

Campaign Planning for Logistics Organizations

**A Monograph
by
MAJ Kevin M. Baird
U.S. Army**



**School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas**

AY 2008

REPORT DOCUMENTATION PAGE				<i>Form Approved</i> <i>OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) 21-05-2009		2. REPORT TYPE Monograph		3. DATES COVERED (From - To) JUL 2008 – MAY 2009	
4. TITLE AND SUBTITLE Campaign Planning for Logistics Organizations				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) MAJ Kevin M. Baird				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) School of Advanced Military Studies 250 Gibbon Avenue Fort Leavenworth, KS 66027				8. PERFORMING ORG REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Command and General Staff College 100 Stimson Fort Leavenworth, KS 66027				10. SPONSOR/MONITOR'S ACRONYM(S) CGSC, SAMS	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution is Unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT See Abstract.					
15. SUBJECT TERMS Terrorism, Counterterrorist Operations, Dynamic Network Analysis, Radicalization					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. PHONE NUMBER (include area code)
(U)	(U)	(U)	(U)	62	COL Stefan Banach 913-758-3300

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39.18

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

MAJ Kevin M. Baird

Title of Monograph: Campaign Planning for Logistics Organizations

Approved by:

Peter J. Schifferle, Ph.D. Monograph Director

Stefan J. Banach, COL, IN Director,
School of Advanced
Military Studies

Robert F. Baumann, Ph.D. Director,
Graduate Degree
Programs

Abstract

CAMPAIGN PLANNING FOR LOGISTICS ORGANIZATIONS by MAJ Kevin M. Baird, US Army, 59 pages.

With the transition from the Army of Excellence logistics structure to the single logistics command and control of the modular force logistics concept, the traditional command relationship between logistics organizations and the maneuver forces that they support have changed. With all logistics organizations above the Brigade Support Battalions being assigned to the Theater Support Command or Expeditionary Support Command, sustainment brigades may be assigned elements of multiple divisions to support, resulting in conflicting support priorities. Combined with the characteristics of the contemporary operational environment, this change in command relationships dictates a new approach to planning for logistics support for maneuver campaigns.

TRADOC Pamphlet 525-5-500 describes campaign a campaign planning methodology intended for use by a Joint Task Force headquarters or higher. This monograph adapts those concepts and incorporates elements of Joint and Army planning processes, to apply to a sustainment brigade operating on an area support basis for a division size element. Through a process of commander's appreciation, campaign design, and finally campaign planning, logistics commanders can develop effective campaign plans that provide the optimum level of support to the maneuver commanders both during individual phases or operations and for the duration of the campaign. Once completed, the logistics campaign plan serves as the basis for planning support for individual operations while still considering the long term needs of the supported commanders. Only through a detailed analysis of the campaign planning process can commanders develop a well integrated support plan for the assigned maneuver organization which provides continuous support and maintains sufficient flexibility to support both expected and unexpected changes in the maneuver campaign.

TABLE OF CONTENTS

Introduction	1
Campaign Planning Defined.....	2
Past and Contemporary Operational Environments	3
Scope	4
Current Planning Methodologies.....	4
Developing a Campaign Plan	10
Commander’s Appreciation	12
Problem Framing	13
Mission Analysis	24
Campaign Design	28
Campaign Commander’s Intent.....	29
Campaign Approach.....	30
Reframing the Problem.....	35
Campaign Planning	37
Optimization	38
Areas for Optimization	41
Evaluation of the Plan	47
Evaluation of Execution	48
Communicating the Plan	50
Conclusion.....	51
Recommendations	53
BIBLIOGRAPHY	57

Introduction

With the ongoing transformation of Army force structure, the organic relationships between maneuver elements and their support organizations, at the division level and above, no longer exist. As a result, a sustainment brigade may have a support relationship with a number of units without a common higher commander (brigades from multiple divisions). Because of this change in command relationships, the logistics organization can no longer simply focus on supporting the mission of the higher commander as the sole basis for planning processes. In effect, the commander of the logistics organization now must balance direction from the higher logistics commander, requests from supported units, his own estimates, and potential direction from higher echelon maneuver commanders. Additionally, the increasing complexity of the operational environment in which logistics organizations operate requires more creative and unique solutions for supporting maneuver forces.

Past planning processes for logistics organizations have focused on developing solutions to short-term problems or single military operations. Even long term planning focused on developing solutions for a specific situation without considering both short term and long-term operations. Because of the changing operational environment, logistics organizations must develop techniques to plan support for the entire campaign of the supported maneuver organizations.

