (C2) tool in the OPP are:

- To support terrain analysis via the FLOCARK function;
- To provide graphic support for COA presentations;
- To provide graphic support for current Friendly disposition updates; and
- To support the wargame by providing a digital representation of the battlespace and the ability to capture and share results of each turn.

The Tactical Information Management System (TIMS) is used to:

- To manage Battle Rhythm in the HQ;
- To enable collaborative document creation and review;
- To provide versioning control of documents; and
- To provide document distribution within the HQ and to external Units.

As the capabilities of the TacC2IS Suite are further developed, it will to provide a greater range of planning support capabilities directly available to the individual planners. Planners are encouraged to creatively develop better ways to integrate this system into the OPP.

Overview of the IPB and the OPP

The Purpose of IPB

The primary purpose of Intelligence Preparation of the Battlespace (IPB) is to provide the Commander with an ongoing assessment of the enemy's capabilities and vulnerabilities in order to determine possible Enemy Courses of Action (ECOAs) in any given situation. Note the word "ongoing": IPB is a cycle that never ceases to inform the OPP. At the same time, it does not focus only on the adversary: IPB examines the entire operational environment providing planning inputs to all planning staffs. By projecting possible ECOAs, IPB enables the Commander to develop effective Friendly Courses of Action (FCOAs), and to make critical decisions about his manoeuvre and use of his assets. IPB is a complex subject that requires separate study in its own right: this document offers only a précis to assist planners. Although the intelligence cycle is always active, for the purposes of this study we will consider that IPB is triggered early in the initiation stage of the OPP.

Intelligence Preparation of the Battlespace or Battlefield? Is there a difference? Although some might argue that there is, stating that one is more inclusive than another or that battlespace is used in the context of the joint operations. For the purposes of this document, battlefield and battlespace will be used interchangeably. The Intelligence Preparation of the Environment (IPOE) is adapted to consider "human terrain" considerations.

Components of IPB

IPB examines the enemy, the weather conditions (including light) and the terrain as it affects operations (friendly and adversary). Currently, this examination is coming increasingly to include the "human terrain" or civil considerations in the Area of Operations (AO) and Area of Interest (AI). This refers to all the aspects of human existence that are likely to have some operational impact. IPB conducts this examination in four steps (which run in a cyclic manner):

- Step 1: Define the Battlespace Environment;
- Step 2: Describe the Battlespace Effects (use the FLOCARK methodology);
- Step 3: Evaluate the Adversary; and
- Step 4: Determine Adversary COA.

Steps of the IPB

Although the diagram depicts a cycle, there is a necessary order in IPB. Step 1 must be completed before proceeding to Steps 2 and 3. Steps 2 and 3 may be completed in sequence, or concurrently. All three steps must be completed before Step 4 can begin.

How (using Effects) insurgents leverage the population (Environment) to accomplish the MLECOA/MDECOA

Virtualize the specific people, leaders, culture, social and economic aspects within the AO/AI

ASCOPE

4 Determine Threat COAs

1 Define the Operational Environment

3 Evaluate the Threat

2 Describe the Enviromental Effects

Assess the insurgent's strategy and forecast their MLECOA/MDECOA (add to the IPOE Step 1-2 overlays IOT visualize the threat's Canmpain Plan and how they gain passive/ active popular support)

Visualize the 3x Root Causes for those groups depicted in Step 1

ASCOPE Methodology

The IPB process is being adapted on an ongoing basis to deal with asymmetric threats which can be supported by the Host Nation (HN) to form part of the IPOE to define the "human terrain" considerations using the ASCOPE Methodology:

- **A**rea;
- **S**tructures;
- **C**apabilities;
- **O**rganizations;
- **P**eople; and
- **E**vents.

Area

Address terrain analysis from a population perspective:

- Tribal boundaries;
- Religious boundaries;
- Political boundaries;
- Social enclaves;
- Criminal enclave;
- Agricultural, mining, labour regions;
- Trade routes;
- Government centers;
- Police centers;
- Military centres; and
- Temporary settlements for internally displaced persons (IDP).

> **NOTE**
>
> Operational boundaries are not restricted to identifiable physical features

Structures

Consider how a structure's location, function and capabilities can support or hinder operations. Consider traditional high-payoff targets:

- Bridges;
- Communications towers; and
- Power plants and dams.

Consider practical sites:

- Jails;
- Warehouses;
- Toxic industrial materials; and
- Television and radio stations, print plants, etc.

Consider significant international and local sites:

- Churches;
- Mosques;
- National libraries;
- Hospitals;
- Cemeteries;
- Historical ruins; and
- Religious sites, cultural areas and other protected sites.

> **NOTE**
> Host nation can best provide likely effect of Coalition operations (engagements) on these structures

Capabilities

A useful tool is SWEAT-MS when assessing capabilities:

- **S**ewer – Local government (Mayor and council);
- **W**ater – Tribal leader (for centuries, tribal leader have controlled/protected wells);
- **E**lectricity – Town engineer;
- **A**cademic – Government and Religious leaders;
- **T**rash – Private business (local merchants);
- **M**edical – Tribal doctors; and
- **S**ecurity – Police, tribal militias.

Organizations

Consider all non-military groups or institutions in the AO (Cultural/Social/Religious):

- Tribes;
- Political Wings of Insurgent Groups;
- Provincial Reconstruction Team (PRT);
- Non-government organizations (NGOs) and Other Government Agencies (OGAs);
- Private Venture Agencies (PVA)
- Private Sector Companies;
- International Red Cross Committee (IRCC);
- Contractors; and
- Media (TV, Radio, Newspapers, Periodical, Internet, etc.).

People

All non-military personnel that military forces encounter in the AO:

- City council leaders;
- Imams/clerics;
- Professionals, middle merchants;
- Displaced persons or "squatters";
- Sources and contacts;
- Sheikhs, Tribal Leaders;
- Labourers; and
- Farmers.

IPB

> **NOTE**
> Include how these people communicate. This is important with regard to information operations messaging, both friendly and enemy

Events

Events are routine, cyclical, planned or spontaneous activities that significantly affect organizations, people and military operations:

- National Elections;
- Anniversaries (independence, etc.);
- Carnival/Ramadan (religious);
- Funerals;
- Political Rallies; and
- Holidays (celebrated according to both the lunar and solar calendars).

> **NOTE**
> Do not forget to localize events… Events in one place do not necessarily have the same meaning/relevance somewhere else

PMESII Model

B-GL-300-001/FP-001, Land Operations also suggests (it is indirectly referred to) the use of the PMESII model:

- **P**olitical
- **M**ilitary
- **E**conomic
- **S**ocial
- **I**nfrastructure
- **I**nformation

The PMESII model is also used in United States doctrine.

Products of IPB

The following table presents a view of IPB that is focused on conventional maneuver based operations.

IPB Step	Activities	Products	Remarks
Define the Battlespace	• Identify limits of AO and AI • Physical characteristics of environment • Human terrain	• AO Overlay • AI Overlay • Demographics Overlay	• AO normally assigned by higher • AI (Bn): 12-24 hrs • AI (Bde): 24-72 hrs
Describe the Battlespace Effects	• FLOCARK terrain analysis • Weather Effects • Light	• Completed FLOCARK • Weather Matrix • Light Data Table	• Informs Orientation and COA Dev (Terrain, Weather and Light affect Friendly forces)
Evaluate the Threat	• Evaluate threat doctrine/TTPs • Analyse Adversary ORBAT • View from Adversary perspective	• Situation Templates • HVTL • Adversary Tactics (Main effort?) • Adversary ORBAT • Intelligence Update	• Informs Orientation and COA Dev • Indicates Adversary capabilities and vulnerabilities
Determine the Threat COA	• Identification of possible ECOA • Synthesis of situation templates with MCOO and weather	• MLECOA • MDECOA • Event Templates • Time phase lines • NAI and TAI • Event Matrix	• Basis for Enemy timeline in Wargame • Guidance for the Intelligence Collection Plan, ISTAR Plan, HPTL/EGM

The Commander in IPB

The primary role of the Commander in IPB is to provide his guidance to the intelligence collection effort, based on his initial analysis and Commander's Critical Information Requirements (CCIR) during the Initiation Stage of the OPP. He will continue to shape IPB throughout the OPP cycle by refining and focusing his CCIRs. If he decides to make changes to his plan (i.e., implement a Branch or Sequel plan), his information needs will change.

The Staff in IPB

While the products of IPB may be used by all members of the planning staff during the OPP, the actual conduct of IPB is in the hands of the G2 branch. Non-G2 planners will rely heavily on the products of IPB to form their analysis and actions at each stage of the OPP. The conduct of war games, the Synchronization Matrix (Synch Matrix), Decision Support Template (DST), Effects Guidance Matrix (EGM) and the development of Branches and Sequels are all based on outcomes of the IPB process. In particular, ongoing updates to the Intelligence picture answers the question "has the situation changed, and do we need to change our plan?"

IPB Templates and Products

There are a number of IPB outputs that you need to be aware of. Analysis conducted in Steps 2 and 3 results in the development of COAs in Step 4.

- **Event Matrix**. This template relates enemy decision points to ground and time.

EVENT MATRIX

Ex/Op:
Formation:
Period Covered:

Serial	Pri	NAI	Location	PIR	IR	Common Indicators	Indicators Help to Confirm Threat COA				Time		Remarks
							COA 1	COA 2	COA 3	Other COAs	Earliest	Latest	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

IPB

- **Collection Requirements**. The G2 is responsible for coordinating the collection requirements on behalf for the Commander. Based on the intelligence requirements, the G2 determines the IRs and combat indicators that need to be collected to satisfy the PIR. These collection requirements are used to formulate the collection plan.

Event Matrix	Information Collection Plan	ISTAR Matrix
Used to determine which COA the Threat will execute Focus on NAI. It is an *Intelligence Tool*, not a <u>Product</u> Not disseminated and used only by G2	Used to manage the large Information Requirement to support the Comd Focus on PIR/IRs It is an *Intelligence Product,* usually SECRET Disseminated on the Intelligence channel only	Used to manage and coordinate the ISTAR collection effort Focus on NAI It is an *Operations/ Intelligence Product* and a SUBSET of the Information Collection Plan Disseminated within the unit/formation

- **Collection Plan**. The collection plan is critical to the development of the ISTAR plan and is a fundamental element of targeting. Based on the premises that there are more targets than sensors and shooters (this is not always the case in the low intensity battlespace), collection efforts support the "Decide" and "Find" elements of the targeting process. Collection is prioritized based on guidance from the Commander and is articulated in the collection plan. The collection estimate is based on the Commander's Priority Information Requirements (PIRs).

INFORMATION COLLECTION PLAN

Ex/Op:
Formation:
Period Covered:

Serial	Pri	PIR	IR	Common Indicators	Exterior Sources (RFI)			Integral Sources (ISTAR and ICP Tasks)				Time		Reports	NAI	Location	Remarks
					HHQ	Left Flank	Right Flank	Unit 1	Unit 2	Unit 3	Unit 4	Earliest	Latest				
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

- **ISTAR Plan**. The ISTAR plan is a derivative of the collection plan. It is the allocation of sensors to satisfy collection requirements. Typically, an ISTAR matrix is developed to control the tasking of sensor assets. However, sensors can also be managed through allocation. This typically happens at both the strategic and tactical levels as a principle way of dealing with sensors. At the operational level, a mixed approached is used to conduct collection to satisfy the Commander's PIRs and enable subordinate units with the sensor they require. As early as possible in the IPB process, an ISTAR concept of operations (CONOPS) should be developed. This is normally the prevue of the G2 with inputs from the G3 and ISTAR CC. The G2 should also coordinate collection requirements to develop the ISTAR concept with the Fire Support Coordination Centre (FSCC), Electronic Warfare Coordination Centre (EWCC) and the Air Support Coordination Centre (ASCC) at a minimum. Within capability, the ISTAR concept should be part of the mission analysis brief but should be delivered no later than the information brief. The ISTAR concept should focus on satisfaction of the Commander's PIRs. A good plan will focus on cueing from wide area sensors to focus narrow band sensors. A good plan will link the PIRs to time and ground to describe the priorities for sensor lay down. It is easy to see that there is significant potential for duplication of effort between the collection plan and ISTAR plan; but this does not need to be the case if appropriate coordination is completed. The estimate that drives the collection plan will influence the elements of the estimate for the ISTAR plan. However, in essence, the collection plan should focus on what needs to be collected and the ISTAR plan should focus on the allocation of resources to satisfy the collection plan. It is not inappropriate for the two plans to overlap as they must be coordinated and synchronized.

- **ISTAR Matrix**. The ISTAR Matrix is a planning tool used to track and coordinate collection requirements. It is typically used by the ISTAR CC to manage the allocation of the sensors to requirements. It can be disseminated to subordinate units, but since it is a living document, tasks from the ISTAR matrix are best communicated directly to the unit.

ISTAR MATRIX
Ex/Op:
Formation:
Period Covered:

Serial	NAI	Location	Description	Method	Common Indicators	Time		Integral Sources (ISTAR and ICP Tasks)				Remarks
						Earliest	Latest	Unit 1	Unit 2	Unit 3	Unit 4	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(t)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

- **Enemy Paragraph of the Operation Order**. A good enemy paragraph will provide an assessed picture of the enemy in the Area of Intelligence Responsibility (AIR) for the formation. When possible, it should include an overview of the enemy most likely and most dangerous COAs. The enemy paragraph can be expanded to include civil consideration if necessary.

- **Intelligence Annex**. The Intelligence Annex is used to articulate direction to brigade intelligence resources. The annex should outline the intelligence concept to support the operation. As applicable, the annex can outline relevant information about the enemy, including ECOAs if they are not included in the Enemy Paragraph of the Operation Order (Op O). This annex is not an intelligence summary (INTSUM) or assessment; therefore, intelligence about the enemy in the annex should only be provided to orient the reader to the relevant facts so that the intelligence concept is clear. The Intelligence Annex should outline the Commander's PIR. PIRs are the "raison d'être" for the Sense efforts; they drive intelligence (including collection and processing efforts) tasks and situate the reader's understanding of the Commander's need for intelligence to support decision making. The Intelligence Annex should outline any changes to groupings and tasks to support the intelligence effort.

- **HVTL**. The High Value Target List HVTL is a critical element of the IPB process (or the intelligence estimate in general at formation and above). This product will drive the High Priority Target List (HPTL) developed by G3/G5 with inputs from the Artillery advisor.

HIGH VALUE TARGET LIST

Ex/Op:
Formation:
Period Covered:

Tgt Category	Tgt Classification	Target	Remarks
Manoeuvre			
	Armourmed	T-80/T-72	Indicates …
	IFV	BMP-2/BMP-1	Indicates …
Command			
	Command vehicles	MT-LB Comd 1V12	indicates HQ
Information Operations			
	RECCE	BRDM2, BMP-2. MT-LB	indicates Recce patrol assets
	EW	BTR-PU	
	EW	MT-LB Comd 1V1	
Firepower			
	DAG	2S3, BM-21	Indicates Div main effort
	AAG	2S5, 2A36, SS21	Indicates Army main effort
Protection			
	NBC Recce	BRDM-RkH	Indicates potential use of NBCW
	Anti-tank	9P148, MT-12	
	MOD	GMZ-3, IMR	Indicates Regimental flank and boundaries
	Air Defence	SA-8B, SA-6, SA-13	Indicates probable main effort
Sustainment			

- **Support Development of the Synchronization Matrix, DST and EGM**. The G2 and G2 staff must support the development of the Synchronization Matrix, DST and EGM. Intelligence outputs, including the HVTL, inform the planning staff so they are able to appropriately plan based on ground and enemy factors.

IPB

OPP		
Step 1 – Initiation	Receipt of Tasks	
Step 2 – Orientation	Review of the Situation	**Review of the Situation**
	Mission Analysis	Ground Orientation / Situation Overview / Weather / Draft AI/AIR / Enemy Caps and Intent / About 20 Minutes

Mission Analysis
Ground Update / Situation Update / Weather / Confirm AI/AIR / Describe the Enemy / Broad COAs / Confirm PIRs / About 15 Minutes

Step 3 – COA Development: COA Development, Information Brief, Refine COAs, COA Comparison, Decision Brief

Information Brief
Situation Update / Weather Update / Enemy Update / Refine COAs / PIRs Update / 7-10 Minutes

Step 4 – Plan Development: Plan War Game, Orders Production

War Game
G2 plays Enemy / Enemy ORBAT / Enemy COAs / Event Template

Step 5 – Plan Review

OPP Stage One – Initiation

The Purpose of Initiation

Initiation is the trigger that starts the OPP. It answers the generic question "what is happening?" Initiation provides an indication or a warning that the operational situation has somehow changed (or is likely to change). This change is significant enough that existing plans will not meet the requirements of the situation: they will need to be modified, or new plans produced. The initial assessment made during Initiation (often by the Commander alone) provides the first indication of how much time will be available for planners: will the planning be deliberate, or will it be rapid response planning? Initiation serves as an "alarm bell" to call the planning staff together to begin the OPP cycle. The end state for Initiation is reached when subordinate HQs have been alerted, the Commander and staff are focused on the problem, and the HQ is ready to begin planning.

Components of Initiation

Initiation can occur through several means:

- A warning order or operation order received from higher HQ (verbal or written);
- Planning guidance issued by a higher commander;
- A major change in the operational or political situation;
- The Commander's personal assessment of the situation; or
- An unexpected risk or opportunity arises.

Once the initial warning is received, the following will take place in the HQ:

- Make an initial assessment of the situation and task, including an idea for end state;
- Assemble the staff planning team and issue instructions to prepare for the OPP cycle;
- Establish liaison with higher, flanking and subordinate HQs to open a two-way flow of information. (Consider bringing in collaborative planners to save time);
- Gather planning tools and data;
- Identify the threat;
- Send out recce elements or task other information collection systems;
- Commander issues initial planning guidance; and
- Preliminary Warning Order (Wng O) issued to subordinate HQs.

Stage 1

Stage 1

Products of Initiation

- Preliminary Warning Order issued to subordinate HQs.
  (and acknowledgement received from them);
- HQ Battle Rhythm established and understood by all staff;
- Liaison system activated;
- Collaborative planners integrated with the staff planning team;
- Intelligence preparation initiated; and
- Commander's initial planning guidance issued. This may be quite brief, and is normally only provided within the HQ. It provides direction on time allocation, modifications to OPP, initial information requirements, recce and movement requirements/limitations, and any special tasks the staff must start immediately.

The Commander in Initiation

The Commander plays a vital role in Initiation; in fact, he may trigger it himself. The most important contribution the Commander makes to Initiation is his initial assessment of the situation: this will shape the entire OPP, for better or for worse. Most commanders will make a rapid informal estimate in their heads, but will follow that up by a quick meeting with key staff (COS, G2, G5) to answer a few key questions:

- What is my task in relation to the situation, and where does it fit in?
- How much time have I got, and what are probable key timings we must meet?
- What do I need the staff to produce now?
- What do I know about the general situation (especially the threat) and what information do I need immediately?

Once the Commander has these few initial answers clear in his mind, he issues his initial planning guidance within the HQ which could include:

- How to abbreviate the OPP, if required;
- Initial time allocation;
- Liaison officers to dispatch;
- Initial reconnaissance to begin;
- Authorized movements; and
- Additional tasks the Commander requires the staff to accomplish.

The Staff in Initiation

In Stage One, the COS and the G5 must get the staff organized quickly and effectively: time will usually be in short supply. An important note here is to remember the old "one third-two thirds" rule in planning: take no more than one third of the time available for planning at your own level, so that your subordinates can have two thirds to plan at their level. While this ratio is sometimes impossible to achieve, the real point is this: involve your subordinate HQs early, and give them as much planning time as you can afford. Collaborative planning is a method to achieve this. During Stage One, the following staff action will occur:

- Staff planning team assembles, normally led by the G5 (Each Branch of the HQ must always have designated planners ready to join an OPP cycle on short notice);
- COS or G5 briefs the battle rhythm for the planning team and the rest of the HQ, including any changes to the OPP;
- Comd/COS briefs initial planning guidance to the planning team;
- G5 ensures all planning team members are present and know their jobs, including collaborative planners and liaison officers;
- G5 staff provide any applicable higher orders/warning orders;
- G2 begins the IPB needed to support the OPP;
- All planning staff gather all digital and hard copy maps, imagery, reports, assessments and staff data tables, etc. Post this information (electronically or physically) for easy access by the planners;
- All staff assemble their planning tools (DST, G5 Master Matrix, EGM, calculators for Force Ratios, Personnel Losses, Tactical Manoeuvre, etc.);
- G5 reviews the Commander's initial planning guidance, drafts a preliminary warning order to subordinate HQs, and passes it to the COS for the Commander's approval and release; and
- G5/G3 staff confirm that subordinate HQs have acknowledged receipt of the warning order.

Stage 1

Initiation Templates and Products

Preliminary Warning Order Format

Preliminary Warning Order

References	• Name of Operation • Reference to Higher Orders • Map Sheet References
Situation	• Brief description of situation including threat • Assumptions and Limitations • Higher Intent (sets the context for planning)
Probable Mission	• Statement of probable mission
Execution	Brief outline of execution to include: • Higher Commander's Intent • Probable grouping (including regrouping required immediately) • Probable tasks • Key timings (recce, orders, briefings, etc.) • Immediate information requirements
Service Support	• Sustainment planning/activities that must begin immediately
Command & Signals	• Probable command relationships • Points of contact • Special communications instructions
Acknowledgement Instructions	• Instructions for acknowledgement

Stage 1

OPP Stage Two – Orientation

Purpose of Orientation

Stage Two: Orientation answers the generic question "Do I understand the problem and the requirements for a solution?" The purpose of Orientation is to develop a shared understanding between the Commander and staff as to what the force must achieve, and what the conditions are under which it will operate. This understanding will include:

- Grasping the complexities of the operating environment that will affect the operation;
- The nature of the problem that must be solved;
- The intent and direction of higher commanders,
- The conditions for success ("What success will look like?");
- The full range of tasks that must be completed to achieve that success; and
- A clear statement of what the mission will be.

The name "orientation" suggests the importance of this stage, as it focuses or "orients" the planning effort in a particular broad direction. An important note for planners is that the time invested in fully understanding the operating environment and the situation is well spent, particularly in Counter-insurgency (COIN) operations or stability tasks where a number of non-military factors and players may have great importance. Without proper analysis and thought, the role and importance of some factors might not become clear until too late. Orientation must not be reduced to a mere mechanical "checklist" process.

Components of Orientation

Orientation at the tactical level is built around the Mission Analysis process described below. Each of these components is then described in detail throughout the chapter. Before beginning Mission Analysis, the Commander and staff must invest time and effort in understanding their operating environment and the situation confronting them. Remember: often the best source of some of this information will be found in your subordinate units.

Component	Purpose
Review of Situation	Review IPB, factors and conditions affecting the problem
Assumptions	Ensure source/validity/necessity of each assumption
Mission Analysis	Develop restated Mission Statement through analysis
Mission Statement	Guides the OPP cycle throughout

Review of the Situation

Depending on the scope and complexity of the situation facing the planners, a review of the situation could include:

- Results of IPB to date (the intelligence picture will always develop throughout OPP);
- Time and space;
- The political situation, both our own domestic and in the host nation;
- The "human terrain": cultural, social, and economic structures and patterns of activity;
- Friendly forces under our control or available to support us (strengths/weaknesses);
- Own sustainment situation; and
- Own command, control and communications situation.

Assumptions

At this point, it may be necessary for the Commander and his staff to make some assumptions, in order to move ahead with the planning process. **Assumptions are suppositions about the current or future situation that are assumed to be true in the absence of facts.** They take the place of necessary, but unavailable, facts and fill the gaps in what the Commander and staff know about a situation. An assumption is appropriate if it meets the tests of validity and necessity. Validity means the assumption is likely to be true. Necessity means that there is a clear operational requirement to make the supposition instead of seeking the answer elsewhere. Assumptions are not used to "wish away" an operational problem. The initiating directive from higher HQ will likely include a list of assumptions that have been made by the issuing (higher) commander. If the validity of these assumptions changes, the higher headquarters will advise its subordinate HQs: until then you will apply them as facts in your planning process. Once assumptions are made/accepted by the Commander, they must be clearly identified to subordinates, normally in the Commander's Planning Guidance (CPG).

Mission Analysis

The Commander is at the center of Mission Analysis: the staff will assist, and may back brief him in summary, but if the Commander does not drive this process he risks not fully understanding and shaping his own mission. In Mission Analysis, the Commander seeks answers to four key questions that lead to the development of a mission statement:

- **Superiors' Intent**: What do my higher and superior commanders intend, and how do I support that intent?
- **Assigned and Implied Tasks**: What tasks must I do to accomplish my mission?
- **Constraints and Restraints**: What limitations are there on my freedom of action?
- **Changed Situation**: Has the situation changed sufficiently to make me adjust my planning?

Each step of mission analysis responds to one of these questions. The end result is the Commander's own statement of his mission as he understands it. This mission statement will then drive the rest of the OPP.

> **NOTE**
> It is wise to ensure that the higher commander agrees with your mission statement

Superiors' Intent

What do my higher/superior commanders intend, and how do I support that intent?

Examine:

- Superior Commander's intent (two up: Joint Force Commander/Corps Commander for a Brigade Group (Bde Gp)); and
- Higher Commander's intent and CONOPS (one up: Joint Task Force (JTF) Commander/Division (Div) Commander for a Bde Gp

Deductions from Superior/Higher Commanders' Concepts:

- How the Superior Commander's intent affects your immediate superior's plan, and in turn yours;
- Where your actions will fit into the Superior Commander's intent;
- How your Higher Commander intends to fight his battle and how your actions will contribute to his end state and criteria for success;
- At what point your Higher Commander will depend upon you as his Main Effort, and what you must achieve in that role; and
- How your actions must relate to/support the actions of other parts of the force.

Don't simply "cut and paste" Superior/Higher Commander's intents and concepts into your order: spend some time and effort in analyzing and understanding them, before you proceed any further with the Orientation Stage.

Stage 2

Assigned and Implied Tasks

What tasks must I do to accomplish my mission?

This step of Mission Analysis examines Assigned and Implied Tasks and then identifies the likely Essential Task. These tasks become the framework for the later development of the FCOA.

- **Assigned Tasks**: tasks that have been explicitly given to you by your higher commander in his orders to you. These will normally be expressed by Mission Task Verbs.
- **Implied Tasks**: tasks that are derived by analyzing Assigned tasks and higher commander's intent and concept of operations (CONOPS). They may be enabling tasks necessary to set conditions for an Assigned Task; the requirement to support the higher commander's main effort; or other activities that logically require you to dedicate resources and effort, but which may not be specifically dictated to you by higher. For example, the assigned task to seize an objective on the far side of a water obstacle may have in it implied tasks: to establish a crossing site over the obstacle, to secure a bridgehead line, or to support the forward passage lines of a follow-on force.
- **Essential Task**: Ideally, the list of Assigned and Implied Tasks can be analyzed to identify a single Essential Task. This is the critical activity required of your unit or formation to ensure success of the mission, and is probably closely linked to the Main Effort. The Essential Task will form the basis of the Mission Statement.

Constraints and Restraints

What limitations are there on my freedom of action?

Constraints and restraints are sometimes collectively referred to as "limitations".

- **Constraints** are things that you **must do**: maintain a reserve of one combat team; maintain a reserved demolition guard throughout Phases 2-4; be clear of line HOTDOG by 2400 hrs, etc. Because you must commit resources, time and effort to do these things, your freedom of action (and thus your freedom of planning) is limited.
- **Restraints** are things that you **can't do**: no movement forward of line "X"; no use of CAS in District "Y", etc. This means that you are prohibited from certain activities: a further limitation of freedom of action. Constraints and restraints may not always be directed by higher commanders: they may arise from the local situation or from your force capabilities.

Typical sources of constraints and restraints are:

- Higher orders
- Time;
- Space;
- Resources;
- Acceptable degree of Risk;
- Sustainment Capability;
- Rules of Engagement; and
- Political situation (national or local).

You must always seek legitimate and practical ways to overcome constraints and restraints, but if they can't be overcome, be careful not to develop a COA that violates them.

Change in Situation

Has the situation changed sufficiently to make me adjust my planning?

This is the section of Mission Analysis that is frequently neglected. The basis for this question is very simple: if the plan doesn't reflect the realities of the situation and the problem, it is probably useless and possibly dangerous. In order to ensure that the plan reflects reality, the Commander (supported by the staff) must constantly assess the situation. If the situation has changed: an unforeseen threat or a sudden opportunity, for example, an adjustment decision will be required. An adjustment decision will:

- Reallocate resources;
- Change the CONOPS (use of reserve, main effort, etc.); or
- Change the mission itself.

This question must be asked at the start of mission analysis, **then revisited throughout the OPP and the operation itself**. Situational awareness in the staff planning team can be maintained by:

- A thorough Staff Orientation;
- Including a member of the G3 staff in the team to keep a link with current ops;
- Making good use of liaison officers to/from your HQ; and
- Involving collaborative planners from subordinate HQs;

Adjustment to a plan is not an admission of failure. **Failure will occur if a plan no longer reflects reality.**
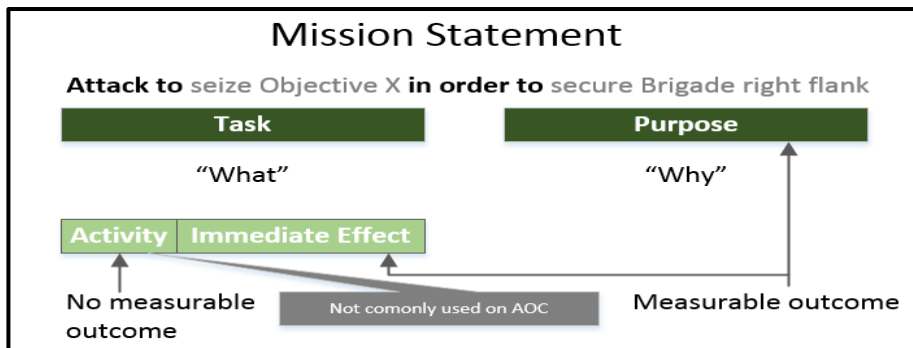
Mission Statement

What is to be done and why?

Based on the results of Mission Analysis, the Commander will state his "restated" mission statement, as he understands it. Some commanders may have the staff draft a restated mission statement, but the mission is the Commander's personal responsibility. The restated mission statement must achieve the Commander's end state (and will normally contribute to the end state of the higher commander). The mission statement has two main parts – the task and the unifying purpose.

- **Task**: The task portion answers the question "**What is to be done**?" The task always contains the key effect that the higher commander requires your Commander to achieve, and is usually derived from the Essential Task. This effect must have a measureable outcome. It will normally be expressed using a single approved Mission Task Verb. (Seize, Clear, Deny, etc.). If necessary, the task may also contain a term that describes the activity needed to achieve the effect "Attack to Seize" etc. These more complex "two-part" task descriptions are not commonly used on the AOC.
- **Unifying Purpose**: The unifying purpose portion answers the question "**Why**?" It must contain enough information to guide a subordinate's actions if the situation changes so much that the original task no longer applies. The unifying purpose normally contains a single verb such as "**set conditions for**" or "**enable**" forward passage of lines by". Usually, the unifying purpose reflects how your Commander's actions will contribute to his higher commander's end state.

Task and Unifying Purpose will normally be linked by the phrase "in order to". Other information in the Mission Statement will normally include:

- **Who**: "4 RCR Battle group will…"
- **Where**: "Seize Objective TURTLE"
- **When**: "not later than 15 2300Z hrs January 2010"

Mission Statement

Attack to seize Objective X **in order to** secure Brigade right flank

Task	Purpose
"What"	"Why"

Activity	Immediate Effect

No measurable outcome — Not comonly used on AOC — Measurable outcome

Stage 2

Products of Orientation

Mission Analysis Brief

The Mission Analysis Brief (MA Brief) is given to both the Commander and the staff (which portion of the staff is the Commander's decision). The MA Brief helps the Commander and the staff develop a shared vision of the nature of the mission and the results to be achieved. At the discretion of the Commander, the MA Brief may be part of a planning conference for subordinate and supporting commanders. The MA Brief summarizes the directives, decisions, initial concerns, and describes the mission perceived by the Commander. Its purpose is to integrate the Mission Analysis into planning, and to solicit any additional guidance from the Commander. From this briefing, the restated mission statement is finalized and the CPG is prepared to reflect the Commander's approval of the direction taken. For a templated format, see "*Mission Analysis Brief Format*".