In order to effectively support the assigned forces, logistics commanders must develop long-term plans that focus on providing support to each operation as well as the duration of the military intervention. The most effective methodology for developing this plan is the application of design and traditional planning methodologies in combination to determine the best way to support the maneuver commander's operations. The result of the proposed design and planning process for logistics commanders will be what can be termed a campaign plan, addressing both internal operations and support provided to the supported organizations.

Campaign Planning Defined

Joint doctrine defines campaign planning as,

The process whereby combatant commanders and subordinate joint force commanders translate national or theater strategy into operational concepts through the development of an operation plan for a campaign. Campaign planning may begin during contingency planning when the actual threat, national guidance, and available resources become evident, but is normally not completed until after the President or Secretary of Defense selects the course of action during crisis action planning. Campaign planning is conducted when contemplated military operations exceed the scope of a single major joint operation.¹

This definition reserves campaign planning for combatant commanders and joint force commanders. However, JP 5-0 states that subordinate joint force commanders should also develop campaign plans “if their assigned missions require military operations of substantial size, complexity, and duration and cannot be accomplished within the framework of a single major joint operation. Subordinate campaign plans should be consistent with the strategic and operational guidance and direction developed by the supported JFC.”² While still focused on joint commands, this statement highlights the need to frequently conduct multiple operations in order to achieve the stated objectives of a military intervention. Even with this focus, there is no term available to describe how organizations below the joint force command level conduct long term planning when multiple operations are required. Given this constraint, the concept of campaigns for lower levels remains useful and can be applied. Focusing on the need to conduct multiple operations, logistics organizations can also apply campaign-planning methodologies to develop support concepts over a long duration. In many cases, the campaigns of supported units

¹ US Department of Defense. *JP 3-0 Joint Operations* (Washington, DC: Government Printing Office, 13 February 2008), GL-7.

² US Department of Defense. *JP 5-0 Joint Operation Planning* (Washington, DC: Government Printing Office, 26 December 2006), IV-4.

will require a variety of support concepts for specific operations, effectively requiring a series of logistics operations resulting in a campaign.³

Past and Contemporary Operational Environments

Under the Army of Excellence (AOE) logistics structure, Corps Support Commands (COSCOM) and Division Support Commands (DISCOM) could derive their mission and take the majority of their guidance from their parent Corps or Division headquarters. This guidance provided an understanding of the maneuver commander's intent as well as a clear delineation of their responsibilities for providing logistics. Additionally, the COSCOM or DISCOM focused nearly all of their planning to support the single maneuver commander's operations without concern for shifting support relationships outside of the higher commander's control. If a new unit required support, it was also typically added to the maneuver commander's task organization. Therefore, prioritization guidance came from the corps or division staff. However, under the modular logistics concept, sustainment brigades are assigned support areas based on the most effective way to support the overall operation. This approach could lead to a situation where a sustainment brigade supports elements of two or more different divisions.⁴

Because all logistics organizations above the brigade support battalion are assigned to the theater support command (TSC) or expeditionary support command (ESC), their missions come from a variety of sources which likely are not part of the direct chain of command, including

³ While joint doctrine reserves "campaigns" for strategic and operational level commands, this delineation seems arbitrary, especially in the current operational environment. Army doctrine simply uses the joint definition for campaigns, resulting in the same problem as is inherent in joint doctrine. Commanders down to the company level are developing plans for a series of operations or engagements spread over a year long period which clearly are sequenced and arranged in order to achieve long term objectives.

⁴ US Department of the Army. *FMI 4-93.2 Sustainment Brigade (Final Draft)* (Washington, DC: Government Printing Office, Undated), 1-6.

higher logistics headquarters, supported organizations, and possibly their higher headquarters.⁵ While the TSC or ESC maintains the command relationship, depending on the support relationship, the supported commander may determine the support priorities for individual logistics organizations. As a result, there is no single source (below the Combatant Commander or Land Force Component Commander) for guidance and information for logistics organizations that are in a direct or general support role to maneuver forces.

Scope

This monograph focuses on the campaign planning process for a sustainment brigade operating in support of a geographical area or group of units.⁶ This organization was chosen to illustrate the concepts to be discussed but the concepts can be applied at all levels, from the Brigade Support Battalion to an ESC or TSC. The concepts presented can also be taken as a whole or the applicable portions of the process can be applied to shorter duration missions or single operations. As a final word of caution, the campaign plan that results from this process must nest closely with both the plans of the maneuver element as well as higher logistical commands.⁷

Current Planning Methodologies

Under existing doctrine, there are two primary planning methodologies, the Joint Operational Planning Process (JOPP) and the Army's Military Decision Making Process

⁵ US Department of the Army. *Modular Force Logistics Concept Version 6* (Fort Lee, VA: CASCOM, 20 September 2006), 11.