Commander's Planning Guidance

Following the MA Brief, the Commander will issue his planning guidance to set the stage and focus his staff for COA Development. The Commander's intent is the cornerstone of the CPG, it explains the "why" of the mission and defines the "what" he considers to be the success of the mission (the end state). The CPG will normally be issued in written format, and may also be circulated to subordinate units to guide their own planning. The exact content and level of detail will be decided by the Commander, but as a rule CPG will contain:

- The results of the Commander's Mission Analysis;
- The Commander's mission statement and intent (and how these relate to higher commander's intent);
- Confirmation of the AO, AI, and AIR;
- The critical task of the mission;
- The CCIRs;
- Direction on Enemy and Friendly COA development, including COA comparison criteria, and any Decision Points he foresees;
- The Commander's willingness to accept risk;
- Sense (asset placement, etc.), Shield (force protection measures, counter mobility, etc.), Sustain (quantity of supplies, dumping, CASEVAC, etc.) guidance;
- Command guidance (groupings and movement, reconnaissance, rehearsals, etc.);
- Latest date/time for issuing the Op O and the type of Order to be issued; and
- Other information as required (such as command and control relationships, etc.).

Chief of Staff's Planning Directive

The CPG will provide the Commander's broad guidance to planners and will set the general direction for the HQ. Once it has been issued, the COS must provide the detailed coordinating instructions needed to focus each portion of the HQ "machine" on a common unified effort, probably under pressure of time. The key purpose of this effort is to support the Commander's decision making process. The COS will achieve this coordination by issuing a detailed Chief of Staff Planning Directive (COS PD) inside the HQ. (Keep in mind that the COS already issued some initial direction during the Initiation Stage) The COS PD will not normally duplicate the entire CPG, but may be issued as a "cover document" with the CPG attached. The exact format and method of delivery will vary from one HQ to another, but at a minimum the COS will provide direction on:

- Task organization of the staff for planning (if different from SOPs). For example, the staff may break into separate COA development teams;
- HQ Battle Rhythm;
- Timings for staff briefings, wargames, Information Brief and Decision Brief;
- Timing for submission of Wng O and Op O drafts, and "not later than" issue times for the signed copies; and
- Special instructions for establishing liaison; communications networks; and for moving the HQ.

Warning Order

This is a vital but sometimes neglected product of the *OPP Stage Two – Orientation*. Recall that a preliminary Wng O was sent out to subordinate units as a product of the *OPP Stage One – Initiation*. Once Orientation is complete, a more detailed Wng O must be sent out as quickly as possible. It will confirm much of the information provided in the preliminary Wng O, and will update subordinate units on the results of Stage Two. This Wng O allows the subordinate units to begin planning without waiting for the receipt of the complete Op O.

NOTE

Liaison officers and collaborative planners from your subordinate units can help to support the Wng O process by keeping their home units advised of the results of planning, but their presence does not remove the requirement to issue timely, clear and adequately detailed Wng Os.

Wng Os are about saving time and ensuring concurrent activity: don't wait until you have every piece of information before sending a Wng O: you can issue as many supplementary Wng Os as required. See "*Detailed Warning Order Format*".

Staff Orientation

The purpose of Staff Orientation is to ensure that all members of the staff understand the results of the Orientation Stage, with emphasis on the results of Mission Analysis. Without a common understanding across the staff, cohesion of planning effort is at risk. Exactly how Staff Orientation is conducted, and for whom, can vary: there is no set format. Some Commanders will have involved only a few staff in their Mission Analysis, others will engage more widely. In an experienced and cohesive HQ, with all staff attending the Mission Analysis Brief and reviewing the COS PD, there may be little or no need for specific Staff Orientation. In a new HQ, or for a complex and unfamiliar operation, a separate staff orientation briefing may be a necessity. The COS will make the decision on the requirement for Staff Orientation, with time available being a key factor.

Points for Clarification

You will never have all the answers. Some answers which you receive will not be fully understood. Each question that is asked in Orientation will raise further questions about "the unknowns". Because of these facts, each Branch of the staff must constantly identify and capture points that require clarification. Some of these will require formal handling as Requests for Information (RFI), particularly if they originate from the Commander, but most will be resolved by good staff work: checking references, talking to other staffs, to liaison officers, and to subordinate planners. Once an answer is known, it must be shared by Op chat, by e-mail or posted to a TIMS site to quickly share the information with those who need it.

Other approaches to Analysis

One of the strengths of the OPP is that it can integrate various forms of analysis into the Orientation stage. While Mission Analysis will likely always remain the backbone system at the tactical level, there are several other approaches to understanding the operational environment, the nature of the problem, and the requirements that a solution must meet. Several of these are briefly outlined below: further in-depth reading is required to fully understand each one. While any or all of them can complement and inform the OPP, none of them replace it. These systems are typically intended for use in campaign design, but may prove useful to formation-level planners engaged in a complex operating environment.

Stage 2

Comprehensive Approach

The comprehensive approach recognises that we will operate in complex, confusing environments with many "players" present. Often, no solution can be reached by military forces alone. Instead solving the problem requires the use of a wide range of powers exercised through a variety of departments and agencies in order to address the root cause. A comprehensive approach seeks to incorporate all the elements of power and agencies, military and civil, and to harmonize them. Together their capabilities, and their activities work to address the elements and complexities present in an environment, and reach enduring strategic and operational end states. Thus, the comprehensive approach brings together all elements of power and applies them to engage all systems within the environment. When put into effect at the operational and tactical levels, the comprehensive approach is conducted as **comprehensive operations**, employing fires and influence activities (IA) generated across the participating forces, departments and agencies. Comprehensive approach and comprehensive operations are described in more detail at Chapter 5 of *B-GL-300-001/FP-001*, *Land Operations*.

The comprehensive approach has three components:

- **Unifying Theme** focused on long term goals and end states. This theme guides all the participants' efforts. For the Commander, it aids in visualizing how his operations will fit into the bigger picture;
- **Collaborative Working**: Coordination of the activities, effects and efforts of all the participants or "elements of power" to achieve the end state envisioned in the unifying theme. Often this will be achieved by informal "handshake" arrangements, or by inviting other agencies to contribute to the Orientation stage. Key to collaborative working are strong human relationships between participants; and
- **Comprehensive Response**: The activities and effects coordinated by collaborative working are then applied to all the actors and systems that are functioning in that environment, with a view to achieving the end state envisioned in the unifying theme. Every tactical military action must support this response, but the military does not act alone: it some cases military and non-military elements may work directly together to achieve an effect.

Effects Based Approach

The Effects Based-Approach (EBA) to operations is a way of thinking that focuses primarily on the effects we need to create, and secondarily on the activities that will create those effects. An effect, in simple terms, is a result, or a condition, that will change the situation in a manner we desire. To create the desired effect, we must engage in some activity (expending time, resources and effort). Like the comprehensive approach it supports, EBA recognizes the complexity, ambiguity and uncertainty of the likely operating environment. It places emphasis on the human factors in the battlespace. EBA works back from the desired end state to identify the objectives needed to achieve that end state.

For each objective, EBA proposes effects that must be created for that objective to be attained. Once the effects are specified, EBA goes on to identify the activities necessary to generate the effects. The entire network of end states, objectives, effects and activities is linked back to the campaign plan: this ensures that activities at the tactical level contribute to success at the operational level. EBA requires an understanding of all the human systems at work in the battlespace, and of how it may be possible to influence each one using the elements of power. EBA is not really a revolutionary new approach: it is a way of articulating historically well understood principles and practices that underlie mission command and the manoeuvrist approach: end state, conditions for success, objectives, and the specific efforts required to achieve those objectives.

The Canadian Army does not subscribe to a determinist view that the effects of our activities are fully predictable: we recognize that while there will be direct (or "first order") effects from any activity, there will also be indirect, unintended and second/third order effects. To deal with this range of effects, EBA requires clear Measures of Performance ("are we doing things right?") and Measures of Effectiveness ("are we doing the right things?")

At the tactical level, using EBA during Orientation analysis can aid in bringing understanding out of complexity and confusion. This understanding will in turn help to derive the effect that is represented in the restated mission statement. It can also assist the Commander in developing his CPG, as it sets out the end state, objectives and effects that any solution must address.

Systemic Operational Design

Systemic Operational Design (SOD) is not Canadian doctrine: it is a product of the Israeli military's effort to understand their dynamic and complex operational environment. It represents an attempt to deal with the "wicked problem" phenomenon: a complex problem that can't be solved in a linear fashion because every attempt at solution causes the problem to evolve. SOD is based in complexity theory: complexity theory contends that to understand the nature of a complex system, one must understand the nature of the many varied relationships which exist between individual system elements and how this interaction affects the overall form and logic of the system. Like comprehensive approach or EBA, SOD does not replace the OPP: it serves to inform and guide it. It relies on a set of mutually supporting analytical processes called "discourses" to interpret the environment, the problem, and the requirements a solution must meet. SOD is itself a complex concept that can be a subject of study in its own right, but in simplified form its elements are:

- **System Framing** envisions the operational environment as a system with interacting parts (or sub-systems). System framing helps planners to determine the "why" of an operation and the nature and limits of the operational environment;
- **Rival as Rational Discourse** examines the "rival": those forces and organizations that act (together or separately) to oppose the goals of the operation: who/what they are, how they interact, what their own goals are. This produces an understanding of the adversary system, including strengths and weaknesses;
- **Command as Rationale Discourse** analyses friendly command/control relationships and force structure, to determine if they will be appropriate to deal with the problem and the rival system, or if regrouping and restructure are required. It particularly considers other friendly players such as multi-agencies; and
- **Logistics as Rationale Discourse** examines the capabilities and limitations of the friendly sustainment system and its suitability to support the operations under consideration.

Operation Framing takes SOD from describing the problem and its challenges to describing what a solution must look like. Operation framing examines the end state that must be achieved, the effects necessary to achieve it (Operational Effects), the broad limits of time and space for the operation, and finally the broad form that the operation must take to generate the effects that will contribute to the end state (Forms of Function). The end product of Operation Framing is guidance on COA development. From this point the remainder of the OPP can proceed as usual.

Strange Analysis

Strange Analysis (named after Dr. Joe Strange of USMC War College Quantico, who developed it) is not Canadian doctrine but is often applied by Canadian operational planners. It is a system for analyzing centers of gravity (CoG): determining what gives them their strengths and what their weaknesses may be. Strange Analysis looks at a CoG in terms of:

- **Critical Capabilities**: what are the things that this CoG can do? (Why is it a CoG?) At the tactical level this is usually its ability to create an important effect: destroy, seize, defend, disrupt, generate public support, prevent the enemy from doing something important, etc.;
- **Critical Requirements**: what does this CoG need in order for its Critical Capabilities to be effective? Weather, intelligence, fuel, money, popular support? Without this critical requirement the CoG will be seriously degraded or may cease to be a CoG; and
- **Critical Vulnerabilities**: those capabilities or components of a CoG that are potential weaknesses or failure points. If a critical vulnerability is destroyed or neutralized, it destroys or weakens a critical requirement, and thus the CoG. Rarely, there might be a single critical vulnerability that can act as a "silver bullet" to destroy the CoG. Usually, several critical vulnerabilities will have to be attacked to achieve destruction of a CoG.

Example: The CoG of the enemy's defence is the company group holding a battle position that dominates our only feasible main approach, with the ability to prevent us from seizing the objective we require. Its critical capability is its ability to generate heavy direct fires to disrupt and destroy our attacking force. The critical requirements for this capability are the direct fire weapons systems themselves, the C2 system that coordinates their fires, and a reliable ammunition supply. The ammunition supply presents one critical vulnerability: ammunition must be brought up on foot at night over a single path. If this resupply system can be destroyed or neutralized, the direct fire weapons systems will cease to be effective.

Strange Analysis can point out how we can attack an enemy CoG, or how we must protect our own CoG. This analysis can be used in the Orientation stage to provide COA development guidance by focusing planning effort onto the enemy's CoG while protecting our own.

Stage 2

The Commander in Orientation

The Commander is at the center of the Orientation process: it is through Orientation that he gains a full understanding of the situation facing him, the problem he must solve, and the resources available to implement a solution. Without this understanding, he is at risk of making decisions "in the dark". The staff will assist the Commander, but there is no replacement for his intellectual engagement and motivating force. While the Commander is ultimately responsible for the outcome of his mission analysis, this does not mean that he dominates the discussions that will take place to gain understanding. In the complex situations typical of today's operational environments, "ground truth" often comes not from higher commanders but from subordinate commanders, host nation locals, or even representatives of governmental, non-governmental and private organizations. This understanding must be shared by the staff, and by the subordinate commanders and planners as well.

The Commander's understanding gained in Orientation can never be static: it is evolving constantly, informed by a questioning mind, and situational awareness strengthened by circulating amongst subordinate units to gain first-hand impressions. Once the Commander has gained this understanding, he can formulate his guidance on the nature and requirements of a solution. Vital components of this guidance are his criteria for the development and comparison of FCOAs: these will shape the remaining steps of the OPP.

The Staff in Orientation

The main job of the staff in Orientation is to support the development of the Commander's understanding, and then to ensure that they share fully in it (along with subordinate units). In particular, the staff must have a solid understanding of the Commander's criteria for COA development and comparison: this will focus their later work and prevent wasted effort. All staff work at this point in the OPP must contribute to these two things: this is where the COS must ensure the energies of the HQ are focused. In particular, all staff must understand the mission statement and the Commander's intent: these will frame their planning work.

While specific staff activities will vary from one HQ Branch to another, staff work will include:

- Conducting intelligence preparation of the battlespace;
- Gathering information and conducting estimates to support the review of the situation. These estimates will serve to identify your force's capabilities, limitations, strengths and vulnerabilities;

- Participating in, or informing, the Commander's Mission Analysis process;
- Identifying, capturing and resolving points for clarification; and
- Keeping higher, flanking and subordinate HQs informed of the progress of planning.

Orientation Templates and Products

Detailed Warning Order Format

Detailed Warning Order

References	• Name of Operation • Reference to Higher Orders • Map Sheet References
Situation	• Short summary • Include assumptions • Identify forces available for planning
Probable Mission	• Restated Mission Statement from Mission Analysis
Execution	Intent and initial CONOPS: • in sufficient detail for subordinate commanders to begin their FCOA development • Probable Grouping and Tasks Coordinating Instructions to include: • CCIRs • Time and location for presentation of oral orders/time for issue of written Op O • Degree of notice for advance parties/main bodies • Orders for and limitations on recce and movement and regrouping • Anticipated D-Day/H-Hr • Initial planning guidance for critical functional areas
Service Support	• Service support preparations which must commence immediately
Command & Signals	• Guidance on CIS planning, including preparations which must commence immediately • Reporting instructions • Anticipated movement of HQ • Commander's location
Acknowledgement Instructions	• Instructions for acknowledgement

Stage 2

Mission Analysis Brief Format

Briefer	Suggested Content
COS	• Type and Security Classification of Briefing • Purpose and Scope of Briefing • Mission and Intent of Superior Commander (Two Up) • Mission, Intent and CONOPS of Higher Commander (One Up) including key objectives and deception plan
G2	• Define the Area of Interest, and the Area of Intelligence Responsibility • Present initial IPB products: MCOO, Weather Effects Matrix, Light Tables • Enemy Overview (intent, capabilities, objectives, available forces, probable CoG)
G5	• Assigned, Implied and Essential Tasks • Constraints and Restraints • Available forces and disposition • Hazards and their risks • Recommended initial CCIRs (what Comd must know) • Recommended EEFIs (info we must protect) • Recommended operational timelines • Recommended restated mission statement
G1	• Personnel situation (current and forecast) • Medical situation (current and forecast)
G4	• Maintenance situation (current and forecast) • Vehicle and weapon situation (current and forecast) • Supply situation (current and forecast) • Transportation situation (all forms of lift - current and forecast)
G9	• Civilian patterns of activity in AO: routes, assembly area, major activities with possible op impact, refugee situation • Host Nation support capabilities • Protected sites under ROE/LOAC/HN agreements • OGD/NGO/PVO activity patterns in AO
G6	• Communications system status (current and forecast) • Higher HQ CIS plan as it affects our plans
Fire Sp Advisor	• Fire support capabilities (integral and available)
Air Defence Advisor	• AD assets available • Current airspace coordination measures (with op impact) • Initial Air IPB products: threat capabilities, air avenues
G3 Air / Air LO	• Allocated sorties • Limitations on employment of sorties

Stage 2

Briefer	Suggested Content
Engineer Advisor	• Engineer assets available • Engineer capabilities (mobility, counter mobility, survivability, general support) • Key deductions from IPB terrain analysis
CBRN Advisor	• CBRN assets available • MOPP status and limitations of physical protection available • CBRN threat status (to include toxic industrial materials)
Other Advisors	• Electronic Warfare • Legal • Political • Medical • Host Nation cultural
Commander	• Amend/approve the restated Mission Statement • Amend/approve CCIRs • Issue CPG (COA Comparison Criteria)

Stage 2

When presenting a particular set of information, be concise, brief and relevant. Confine the data to what the Comd needs to know, and provide the analysis for him. For example, do not simply state "we have two fuel tankers of 1000 gallons each". This by itself means nothing to the Commander. Instead, provide some analysis by answering the "so what?" In other words, what is the operational impact of that fact on our plan? Does our mobile refuelling capability affect our range of operations, or the time required to complete reconstitution after a phase of the operation? If it has no significant operational impact, don't bother mentioning it.

Commander's Planning Guidance Format

Commander's Planning Guidance

Mission Analysis	• Results of the Commander's Mission Analysis (Tasks, Assumptions, Limitations, Risks, etc.) • Commander's Mission Statement
Commander's Intent	• Commander's Intent • Purpose and Objectives • Essential Task and identified Decision Points • End state (Friendly, Enemy, Terrain)
CCIRs	• Initial CCIRs
Sense Guidance	• Confirmation of AO, AI and AIR • Asset placement • ECOA guidance (Enemy intent, strength, vulnerability) • Terrain and weather effects
COA Development	• Phasing of the Operation • FCOA guidance and sketches • Task Organization (including Reserve guidance) • Deception (Intent, Target, and Method) • Effects (Fires and Influence Activities guidance) • Risk acceptance guidance • C2 Guidance • COA Comparison guidance
Shield Guidance	• Force protection measures • Mobility, counter mobility, priority of effort • MOPP guidance
Sustain Guidance	• Sustainment planning/activities and priority of effort • Dumping program • Recovery and CASEVAC considerations
Command Guidance	• Probable command relationships • Groupings/movement (Reconnaissance, Rehearsals) • HQ location considerations (Main, Alternate, Tactical) • Liaison officers • Timeline guidance
Op O Guidance	• Type of Order to be issued • Latest date/time for issuing the Op O
Other information	• Command and control relationships • Relevant information, as required

Stage 2

OPP Stage Three – Course of Action Development

The Purpose of COA Development

Stage Three flows naturally from the understanding you developed in Stage Two: Orientation. It answers the question "what options are there for solving the problem, and which option is best?"

Once you understand the nature of the situation and the problem, and the requirements that any solution must meet, you are ready to start developing different options to produce that solution. Each conceptual option for a solution is known as a FCOA; a clearly articulated theory that provides the essential elements for a solution, but is not as well-developed as a plan must be. FCOA will be compared against the potential actions of the enemy, against the limitations and requirements affecting a solution, and finally against each other to determine which FCOA should be selected to become a plan.

Depending upon the time available for planning, and the direction provided in the CPG, you may be required to develop several FCOA, or you may be directed to focus on just one. This handbook will assume that your Commander seeks several possible FCOA that he can select from.

Stage 3
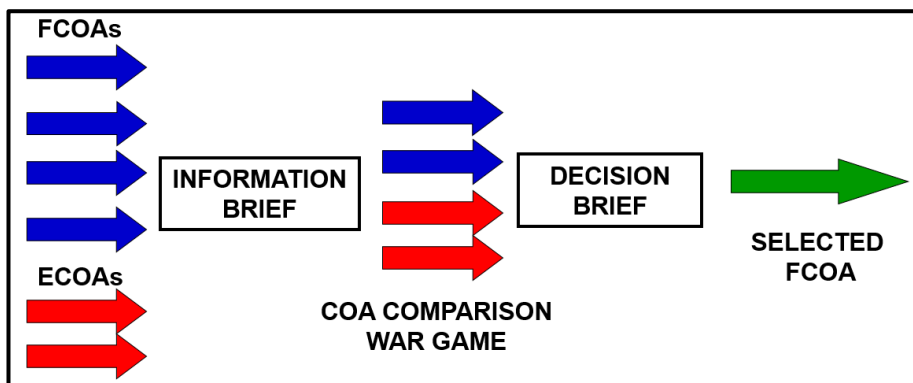
Components of COA Development

Components	Suggested Action
Review CPG	• Ensure all planners understand CPG • Post the CPG for access by all planners • Emphasis on COA development guidance (i.e.: comparison criteria)
Staff Analysis	In depth analysis of factors introduced during Stages One and Two: • Terrain and weather in the AO • Own forces situation, capabilities and limitations • Enemy forces and capabilities • Risk levels/mitigation (i.e.: force protection posture) • Assigned and Implied Tasks • Political considerations/Host Nation concerns • Civilian presence/pattern of activities • Time and Space • C2 considerations • CSS and Movement • Rules of Engagement • Lessons Learned from previous operations
Develop Enemy COA (ECOA)	• **Always develop ECOAs first** • Most Likely (MLECOA) • Most Dangerous (MDECOA) • ECOA provide reference point to develop FCOA
Develop Friendly COA (FCOA)	• Tasks and resources available for each; • Logical sequence to achieve tasks; • Outline possible phases, identifying End State and Main Effort by phase; • Assign tasks to generic types of units/capabilities (avoid assigning specific units yet) • Think two down (Brigade planners identify number and type of sub-units for tasks) • How will these sub-units be grouped to achieve these tasks? (indicates initial C2 relationships)
Information Brief	Purpose: to formally advise Comd of FCOAs under development/seek guidance on further development • Prevents wasted staff effort • Comd will indicate which FCOAs will continue under development • See "*Information Brief Format*"

Stage 3

Components	Suggested Action
COA Comparison	• COAs selected by Comd for further development • Further refined as staff analysis provides data • COA Comparison Wargame (see Wargame) • Develop COA Comparison Matrix for Decision Brief
Decision Brief	Purpose: Comd selects FCOA to be developed into plan • Comd may issue further planning guidance • May trigger supplementary Wng O • See "Decision Brief Format"
Finalization of the CONOPS	• Selected FCOA is refined into a complete CONOPS • Starting point for Plan Development • Normally briefed to Higher for authority to proceed • See "*Concept of Operations*".

Development and Definition of COAs

Identify what must be done and the resources required:

• Tasks from CPG/Staff Analysis;
• Resources available for each task;
• What is the logical sequence to achieve tasks? (This will indicate possible phases);
• Outline possible phases, identifying End State and Main Effort by phase;
• Assign tasks to generic types of units/capabilities (avoid assigning specific units yet);
• Think two down (Brigade planners identify number/type of sub-units for tasks); and
• How will these sub-units be grouped to achieve these tasks? (Indicates initial C2 relationships).

Develop each COA into as much detail as the situation requires and time available allows. Name your COA (something simple, easily recognizable) and answers the questions:

• Who? (Infantry BG, Armoured Brigade, SOF Team, Aviation Elements)
• What? What tasks? (i.e.: Secure/Clear/Disrupt/Seize/Provide Reserve, etc.)
• How? Sequence? Manoeuvre?
• Why? What is the purpose of the action? What end state will be achieved?
• Where?
• When?

Stage 3

How will you integrate/synchronize the operational functions?

- Command?
- Sense?
- Act?
- Shield?
- Sustain?

Brainstorming

If time is available, brainstorming can be highly effective, as it draws widely on group expertise. Brainstorming is the free suggestion of ideas for possible solutions, with few initial limits on creativity. It begins with a statement of the problem, and the requirements which any solution must meet to be initially acceptable. Each participant (usually beginning with the most junior) then suggests as many ideas as possible. These ideas are captured and displayed for further analysis: no ideas are rejected at the beginning. Once an agreed set of ideas has been established, a process of elimination begins. This elimination process applies experience, current situational awareness and common sense to rule out unsuitable ideas until only a few practical ideas remain. These can then form the basis for COA development.

Theme Method

The "theme" method for FCOA development begins by identifying several broad methods or styles of approach to a solution: these may be drawn in part from the CPG. It then breaks these down into possible sub-themes.
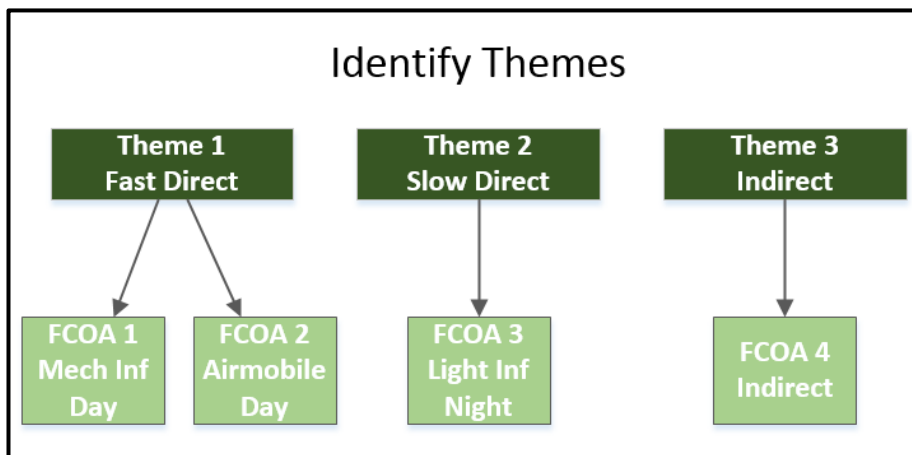
COA Viability Test

Regardless of which method you prefer to use in developing a FCOA, every proposed FCOA must pass the Viability Test before it is presented at the Information Brief. A Validity Test acts as a "sanity check" to ensure that no unrealistic or impractical FCOAs go further in the development process.

- **Feasibility**. Are there sufficient resources available and in-theatre to conduct and sustain the operation?
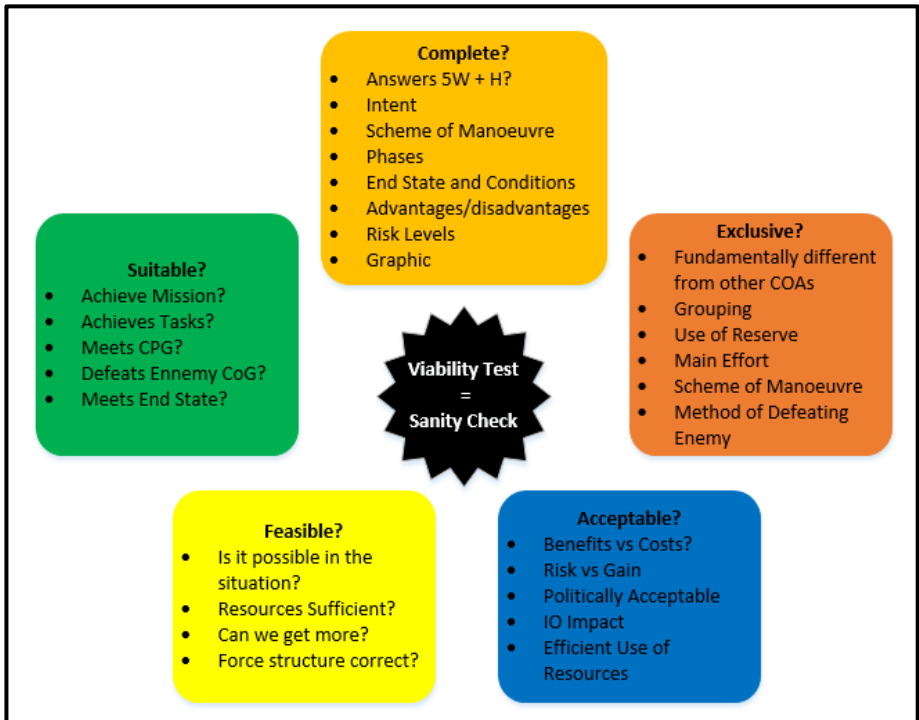- **Acceptability**. Is the COA militarily prudent, that is, do the probable results justify the estimated costs in terms of potential losses in time/materiel/military personnel?
- **Completeness**. Does the COA, as presented, clearly identify the force requirements, timings, phasing, and objectives? Does it answer the questions: Who, What, When, Where, Why and How?
- **Exclusivity**. Is the COA fundamentally different from the others that are being developed?
- **Suitability**. Staffs must review and test every proposed COA to determine if it can accomplish the military mission and achieve the desired end state.

Stage 3

Complete?
- Answers 5W + H?
- Intent
- Scheme of Manoeuvre
- Phases
- End State and Conditions
- Advantages/disadvantages
- Risk Levels
- Graphic

Suitable?
- Achieve Mission?
- Achieves Tasks?
- Meets CPG?
- Defeats Ennemy CoG?
- Meets End State?

Viability Test = Sanity Check

Exclusive?
- Fundamentally different from other COAs
- Grouping
- Use of Reserve
- Main Effort
- Scheme of Manoeuvre
- Method of Defeating Enemy

Feasible?
- Is it possible in the situation?
- Resources Sufficient?
- Can we get more?
- Force structure correct?

Acceptable?
- Benefits vs Costs?
- Risk vs Gain
- Politically Acceptable
- IO Impact
- Efficient Use of Resources

Risk

Risk is always present in military operations: it can never be completely avoided. A Commander must always be prepared to accept some degree of risk. Concern over risk avoidance cannot be allowed to unreasonably reduce flexibility or paralyze decision making: this will quickly cede initiative to the enemy. The Commander's responsibility, and that of his staff, is to manage risk while achieving the mission. Risk planning and management is described in detail in Chapter 4, Section 5 of *B-GL-331-002/FP-002*, *Staff Duties for Land Operations*.

Risk Management

There are five basic steps in Risk Management:

- Identify threats and hazards: what are they?
- Assess threats and hazards: how likely and severe are they?
- Make risk decisions and develop mitigation measures: what risk is acceptable, and how will we mitigate it?
- Implement risk mitigation measures; and
- Monitor the operation to ensure risk mitigation measures are effective.

Risk Matrix

The matrix below references the probability of a risk occurring (Frequent to Unlikely) against the severity of its impact (from Catastrophic to Negligible). It then provides a descriptor of the degree of risk that is likely to exist in that case. This matrix and the terms used are explained further at the reference above. It is indicative not prescriptive, and does not replace proper risk analysis.

PROBABILITY/ SEVERITY	FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
CATASTROPHIC (Mission Failure/ Heavy Losses)	Extreme	Extreme	High	High	Medium
CRITICAL (Severe Loss of Capability)	Extreme	High	High	Medium	Low
MARGINAL (Losses will be manageable)	High	Medium	Medium	Low	Low
NEGLIGIBLE (No significant operational effect)	Medium	Low	Low	Low	Low

Parts of a COA

Shown below are the essential elements of a COA, whether presented electronically, on a whiteboard or in hard copy. The same format can be used for FCOA or ECOA. The aim of this COA presentation is to provide enough information for the Commander to differentiate between COAs in order to understand the concept depicted, and make his selection. An effective graphic will present the scheme of manoeuvre "at a glance". Clarity, brevity and accuracy are important in preparing a COA presentation. Avoid the temptation to overload the Commander with data: if he needs more he will ask for it.
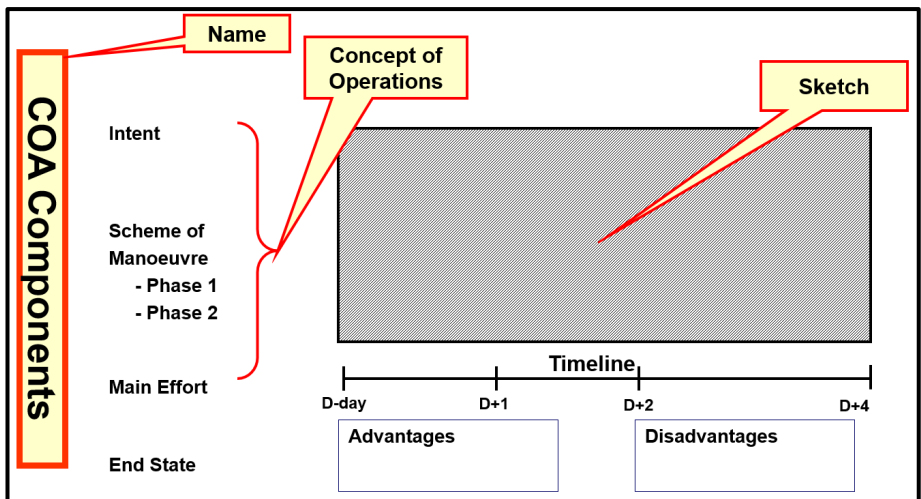
COA Comparison

During the Information Brief, the Commander will indicate which FCOA are to be further developed. Following the brief, these surviving FCOA must now be compared against the FCOA criteria in the CPG and against the MLECOA and MDECOA. Finally, they will be rated against each other as to how well they meet the criteria. An important tool for COA comparison is the wargame, which allows planners to visualize each FCOA far more clearly than on paper. This comparison will have two results:

- Further refining of each FCOA with the ongoing results of staff analysis, and identification of strengths and weaknesses; and
- A rank ordering of FCOA from most recommended to least recommended.

The results of the COA comparison process are usually displayed graphically, to assist the Commander's decision process during the Decision Brief.

Descriptive Method

The simplest method, this approach uses agreed upon descriptor terms to define how well a particular FCOA meets the criteria, then summarizes by "averaging" the descriptors. Before using this (or any other) COA comparison method, you must define:

- Specifically what each criterion means (check the CPG); and
- Exactly what the measure of effectiveness means. ("Low" or "High" relative to what?).

Criteria	FCOA 1	FCOA 2
Flexibility	• Good	• Weak
Speed	• Low	• Good
Risk	• Medium	• High
Results	**Flexible but slow**	**Fast but risky, inflexible**

Numerical Method

This method replaces the descriptor words with numbers, which are then averaged to produce a rank ordering of FCOAs. When using numbers, remember to define if a higher number means "worse" or "better".

Criteria	FCOA 1	FCOA 2
Flexibility	• +1	• 0
Speed	• -1	• +1
Risk	• +2	• 0
Total	**2**	**1**
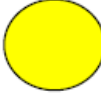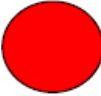
Weighted Numerical Method

The advantage of this system over the simple numerical method is the ability to reflect the Commander's emphasis on certain COA Comparison Criteria. For example, in this case, the Commander places the greatest value on flexibility, and the least emphasis on the risk factor. The totals at the bottom permit the rank-ordering of COA for presentation.

Criteria	FCOA 1	FCOA 2
Flexibility (x3)	• +1 = 3	• 0 = 0
Speed (x2)	• +2 = 4	• +1 = 2
Risk (x1)	• +3 = 3	• +2 = 2
Total	**10**	**4**

Traffic Light Method

This method is graphically quite clear, but it can become confusing if the meaning of the colours is not agreed upon. Normally, "Green" means it meets the criterion; "Yellow" means it may meet the criterion but with caveats; and "Red" means it does not meet the criterion/is unsupportable.

Criteria	FCOA 1	FCOA 2
Flexibility	🟢	🟡
Speed	🟢	🔴
Risk	🟡	🔴
Overall	🟢	🔴

Branches and Sequels

During FCOA Development, planners will identify potential threats and opportunities that, while not directly part of the FCOA under consideration, could have a significant impact on it if they were to occur. Typically, these will come to light during the COA comparison wargame. In order to deal with these possibilities, while still keeping the FCOA clear and straightforward, planners will develop contingency plans called "Branches and Sequels". Decision Points on the DST can be start points for Branches and Sequels. The DST must specify the indicators that will provide warning to the Commander to trigger a Branch or Sequel ("If we see **that** happening **here** we will be prepared to do **this**…").

Branch Plan

A Branch plan answers the question "what if…?" A Branch plan is a contingency option built into the basic plan for changing the disposition, orientation or direction of movement and for accepting or declining battle. A Branch plan gives the Commander flexibility by anticipating enemy reactions that could alter the plan. The staff may assess that an option is available to the enemy that is not necessarily included in the MLECOA/MDECOA in the wargame. In this case it would be prudent to develop a Branch plan to deal with this potential contingency. This plan at this stage need not be as detailed or well-developed as the main plan that it complements. Most importantly it needs to identify the additional resources and forces that would be required.

Sequel Plan

A Sequel plan answers the question "what then…?" Sequels are subsequent operations that flow from the successful execution of the current operation. Sequels ensure that the planning process continuously looks ahead to deal with the next operation. For example a commander whose mission was to regain territory or to rout an enemy from a particular AO must look ahead to transitioning from conflict termination to a stabilization operation. A Sequel plan is the vehicle for planning this operation.

Development and Promulgation of Branch & Sequel Plans

The amount of detail put into Branches and Sequels will always be guided by the time available: they may simply be outline CONOPS, or they may be fully developed supporting plans in their own right. In any case, the OPP is used to develop Branches and Sequels. If staff resources permit, a staff planning team can be dedicated to developing the Branches and Sequels. Once developed, they may be promulgated as annexes to the Op O or as supporting plans under separate cover.
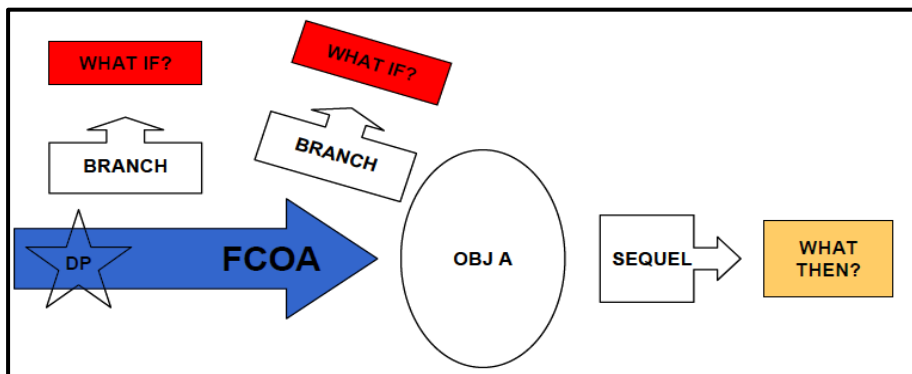
Products of COA Development

Information Brief

The information brief is presented by the staff to the Commander in order to gain his direction on which COAs to continue developing, to modify, or to drop. Prevents wasted staff effort on unacceptable COAs. For a templated format, see "*Information Brief Format*".

COA Comparison Wargame Products

The COA comparison wargame has several important products. Each of these is populated as the game progresses. These are discussed in detail under "*Wargame*" and "*Command and Staff Tools*".

- **Wargame Information Capturing**: The wargame will produce a large number of deductions, issues, possible Branches and Sequels, and points for clarification. These must all be captured electronically for rapid distribution and resolution. All Branches are engaged in this.
- **Synchronization Matrix**: This tool is used to ensure that at each stage of the FCOA, every asset and capability of the force is dedicated to an activity that achieves an objective or contributes to the main effort. It can also assist in de-conflicting activities in time and space, and identifying under-utilized assets. Normally a G5 responsibility, it provides the basis for the Decision Support Template.
- **Effects Guidance Matrix**: The EGM (previously referred to as an "Attack Guidance Matrix") is the source document for the targeting process. It identifies potential targets, allocates surveillance and engagement means, sets triggers and establishes the effects (lethal/non-lethal) to be achieved in both the physical and moral planes. The EGM is an important complement to the Synch Matrix: together they provide detail of how assets will be used to create the battle-winning effects. EGM may be the responsibility of G5, or of the CO CS Arty (or equivalent).
- **Decision Support Template**: The DST is developed during the COA wargame. It combines information from the Synch Matrix, the EGM and from IPB, to provide a graphic representation of how the COA would be fought. This graphic is normally supported by a tabular description of actions to be taken at each DP/NAI/TAI. It is called "Decision Support" because it indicates to the Commander specific points in time and space at which he will have to make decisions about target engagement, manoeuvre, commitment of countermoves forces, etc. The DST is a G5 responsibility.

Stage 3

Decision Brief

The decision brief is presented by staff to the Commander, following the COA comparison process. Includes a recommended FCOA, based on the product of the COA comparison. Purpose is to enable the Commander's final decision on which FCOA will be developed into the plan. The Commander may also give further planning guidance. For a formatted template, see "*Decision Brief Format*".

Concept of Operations

Following the final selection of FCOA, the staff may expand the FCOA into a CONOPS. This serves two purposes: to be used to gain execution authority from higher commanders, and to form the basis for the plan. For a formatted template, see "*Concept of Operations Backbrief Format*".

Updated Warning Order

Once it is clear which FCOA will become the plan, staff will issue a supplementary Wng O to update subordinate commanders and enable planning at lower levels. For a formatted template, see "*Detailed Warning Order Format*".

The Commander in COA Development

The main inputs by the Commander into COA Development are:

- Provision of clear and timely CPG based on his Mission Analysis;
- Selection of FCOAs at the Info Brief, with further CPG as required; and
- Final selection of one FCOA for plan development, with any further CPG.

The Staff in COA Development

The staff activities will include:

- Participation in review of CPG;
- Staff Analysis of Factors;
- Development of ECOAs (primarily G2 but others may assist);
- Development of FCOAs;
- Preparation and delivery of Information Brief;
- COA Comparison process including the wargame and development of its products;
- Preparation of Decision Brief;
- Preparation and Issue of Wng O; and
- Preparation and Issue of CONOPS

COA Development Templates and Products

Information Brief Format

Briefer	Suggested Content
COS	• Type and Security Classification of Briefing • Purpose and Scope of Briefing • Review of CPG with respect to COA development
G2	• ECOAs (MLECOA, MDECOA) • ISTAR Concept (not an ISTAR plan yet)
G5	• FCOAs
Other Staff	• Initial support concepts (outline only)
COS	• Critical issues for Commander's attention and CCIR update • Summary comments: is Commander's guidance required?
Commander	• Identifies COAs to continue, modify, drop • Additional planning guidance as required

Decision Brief Format

Briefer	Suggested Content
COS	• Type and Security Classification of Briefing • Purpose and Scope of Briefing • Assumptions used (and sources of assumptions) • CCIR Update
G2	• ECOA update (only as needed)
G3	• Update to current ops situation (only as needed)
G5	• Describe FCOAs, with outline Branches/Sequels • Outline comparison process (criteria used?) • Present results of COA Comparison (advantages, disadvantages, ratings) • Recommended FCOA, with justification
Other Staff	• Support G5 as required
COS	• Questions/discussion • Restate recommended FCOA • Request Commander's decision
Commander	• Decide on FCOA for plan development • Additional planning guidance as required

Stage 3

Concept of Operations Backbrief Format

All standard military writing procedures for an order are followed where applicable. The CONOPS is assigned a number for control and a name for recognition. The CONOPS is not a fully developed plan: some areas may exist only as concepts. Normally a copy will be sent/briefed higher to obtain execution authority. Omit portions not applicable/redundant.

Topic	Suggested Content
Situation	• Background to the development of the CONOPS • Higher Comd's Intent, CONOPS and End State (briefly) • Limitations (Constraints/Restraints) • Assumptions (and sources) • Enemy & Friendly Forces overview • Tasks (identify Essential Task)
Mission	• Mission Statement
Execution	• Intent • Scheme of Manoeuvre & Phasing • Main Effort • Outline Groupings • End State and criteria for success • Force capability requirements • Key tasks assigned to subordinates (i.e.: reserve demolition guard) • Coordinating Instructions • Fire Support concept • Targeting concept (key targets, collateral damage) • Force Protection
Service Support	• CSS Concept • CSS Functional Areas (Maint/Recovery, Supply, Tn) • HN Support • Medical Support • Personnel Support
Command & Signals	• C2 Concept (Command arrangements, HQ config/depl) • CIS Concept
Comd's Summary	• Key deductions • Decision points • Pre-conditions for success • Risk Assessment (type, degree, mitigation)
Annexes	• Task Organization • Scheme of Manoeuvre Graphic • Statement of Requirements (additional resources)

Stage 3

OPP Stage Four – Plan Development

The Purpose of Plan Development

Stage Four answers the question ""How do I translate the chosen solution into a plan for action?" Plan development starts with the FCOA selected by the Commander as a result of the Decision Brief, and expands it from a well-articulated idea into concrete direction which commanders and their units can execute in their battlespace. Plan development is the stage during which the issues and shortfalls identified during FCOA development are resolved. The Branches and Sequels that were identified in outline form in previous stages of the OPP are fully developed at this stage: in some cases this may require an OPP cycle dedicated to a Branch or Sequel. Synchronization of manoeuvre, effects and assets was begun during COA development: in plan development it will be worked out in detail and finalized.

Components of Plan Development

CONOPS Approval by Higher

In most cases, the Commander will be required to brief his CONOPS to his higher commander, in order to obtain authority to proceed. As a worst case, this may result in significant last-minute changes to the CONOPS (and thus to the plan): the staff must be ready for this. These changes can be mitigated by good liaison with higher HQ throughout the planning process. See "*Concept of Operations Backbrief Format*".

Plan Wargame

The plan wargame is the most powerful and comprehensive tool for plan development. Typically longer and more detailed than a COA comparison wargame, the plan wargame exercises the selected FCOA in detail, including working out the Branches and Sequels. It allows the staff to fully envision the entire battle as it should play out in the battlespace. It also identifies shortfalls, issues and conflicts that must be resolved before the plan can become an order. The command and staff tools that were developed in Stage Three are now finalized using information generated by the plan wargame: the Synch Matrix, EGM and DST. These will transition from G5 planning tools to battle-control tools in the hands of the G3 current ops staffs. Although the Commander probably did not participate in the COA comparison wargames, he may now provide guidance during the plan wargame to ensure that the plan evolves as he envisions. The plan wargame is discussed in detail in the "*Wargame*" section.

Stage 4

Staff Identify and Resolve Shortfalls and Issues

The CONOPS brief to higher, the plan wargame, ongoing staff analyses or changes in the current situation can all identify shortfalls in the plan and issues that must be resolved before an order can be issued. All staff Branches will be engaged in this resolution process, which will involve communications with higher, flanking and subordinate staffs.

Plan Preparation

Normally using the approved CONOPS as a start point, (but possibly a less fully developed FCOA) staff will build the plan throughout Stage Four. This process involves assembling confirmed information and data, organizing it into logical structures, and incorporating it into the body of the plan. At the level of planning represented on the AOC, the framework of the plan will be the structure of the Op O, with its associated annexes. Once drafted, the order must be reviewed in detail before being passed to the COS to obtain the Commander's signature. Ideally, the completion of the plan can then be followed rapidly by the issue of the order.

Products of Plan Development

Plans

A plan is a detailed instruction for a proposed activity. It may describe a known mission that will occur at a fixed point in the future (OPLAN), or it may be designed to deal with a contingency (CONPLAN). A plan does not direct immediate execution, and may contain assumptions or portions that must be updated before it can be put into effect. Once an Implementation Order (Impl O) is issued, a plan becomes an order.

Orders

An order is a formal direction, issued by a commander to subordinates, to execute a mission. It will be complete and up to date in all details, and will normally require execution immediately or in the near future. Orders will be distributed by any means available: verbal, electronic or in hard copy.

The Commander in Plan Development

The main inputs from the Commander in Stage Four will include:

- Obtaining higher approval of the CONOPS;
- Guidance during plan wargame; and
- Final review and signature of the order.

The Staff in Plan Development

Stage Four staff activities will include:

- Preparing the CONOPS brief and assisting with its presentation as required;
- Preparation and conduct of the plan wargame;
- Finalization of command and staff tools (Synch matrix, EGM, DST);
- Development of Branches and Sequels;
- Staff analysis to resolve shortfalls and issues;
- Finalization of the plan in written form (as an Op O);
- Obtaining Commander's approval and signature on Op O;
- Distribute Op O IAW Distribution List and obtain acknowledgements; and
- Preparing the Orders briefing and Mission Rehearsal as required.

Stage 4

Page intentionally left blank

Stage 4

OPP Stage Five – Plan Review

The Purpose of Plan Review

Plan review answers the question "is my plan still relevant?" Earlier in this handbook we have identified that a plan must be adjusted as the conditions change. A plan which does not adapt to deal with reality will be quickly overtaken by events. Plan review is the process for determining whether or not a plan needs to be adjusted after it has been issued.

Components of Plan Review

Progress Review

A progress review is conducted while the plan is being executed as an Op O. As each phase of the plan unfolds, the Commander and staff assess the situation and the changing nature of the problem the plan was intended to solve. They are alert for new threats and sudden opportunities. The Commander will direct whether the changes will be made by minor adjustments, by implementing a Branch or Sequel, or by initiating a new OPP cycle.

Periodic Review

Periodic review is applied to OPLANS and CONPLANS prior to their implementation. As these plans may be drawn up long before they are to be executed, the assumptions and analysis that provide their rationale may change or become obsolete. The Commander and staff must schedule periodic reviews of these plans to ensure that they are relevant. A plan wargame, involving the subordinate commanders who will execute the plan, is a very effective way to conduct a detailed periodic review. The wargame will indicate the degree of updating required: minor adjustments or a new OPP cycle.

Products of Plan Review

Products of the plan review will include:

- Frag O to change plan under execution or to execute Branches/Sequels;
- Revised Op O;
- Plan review wargame results; and
- Revised OPLAN and/or CONPLAN.

Stage 5

The Commander in Plan Review

The main inputs from the Commander in Stage Five will include:

- Identify requirement for plan review;
- Participate in new OPP cycle as required; and
- Approve plan revisions.

The Staff in Plan Review

Stage Five staff activities will include:

- G2 and G3/G35 staffs monitor current operations to identify need for plan changes;
- G5 staff (and other staff as required) conduct plan adjustment (including new OPP cycle if required);
- G5 staff coordinate and conduct periodic plan review including wargames; and
- G5 staff revise and issue amendments.

Stage 5

Wargame

The purpose of the Wargame

The main reason for conducting a wargame is to enable the Commander and staff to visualize an operation or its critical parts. By graphically representing the forces, factors and possibilities present in the battlespace, and breaking an operation down into component phases, a wargame can generate ideas and understanding that reading or discussion alone will overlook. The wargame can do several other things:

- Point out which tasks are most vital to the operation, and identify key tasks and decision points that may have been overlooked;
- Identify previously unseen threats, risks and opportunities, and develop measures to deal with them (such as Branches and Sequels)
- Build familiarity with the operation, particularly for those who were not involved in its conception but must execute a portion of it;
- Help participants understand the flow of the battle. This is particularly true for the scheme of manoeuvre, and how the various parts of the force will contribute to it;
- Identify the forces, capabilities and activities that must be synchronized throughout the operation, and thus contribute to the development of coordinating instructions and support function plans;
- Provide a clear means for comparison of options against each other and against various threats and criteria; and
- If the Commander is available to participate in a wargame, it allows the staff participants (including liaison officers and collaborative planners) to fully understand his intent and concept of operations.

It is equally important to realize what the wargame does **not** do: it does not predict. A wargame helps to visualize, and is a capable indicator of possible outcomes, but it cannot say what will definitely happen. While the AOC focuses primarily on the use of the wargame in the "*OPP Stage Three – Course of Action Development*" and the "*OPP Stage Four – Plan Development*", there is no intent to arbitrarily limit its application. If time and resources permit, the wargame can be applied to:

- *OPP Stage Two – Orientation*: can be used to identify and understand relationships in the battlespace between factors and players;
- *OPP Stage Three – Course of Action Development*: can be used to refine ideas into COA;
- Mission Rehearsal: a simplified form of wargame to support a mission rehearsal; and
- *OPP Stage Five – Plan Review*: can be used to conduct a review of an existing plan.

Wargame

A wargame can be as simple or as complex as required, as long as the guidance provided here is followed. While it might appear that a wargame is only a "nice to do" that really just consumes scarce planning time, it is in fact one of the most valuable and powerful planning tools available. The time spent on a well-run wargame may save hours and days of wasted effort elsewhere.

Components of the Wargame

All wargames have several basic components in common:

- A clearly stated purpose and guidance (Mission Statement, COA description, CONOPs, etc.);
- A graphic representation of the battlespace (digital screen, table top, ground model, etc.);
- Iconic representation of friendly forces likely to be engaged in the operation, normally down to two levels below (i.e.: Brigade wargame concerns itself with combat teams);
- Iconic representation of enemy forces likely to be engaged in the operation or to create significant effects/influence in the battlespace;
- Agreed upon timelines for both enemy and friendly actions, synchronized to permit engagement;
- An agreed method of play including combat result calculation. "Play" means graphically representing the action/reaction/counteraction cycle;
- A clear set of rules; and
- Means for capturing and displaying findings and deductions arrived at during the game, such as a Synch Matrix, DST, Timeline and EGM.

Wargame Team Organization

A wargame team has no fixed size: as a rule, the more detailed the wargame needs to be, the more people will be involved, see "Wargame Team Duties". The generic breakdown of wargame personnel manning includes:

- **Control Team**: COS, G5 to oversee the entire game, referee and make final decisions;
- **ECOA Team**: From G2 Branch: fights the ECOA using adversary tactics and mindset;
- **FCOA Team**: From G5 Branch (augmented as required): fights the FCOA exactly as written, includes a "scribe" who records all relevant deductions; and
- **Supporting Staff**: From all staff Branches relevant to the FCOA: provide analysis and advice on the feasibility of the FCOA, record data to develop support function plans.

Wargame

- **Observers**: May include attached liaison officers; collaborative planners; Other Government Department representatives, etc.

NOTE

While a wargame is adversarial, participants must avoid personalizing their involvement by argument or becoming attached to a particular COA

Wargame Methods

There are three standard wargame methods: Avenue in Depth, Belt, and Box. Each method is more suited to depict particular types of operations than others. Staffs are free to develop adaptations, method combinations or new methods as their operational situation demands. For example, a COA which involves a lengthy approach followed by an assault river crossing might use a wargame consisting a combination of Avenue in Depth followed by Box. An amphibious landing followed by a thrust inland could be gamed with Belt followed by Avenue in Depth.

Avenue in Depth Method

Avenue in Depth examines one avenue of approach at a time, beginning with the main effort. It focuses on linear routes and is thus best suited to offensive operations, or in defensive FCOAs when the enemy will be canalized by terrain (and friendly mutual support may also be restricted). The avenues and canalizing terrain are derived from IPB. DPs or critical events can be gamed throughout the length of the avenue.
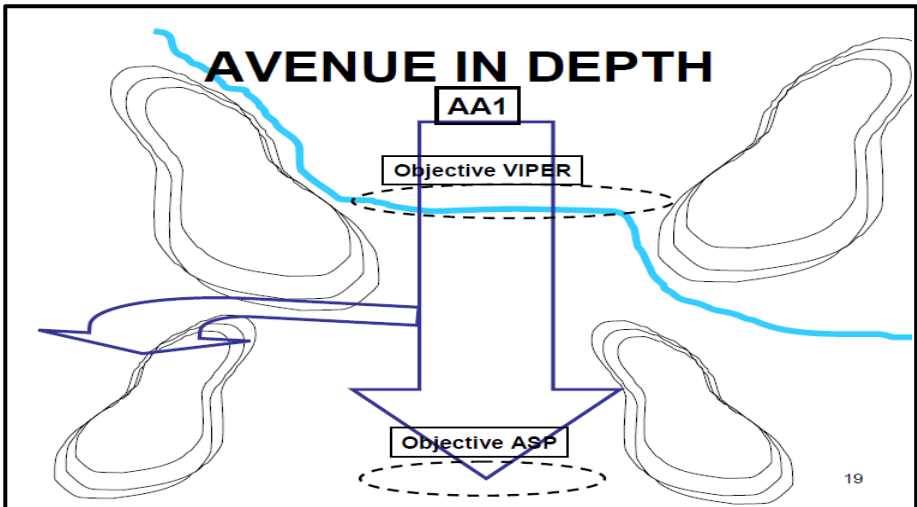
Belt Method

The belt method envisions the battlespace as a series of strips or "belts" that span the area of operations laterally. The belts are derived from existing terrain compartmentalization (river lines, defence lines, etc.) or by linking a group of events that will occur at approximately the same time (or in defined phases) across a wide front. The belts should be drawn wider than your own frontage to ensure you consider flanking force actions. The belt method focuses on all the forces affecting events in one particular timeframe. Belt method is commonly used for amphibious landings, larger assault water crossings, transition and airmobile operations. If time is short, the Commander may direct that only certain belts will be included in the wargame. At a minimum, belts should examine:

- Initial contact along the forward line of own troops, line of departure, or in covering force area;
- Initial penetration along the forward edge of the battle area;
- Passage of lines; and
- The limit of advance in an offensive operation, bridgehead line in an assault crossing, or the limit of penetration in the defence.

Decision Points and critical events can be addressed as they occur in each belt: this sequencing may drive the shaping of the belts.

BELT METHOD

BELT 3

HANDOVER LINE

W   W

BELT 2

BREAK CLEAN LINE

BELT 1

20
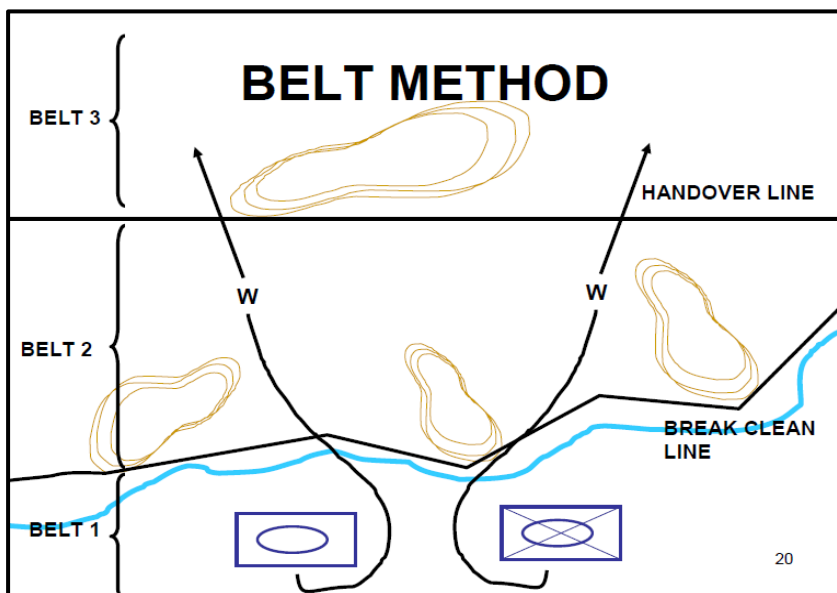
Box Method

The box method focuses on specific Decision Points or critical events at specific locations, based on the assumption that friendly forces engaged elsewhere can handle the tasks assigned to them. Typically the box method is used to examine activities such as possible actions at a Decision Point, the seizure of a single objective, an individual assault crossing point or a crucial kill zone. Because of its limited focus, the box method is generally the simplest and the fastest method to use. This tight focus is also its key limitation: it does not consider much that is "outside the box".

This method lends itself to a wargame for COIN operations or stability tasks, as it can focus on actions in a particular village, district or tribal area.

BOX METHOD

AA1

CRITICAL EVENT:
Secure Objective
VIPER

Objective VIPER

Objective ASP
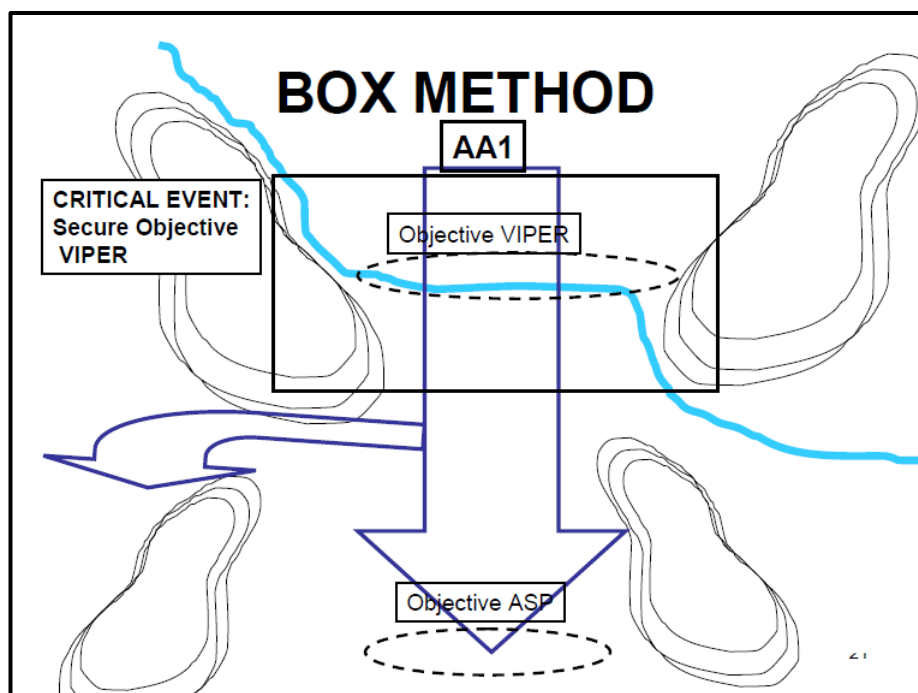
Wargame

General Rules for Wargames

- Remain objective and unbiased;
- The side with the initiative moves first in the turn;
- The COS makes final decisions as required, but avoids interfering;
- Follow the synchronized timelines: this applies equally to Enemy and Friendly teams. If the Enemy and Friendly timelines bear no relation to each other, the two sides may "play past" each other;
- Play the COA as it is written: avoid the temptation to make "running repairs". Note any deficiencies for COA refinement;
- Ensure actions, reactions, counteractions and results are recorded;
- Accurately record the advantages and disadvantages of each COA as they appear;
- Avoid jumping to a conclusion, but continually assess a COA for feasibility. Once it becomes clearly unfeasible, stop the wargame it;
- Discipline is important to avoid wasting time. Speak clearly and briefly. Avoid side discussions and arguments. Chief Controller may invite comment and discussion if he sees value in it;
- When calculating combat results, use only the forces actually involved in the engagement, not every unit in the vicinity; and
- Compare the FCOA against ECOAs and COA criteria, but not against each other during the wargame. Relative comparison of FCOAs against each other is done after all the wargame results are in, in order to establish a rank ordering for Most Recommended to Least Recommended.

Wargame Templates and Products

Planning the Wargame

Considerations	Remarks
What is the purpose of the wargame?	• COA Comparison, Plan Development, etc. Identify the required outputs.
How much time have we got?	• Drives modifications and abbreviations to wargame process.
What portion of the operation will the game examine?	• Which FCOA? • Entire FCOA? • Certain Decision Points? • Phases? • A Specific time period?
Which wargame method will be used?	• Avenue in Depth, Belt Method, Box Method, a combination/modification? • Tabletop or digital?
What is the order of priority to wargame multiple FCOAs against ECOAs?	• Consider time available. • Minimum is against MLECOA and MDECOA.
What assumptions are in effect?	• Validity? • Necessity? • Source? • During the conduct of the game, make note of the impact of these assumptions
Who must participate?	• Key decision-makers, stake holders and staff with significant impact on the plan. • Consider involvement of LO and collaborative planners.
Alert participants	• Provide early warning for participation and staff preparation. Ensure participants have enough information to prepare their contribution.

Wargame

Wargame Team Duties

Team/Position	Staff Source	Remarks
Control Team		
Referee ("Final Arbiter")	COS	• Overall in charge of wargame, and ensures all staff Branches contribute. • Introduces and concludes wargame, ensuring that CPG is fully understood. Makes final arbitration as required. • Represent Comd if he is not available.
Chief Controller ("Ringmaster" or "Pit Boss")	G5	• Responsible to COS for detailed planning, preparation and conduct of wargame. • Supervises the conduct of each turn. Ensures scribes are capturing data. Controls Support Staff.
ECOA Team		
Team Leader	G2 Plans	• Enemy Force Commander. • Responsible to G5 for development, preparation and play of ECOA.
Team Member(s)	G2 Staff	• Manipulate enemy forces. Provide event templates. • Record data for draft HVTL, Intelligence Collection Plan (including PIRs).
FCOA Team		
Team Leader	G5 Plans or G35	• Friendly Force Commander. Responsible to G5 for development, preparation and play of FCOA. • Identifies Decision Points, possible Branches/Sequels. • Oversees targeting development.
Lethal Targeting Officer	G5 Staff, Effects or Targeting Staff (depending on HQ structure)	• Records data for HPTL and TAI. • Refines fire support concept.
Non-Lethal Targeting Officer	G5 Staff, IO Staff Effects/Targeting Staff, (depending on HQ structure)	• Records data to develop non-lethal aspects of EGM. • Refines IO concept.
ISTAR Coordinator	ISTAR CC staff	• Records data to develop ISTAR plan.

Wargame

Team/Position	Staff Source	Remarks
Scribe	G5 or G35 Staff	• Records wargame results with emphasis on info affecting FCOA. • Updates Synchronization Matrix and Decision Support Template. • May be tasked to apply Force Ratio Calculator.
Support Staff		
Sustainment Representatives	G4, G1 Staffs	• Assess ability of each CSS functional area to support the FCOA. • Consider impact of ECOA on sustainment plans. Assess impact of equipment and personnel casualties. • Record all data relevant to sustainment planning.
Specialist Staff Representatives	Fires, Aviation, Air, Engineer, MP, Signals, EW, IO, CIMIC, OGD, etc. (as required)	• Assess ability of respective functional area to support the FCOA. • Consider impact of ECOA on function. • Record all data relevant to functional area planning.
Observers	Liaison Officers, Collaborative Planners, HN Rep, etc.	• Normally for their situational awareness only, but may be asked to contribute and/or participate as needed.

This table provides a recommended structure for any wargame, intended to ensure that all functions are accounted for. Each HQ may adapt this to its needs, the nature of the wargame, etc.

Wargame

Preparing the Wargame

Actions	Remarks
Review CPG	• Mission Statement • Intent • End State and conditions for success • Assumptions • Constraints/Restraints • COA Comparison Criteria • CCIR List
Review IPB Products	• FLOCARK • Meteorology for time period of game • Situation Templates
Gather Enemy Information	• ORBAT and probable effectiveness • Situation Templates • ECOAs (minimum MLECOA & MDECOA) • Establish probable enemy timeline
List Friendly Forces	• Two levels down • Own integral and assigned forces • Manœuvre, combat support, combat service support • Flanking forces • Groupings and command relationships • Operational effectiveness at game start (50%, etc.)
List All Assumptions	• Identified during wargame planning • Monitor during game
List Critical Events and Decision Points	• Essential tasks • Complex activities • Triggers for decisions (commit reserve, activate Branch Plan, etc.) • Identify for each ECOA and link to NAI/TAI • Be alert for new DPs arising in game
Establish Friendly Timeline	• Important for synchronization and DST • Synchronize with Enemy timeline to ensure Enemy and Friendly events relate to each other
Set Up Wargame Room	• Game table or digital display of battlespace • Maps and imagery • Game icons • Post Synch Matrix, DST, timeline (sketch or digital) for easy access

Wargame

Actions	Remarks
	• CPG extracts and COA Comparison Criteria • Seating for each team element and observers
Establish Link With Current Operations	• G3 Representative • LCSS and Battleview Display • Periodic Update Briefings
Establish Data Recording System	• Scribes to have manual or digital records • Display data game team needs to refer to • Protocols for recording, saving, disseminating wargame data
Deploy Enemy Forces In Game Battlespace	• Lay down all those forces having a role or influence in the first turn of the game, based on the ECOA in play
Deploy Friendly Forces in Game Battlespace	• Lay down all forces relevant to first turn, based on the FOCA in play
Review Wargame Rules	• Ensure all understand before game commences.

INFORMATION POSTED FOR QUICK REFERENCE

SUPPORT

FCOA

CONTROL

GAME TABLE OR DIGITAL DISPLAYS

OBSERVERS

ECOA

SUGGESTED WARGAME LAYOUT
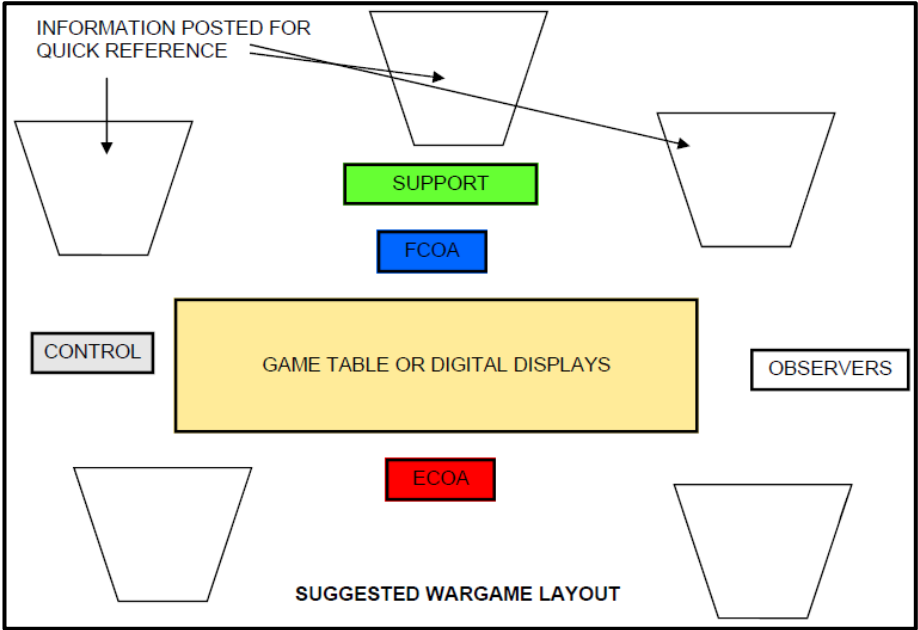
Wargame

Synchronized Wargame Timeline

The synchronized timelines are estimates drawn up during wargame preparation. The Chief Controller may have this prepared by a member of G5 staff, or it may be coordinated directly between the FCOA and ECOA teams. The purpose is to ensure that the two teams are working in the same time frame and do not "play past" each other. The wargame may result in adjustments to these timelines, which may contribute to the Synch Matrix, DST, etc.

Turn lengths can be superimposed on this table if desired.

Estimated timings for own critical events, manoeuvre progress, etc. based on the FCOA

Proposed FCOA Timeline

H-3	H-2	H-1	H-Hr	H+1	H+2	H+3	H+4	H+6	H+7
				LOCAL AIR SUPERIORITY					
						OBJ A CAPTURED			
			XING POINT OPEN						
							OBJ B CAPTURED		
0100	0200	0300	0400	0500	0600	0700	0800	0900	1000
		912 BTG LIKELY DEFENSIBLE ON OBJ A							
						916 TK REGT RES TO SP 912 BTG			
	AD ASSETS IN RANGE								

Actual elapsed timeline

G2 estimate of key enemy timings and actions based on the ECOA

Wargame

Wargame Synchronization Matrix - Template

FCOA	**FCOA Sketch**			
Mission:				
CONOPS:				

Op Timeline	**H-1**	**H**	**H+1**	**H+2**
Enemy Actions				
Friendly Actions				
Decision Points				
ISTAR				
Manoeuvre — Covering Force				
Main Body				
Reserve				
Fire Sp — Deep				
Close				
Influence Activities				
Airspace C2				
Air Defense				
Engineers — Mobility				
Counter-mobility				
Force Protection				
MP / TCP				
Sustainment				
CIS				

Wargame

Wargame Synchronization Matrix – Sample Data

FCOA	FCOA Sketch
Mission: CONOPS:	• Sufficient details to explain COA in conjunction with text. • One technique is to relate the sketch to the Op Timeline by indicating actions above the time block they are expected to occur in. • This provides a start point to adjust timings based on game results

Op Timeline		H-1	H	H+1	H+2
Enemy Actions		• As per enemy actions from wargame			
Friendly Actions		• Key actions from wargame			
Decision Points		• Which DPs activated during period? • New DPs required?			
ISTAR		• Assets to NAIs/TAIs based on wargame			
Manoeuvre	Covering Force	Status/Actions?			
	Main Body	Status/Actions?			
	Reserve	Status/NTM/Actions?			
Fire Sp	Deep	Systems? Probable targets/effects?			
	Close	Systems? Probable targets/effects?			
Influence Activities		Probable targets/effects?			
Airspace C2		Air activities in support of Op? CAS sorties?			
Air Defense		Priorities and weapon states			
Engineers	Mobility	Assets and actions			
	Counter-mobility	Assets, actions and effects			
Force Protection		FP state, Security measures, CBRN State			
MP / TCP		Route priorities, MP assets, tasks			
Sustainment		Push/Pull, Replenishment/Recovery priorities CASEVAC			
CIS		HQ config & moves, EMCON, CIS issues			

Wargame

Wargame Work Sheet

The master worksheet is maintained by the FCOA Team Scribe: other teams may keep their own as required. The purpose of the worksheet is to keep a record of the outcome of each turn, attrition effects, and adjustments that must be made as result (staff may also choose to enter information directly into the Synch Matrix, G5 Master Matrix, etc.). The headings shown are recommended: others can be added as needed.

Wargame Worksheet
FCOA:
Time Period:
ECOA:
Method:

Turn	Action	Reaction	Counter Action	Time	Critical Event	DP	CCIR	Remarks	Adjustments
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Conduct of the Wargame

Once the preparations described in "*Preparing the Wargame*" are complete, the wargame can begin. The conduct outlined below is applicable to any type of wargame. The basic conduct of the games is very similar: the differences lie in the intent/outputs and the degree of detail involved in play.

The COA Comparison Wargame is intended to support the Decision Brief to the Commander, by evaluating each FCOA. The output is a selection of the wargame FCOAs which can then be ranked in a matrix for briefing to the Commander. The COA Wargame remains largely at a conceptual level: aspects such as Branches and Sequels, Support Plans, EGM, etc. exist only in sufficient outline to complete the comparison process. Accordingly, it requires fewer people to conduct.

The Plan Development Wargame is intended to translate a single chosen FCOA into a plan for execution. Its output is, ultimately, an OPLAN or Op O with supporting annexes, as well as complete Command Support Tools such as the Synch Matrix, DST and EGM. The Plan Development Wargame is conducted in full detail, normally employing turns that represent shorter time periods than those used in the COA Wargame. As Branches and Sequels are identified, these will be developed as far as practical, and may have a wargame dedicated to them. The requirement for detail, and the need to identify and resolve shortcomings and issues, mean that a Plan Wargame will normally require more time and more staff to conduct.

Wargame

Action	Actor	Remarks
Opening Brief	Chief Controller	• Purpose of game and required outputs. • Review of COA Criteria and key aspects of CPG. • Ensure scribes are ready to record.
Enemy Situation and ECOA	ECOA Team Leader	• Identify forces engaged or capable of influencing this turn. • Outline ECOA. • Highlight enemy timeline.
Friendly Situation and FCOA	FCOA Team Leader	• Identify forces engaged or capable of influencing this turn. • Explain grouping. • Outline FCOA including phasing, DPs, critical events, timeline.
Action	Side with Initiative	• Team Leader describes scheme of manoeuvre and main effort in this turn. • Moves own units. • Describes end state: "we have now positioned two combat teams up on the river obstacle, ready to commence Phase II".
Reaction	Responding Side	• Team Leader describes his force's reaction. • Moves own units. • Describes own end state.
Counteraction	Side with Initiative	• Team Leader describes his force's counteraction. • Moves own units. • Describes own end state.
Attrition Assessment	FCOA Scribe or G4/G1 Rep	• Apply the Force Ratio Calculator or other attrition assessment tool to the engagements. • Determine the personnel and equipment casualty rates. • This assists in judging outcome of the turn, and in planning sustainment. **DO NOT WASTE TIME ARGUING RESULTS**

Wargame

Action	Actor	Remarks
Support Staff Input	Support Staff Team members	• Each functional area briefly analyzes the turn from their perspective, identifying how they would support the FCOA, impact of ECOA on their function. • Identify any major concerns of supportability and capture all data.
CST Update	FCOA Team	• Update Synchronization Matrix, DST, EGM, Timeline, etc. based on results.
Summary	COS	• Accepts results of turn. • Makes any necessary comment on feasibility of FCOA. • Identify Branches/Sequels for further development. • May invite observer comment.
Initiate Next Turn	G5	• Indicate where turn is on timeline (have we jumped ahead?). • Ensure FCOA and ECOA timelines are still synchronized. • State which side has initiative (may have passed as a result of previous turn)
Action	Side with Initiative	• As for first turn, introducing any new forces. State changes in operational effectiveness as a result of previous turn attrition.
Reaction	Responding Side	• As above.
Counteraction	Side with Initiative	• As above.

The remainder of the turn (and all subsequent turns) is played out as for the first turn. The game continues until the COS determines that the outcome is clear. At this point he ends the game, summarizes results, and issues any further planning direction concerning the FCOA in question. This wargame process is repeated for each FCOA until all have been gamed. Results are captured, organized and presented in COA comparison matrix to support the Decision Brief.

Wargame

Stability Operations Wargame

A stability operations wargame could provide valuable feedback for planning. It is more time consuming as it requires more lead time than a conventional wargame, however, it ensures that the staff are synchronized prior to the wargame.

In this methodology it is critical to identify the purpose of the wargame. Using this model, the purpose is to identify positive or negative effects in relation to the LOO. Understanding of the campaign plan is also critical. Identification of other points such as risk, advantages, disadvantages, decision or decisive points, etc., are still required to note. This process is based on a more intellectual discussion that can be difficult to contextualize. Discipline and control are critical to not waste time in details that are not crucial and to avoid running repairs. Use of a whiteboard could prove valuable if 'brainstorming' techniques are used (see "*Stability Operations Wargame Whiteboard Example*").

It is important that all staff enablers understand the 'how' in which they will execute the effects that were developed by the CO CS Arty. This method will fail if this is not understood. Turns must focus on achieving a task and what effects are required to achieve those tasks. Link analysis is required as a discussion tool, particularly with 1st, 2nd, and 3rd order effects.

Stability Operations Wargame Whiteboard Example

Stability Operations Wargame Turn Flow

*G5 / Ch Fires – populate prior to wargame – at least one turn must be rehearsed prior to the wargame to ensure the staff understand the methodology
- This table should be populated prior to the wargame. This will ensure that time will not be wasted on synchronization details that should be coordinated during planning

STAB OPS WARGAME TURN FLOW

G5 - Activity or Event (action)	LOO	Chief Fires (what effects we need to do to achieve the action)	Staff Input (how to achieve effects)	G2 - Internal 2nd / 3rd order effect	G2 - External 2nd / 3rd order effect	G5 – Identify Key Issues
Marginalize Insurgency in Area A	1	1 ISOLATE population from INS 2 PERSUADE Governor 3 INFORM Police Chief 4 etc.	1A ISTAR – Humint identify means to message to pop X 1B PSYOPS message to pop X via TV 1C CIMIC implement local work program 1D HHQ - Capture/Kill INS Comd Y 1E etc.	- Pop Y in Area A unhappy with attention to Pop X - Pop X limits interaction with INS - Pop Y protest FF aid in Area A	- Ins support network in area B provides weapons and supplies to Area A. Lowers attacks in Area B - Governor in Area B (who has links to INS) publicly disapproves FF in Area B - Increased IED strikes in area A to degrade FF synchronization - etc.	Risk Decisive Points HVTL, HPTL Gaps Advantages Disadvantages CCC etc.

OOM: G5 – task, Ch Fires – reqr effects to achieve tasks, enablers to support those effects, higher assets reqr, G2 reaction, G5 identify (risk, etc.), scribe confirmation

Stability Operations Wargame Scribe Worksheet

*G5 – Use as main scribe tool to synchronize staff for each COA.

STAB OPS WARGAME SCRIBE WORKSHEET

LOO	Action (activity or task)	Effect (we need to do)	Fires	ISTAR	IA	Engr / CIMIC	CSS	Advisors	Internal 2nd / 3rd order effect	External 2nd / 3rd order effect

Wargame

Stability Operations Wargame Skeleton

Action	Actor	Remarks
COS Intro	COS	• For stab ops focussed on effects as well as synchro across campaign plan.
Opening Brief	G5	• Intro specifics to wargame: purpose, method, criteria, layout, etc.
Enemy Situation and ECOA	ECOA Team Leader	• Identify forces engaged or capable of influencing this turn. • Outline ECOA. • Highlight enemy timeline.
Friendly Situation and FCOA	FCOA Team Leader	• Identify forces engaged or capable of influencing this turn. • Explain grouping. • Outline FCOA including phasing, DPs, critical events, timeline.
Initiate Turn Action	G5 Effects and/or Targeting Staff	• Identified activities within the LOOs (discussed as effects) will be used as action items and briefed. • These activities **WILL** be different by department as the different departments have different opportunities and vulnerabilities.
Reaction	G2	• Insurgent faction/belligerent group reaction and population reaction unique to the department. • Considerations for enemy reaction may include direct response to the expansion, insurgent faction reorg between departments, offensive action increase in all departments, attack on our credibility through terrorism, etc.
Counteraction	Effects and/or Targeting Staff	• Assess 2nd and 3rd order effects to determine impact on LOOs (COS).
Support Staff Input	Support Staff Team members	• Must include support to intended effects (i.e.: CIMIC/NGO…). • Identify any major concerns of supportability. • Capture all data.
Turn Summary	Scribe	• Confirmation of details.

Wargame

Action	Actor	Remarks
Initiate Next Turn Action	G5	• As for first turn, introducing any new forces. • State changes in operational effectiveness as a result of previous turn attrition.
Reaction	G2	• As for first turn, introducing any new forces. • State changes in operational effectiveness as a result of previous turn attrition.
Counteraction	Effects and/or Targeting Staff	• Assess 2nd and 3rd order effects to determine impact on LOOs (COS)
Turn Summary	Scribe	• Confirmation of details.
Wargame Summary	G5	• Wrap up of wargame
Conclusion	COS	• Identification of next steps

Wargame

Page intentionally left blank

Wargame

Command and Staff Tools

Overview

The Command and Staff Tools in this handbook are recommended examples: planners may adjust them to suit their requirements.

Decision Support Template

The DST is intended to aid the Commander in making critical decisions during the course of the operation. It can also act as a battle management tool for current operations staff. The DST differs from the Synch Matrix in that it has a narrower focus, and does not attempt to coordinate all the activities of all force assets. The DST is initially developed during the COA wargame process and is refined and finalized throughout the remainder of the OPP. Any DST must include the following information:

- A graphic of the COA;
- DP with indicators and triggers;
- NAIs and TAIs;
- Timings associated with anticipated manoeuvre of enemy and friendly forces;
- What assets are assigned against each DP/NAI/TAI; and
- What actions will be taken at each point (strike, observe, activate branch plan, etc.).
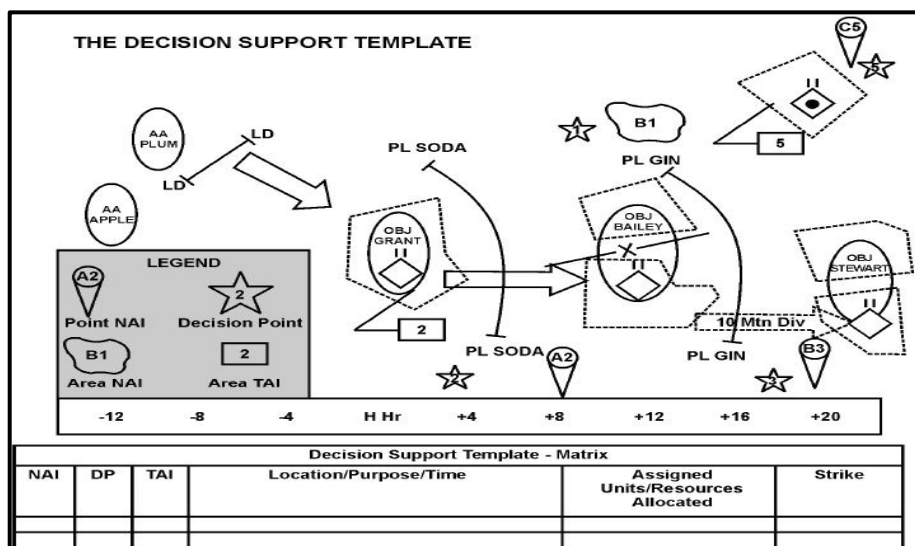
Synchronization Matrix

The Synchronization Matrix answers the question "who should be doing what, where and when?" throughout a particular FCOA. It provides a visual relationship between assets, time and activity. There is no prescribed format for the synchronization matrix. However, there are some details that are essential:

- A description of the friendly COA being synchronized, usually accompanied by a diagram/sketch of the COA;
- A time scale, usually established in relation to H-Hour;
- A description of the enemy COA at each time interval;
- A description of the friendly COA at each time interval;
- Location of decision points at the times they are activated; and
- Description of other friendly force activities in relation to each time interval.

As the wargame proceeds, actions and results can be entered into the matrix. This data then becomes the basis for refining the COA, finalizing COA Comparison, and ultimately for developing a plan. The synchronization matrix begins as a tool for recording the results of a wargame ("what did happen"), but it can evolve into an instrument for current operations staff to use in coordinating various elements of the plan ("what should happen"). The finalized matrix can be employed in the current ops center to assist in battle management, although it does not replace the DST.

It must not be applied too rigidly to the actual operation, for two reasons. First, this can result in missed opportunities that were not foreseen in the matrix. Second, the longer the operation endures, the more conditions change from the time at which the synchronization matrix was originally drawn up.
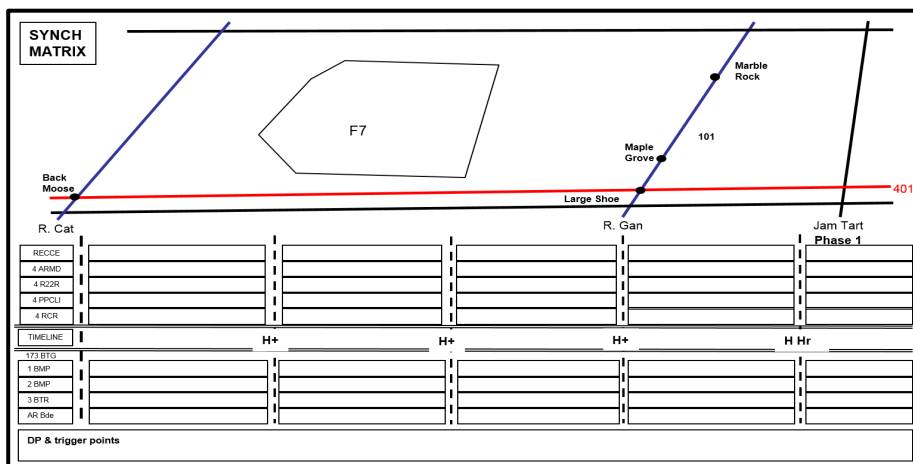
Operational Timeline

The purpose of the Operational Timeline is primarily to support the time estimate process. It helps to answer the question "how long will it take?" Secondarily, it can be used in conjunction with the Synch Matrix to plan the coordination of assets, activities and effects across the force. It is developed in rough form before the COA wargame process, then refined during it. The timeline provides a working display of the amount of time each FCOA requires to achieve its tasks, establish conditions for success and reach its end state. When completed, it presents all FCOAs relative to each other in terms of how much time they require. Essential elements are:

- A line showing elapsed time;
- Phases of the FCOA;
- Conditions created and important tasks achieved, in the order and estimated time that each FCOA is projected to achieve them; and
- A text table providing a brief explanation of what each DP/task represents.
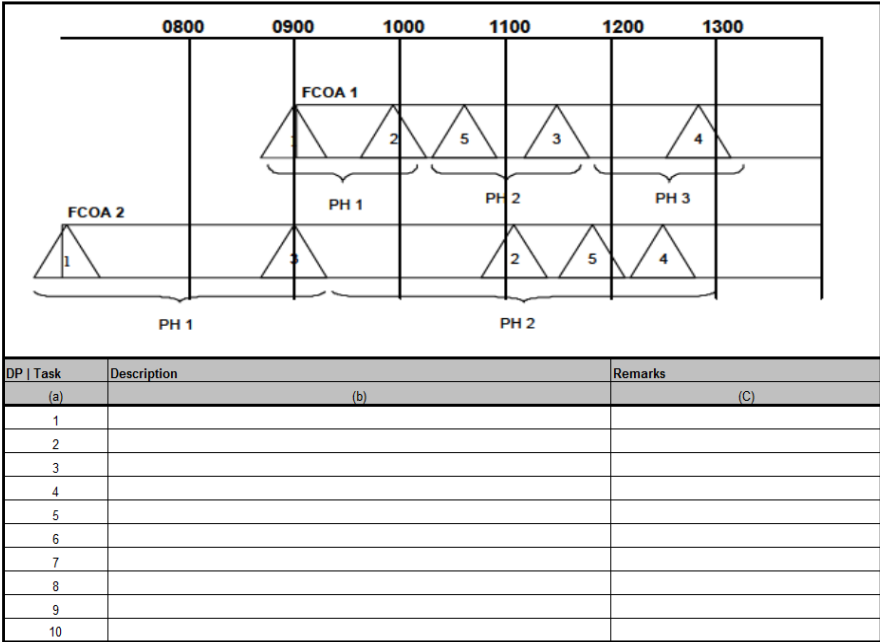
Effects Guidance Matrix

The EGM is a single-source document to provide guidance for the engagement of targets, both by lethal means (normally fires) and non-lethal means (normally various types of influence activities). It is a product of the targeting process, which is itself a complementary process to the OPP.

Depending upon the structure of the HQ, preparation of the EGM may be the staff responsibility of the CO CS Arty, the Targeting Cell (or equivalent structure) or the Fire Support planners. In any case, a number of branches will contribute to its development, reflecting the natures of the various effects required and the types of strike assets that can be employed. The obstacle plan, in particular, must be coordinated with the EGM (and the ISTAR Matrix) to ensure that the effects assigned to each obstacle are supported by fires and covered by some form of surveillance.

As the plan is refined through the stages of the OPP, the EGM will be adjusted accordingly. Once the operation commences, the EGM will guide the engagement activities required to create the specific effects. The results of engagements, and the development of the situation, will frequently cause modification to the EGM. The frequency of adjustment depends on the tempo of operations. Some lines on the EGM may change often, while others may remain constant throughout the operation.

The columns of the EGM linked to this page are self-explanatory: example entries are provided. Note that the lists of intended effects and of strike assets are neither exhaustive nor exclusive: adjust these to meet your situation.

EFFECTS GUIDANCE MATRIX

PRIORITY	TARGET	STATUS	LOCATION	EFFECT	ACTIVITY	CDE	AUTHORITY	MOE		REMARKS
								COLLECTOR	ASSESSMENT	

Notes:

Target: List the Target (short description).
Status: Military, Dual Purpose, Civilian, No Strike List.
Location: May be unknown at first.
Effect: Effects to be achieved.
Activity: List the lethal and non-lethal means and activities.

Collateral Damage Estimate (CDE): Levels 1 to 5. Levels will be determined by the Targeting Directive.
Authority: Authority required to strike or influence the target (Ex: Div Comd, Bde Comd).
MOP: The assessment of the MOP will be done and discussed through the Targeting Cycle.
MOE: List the collector (assets/means) and indicators to assess MOE.
Remarks: Any notes required to help keeping track of that target through the process (Ex: See KLE Report).

Possible examples:

Destroy by AH, CAS
Operations by Manoeuvre Forces (Ex: BG to Disrupt)
EW Jamming
Capture/Kill by SOF
PSYOPS (Ex: Radio Broadcast, Leaflet Drop, etc.)
CIMIC (Ex: Projects, Liaison with Local Authorities, etc.)
Key Leader Engagement (KLE)
Media Operations
Suppress, Neutralize, Destroy by Arty

Wargame

List of Abbreviations

AD	Air Defence
AI	Area of Interest
AIR	Area of Intelligence Responsibility
AO	Area of Operations
ASCC	Air Support Coordination Centre
ASCOPE	Area, Structures, Capabilities, Organizations, People and Events
Avn	Aviation
Bde	Brigade
Bde Gp	Brigade Group
BG	Battle-group
Bn	Battalion
C2	Command and Control
CACSC	Canadian Army Command and Staff College
CAF	Canadian Armed Forces
CAS	Close Air Support
CBRN	Chemical Biological Radiological and Nuclear
CCIR	Commander's Critical Information Requirements
CO	Commanding Officer
COA	Course of Action
CoG	Centre of Gravity
COIN	Counter-insurgency
Comd	Commander
CONOPS	Concept of Operations
CONPLAN	Contingency Plan
COPD	Comprehensive Operations Planning Directive
COS	Chief of Staff
COS PD	Chief of Staff Planning Directive
CPG	Commander's Planning Guidance
CS Arty	Close-support Artillery
CSS	Combat Service Support
D-Day	Start day for an Operation
Div	Division
DP	Decision Point
DST	Decision Support Template
EBA	Effects Based-Approach
ECOA	Enemy Courses of Action
EEFI	Essential Elements of Friendly Information
EGM	Effects Guidance Matrix
EMCON	Emission Control
Engr	Engineer
EWCC	Electronic Warfare Coordination Centre
FCOA	Friendly Courses of Action
Fire Sp	Fire Support

FLOCARK	Features, Lanes, Objectives, Canalysing Ground, Approaches, Rate, and Key Terrain & Vital Grounds
Frag O	Fragmentary Order
FSCC	Fire Support Coordination Centre
H-Hr	Start time for an Operation
HN	Host Nation
HPTL	High Priority Target List
HQ	Headquarters
hrs	hours
HVTL	High Value Target List
IA	Influence Activities
IAW	in accordance with
IDP	internally displaced persons
IMO	Information Management Officer
Impl O	Implementation Order
INTSUM	Intelligence Summary
IO	Information Operations
IPB	Intelligence Preparation of the Battlespace
IPOE	Intelligence Preparation of the Environment
IRCC	International Red Cross Committee
ISTAR CC	ISTAR Coordination Centre
ISTAR	Intelligence, Surveillance, Target Acquisition and Reconnaissance
JTF	Joint Task Force
LCSS	Land Command Support System
LO	Liaison Officer
LOO	Lines of Operations
MA Brief	Mission Analysis Brief
MA	Mission Analysis
Maint	Maintenance
MCOO	Modified Combined Obstacle Overlay
MCPP	Marine Corps' Planning Process
MDECOA	Most Dangerous Enemy Course of Action
MDMP	Military Decision Making Process
MÉDO	Méthode d'élaboration d'une décision opérationnelle
MLECOA	Most Likely Enemy Course of Action
MOPP	Members Operational Protective Posture
MP	Military Police
MRX	Mission Rehearsal
NAI	Named Area of Interest
NATO	North Atlantic Treaty Organization
NGO	Non-government organizations
NTM	Notice to Move
OGD	Other Government Agencies
Op O	Operation Order

Wargame

OPLAN	Operations Plan
OPP	Operational Planning Process
ORBAT	Order of Battle
PMESII	Political, Military, Economic, Social, Infrastructure, and Information
PIR	Priority Information Requirements
PRT	Provincial Reconstruction Team
PVA	Private Venture Agencies
RFI	Requests for Information
ROE	Rules of Engagements
SOD	Systemic Operational Design
SOF	Special Operations Forces
SOP	Standing Operating Procedures
SWEAT-MS	Sewer, Water, Electricity, Academic, Trash - Medical and Security
Synch Matrix	Synchronization Matrix
TacC2IS	Tactical Command and Control Information System
TAI	Target Area of Interest
TE	Tactical Estimate
TIMS	Tactical Information Management System
Tn	Transport
TTP	Tactics, Techniques and Procedures
Wng O	Warning Order