⁶ While finance and human resources units are often assigned to sustainment brigades, they are not included in this monograph. While critical missions, the planning considerations for these functions are described in the appropriate manuals and do not have a significant effect on the execution of other sustainment functions. Information can be found in FM 1-0 *Human Resources Support* and FM 1-06 *Financial Management Operations*.

⁷ US Department of the Army. *FM 5-0 Army Planning and Orders Production* (Washington, DC: Government Printing Office, January 2005), 1-16.

(MDMP). In addition to these two doctrinal methodologies, there is an emerging technique known simply as “design.”⁸ Underlying each of these methodologies is the science and art of planning. The science of planning relates to the capabilities, technique, and procedures that are measurable, comparable, and analyzable. The art of planning considers the less tangible aspects of operations and accounts for the human element of military operations.⁹ While the three planning methodologies have distinct approaches, there are a number of common themes and the ideal solution for planning is likely a combination of all of the methodologies.

JP 5-0 Joint Operation Planning defines the JOPP as “a system of joint policies, procedures, and reporting structures, supported by communications and computer systems that is used by the joint planning and execution community to monitor, plan, and execute mobilization, deployment, employment, sustainment, redeployment, and demobilization activities associated with joint operations.”¹⁰ As defined, the planning process begins either when the commander is directed or is self-initiated when the combatant commander identifies the need to begin planning. The JOPP consists of well-defined steps executed in a systematic manner. JOPP is the planning

⁸ US Department of the Army. *TRADOC Pamphlet 525-5-500 Commander’s Appreciation and Campaign Design* (Washington, DC: Government Printing Office, 2008). Design as discussed here is described as part of Commander’s Appreciation and Campaign Design (CACD) that is described in TRADOC Pamphlet 525-5-500. The term design appears in a number of Field Manuals but the term in those cases is more generic and is different from the process inherent in CACD. Design is also being developed as part of the curriculum at the School of Advanced Military Studies. While based on some of the same concepts, there are significant differences. The SAMS approach is described in the “Art of Design” Student Text and will be part of a new FMI that is expected to be published in the near future. Additionally, there are two articles (“The Art of Design” and “Educating by Design”) in the March-April 2009 issue of *Military Review* which describe the SAMS approach to design and the school’s curriculum. The other services have their own specific planning processes which meet their requirements. The Marine Corps Planning Process is similar to the Army MDMP and has similar applications. US Marine Corps. *MCWP 5-1 Marine Corps Planning Process* (Washington, DC: Government Printing Office, 24 September 2001).

⁹ *FM 5-0*, 1-3 – 1-4.

¹⁰ *FM 5-0*, GL-15

methodology for all joint commands and is most applicable for planning operations from the Joint Task Force to the Combatant Command level.¹¹

Joint Publication (JP) 4-0 Joint Logistics applies the principles of joint planning to logistical operations. *JP 4-0* states that commanders must generate military capabilities across the spectrum of operations in order to accomplish assigned objectives. The importance of logistics planning is underscored in the statement, “Effective planning enables logisticians to anticipate requirements, and validate, synchronize and integrate them with available resources to minimize duplication of effort, resolve shortfalls, mitigate risk and ensure effective support of the Combatant Commander requirements.”¹² Through effective logistics planning, the commander is able to support required operations and accomplish the assigned tasks.

Similar to joint doctrine, *FM 5-0 Army Planning and Orders Production* describes planning as “the means by which the commander envisions a desired outcome, lays out effective ways of achieving it, and communicates to his subordinates his vision, intent, and decisions, focusing on the results he expects to achieve.”¹³ The primary method of planning for Army operational level staffs is the MDMP. While it is presented as the method for solving operational and tactical level problems, including at the Army Service Component Command level, it can be applied at any level with an assigned staff. The primary focus is on developing the optimal solution to a problem identified by a higher commander. The process includes well-defined steps with specified inputs and outputs of each step. MDMP is most applicable at the tactical and operational levels for planning single operations.¹⁴

¹¹ *JP 5-0*, III-20

¹² US Department of Defense. *JP 4-0 Joint Logistics* (Washington, DC: Government Printing Office, 18 July 2008), III-1

¹³ *FM 5-0*, 1-2

¹⁴ *FM 5-0*, 3-1

In applying Army planning methodologies to logistics, *FM 4-0 Combat Service Support* states that, “CSS (Combat Service Support) planning should be centralized, comprehensive, tailorable, flexible, and continuous.” Regardless of the planning methodology used, CSS planning must: identify time-phased materiel requirements, facilities, and resources required; identify ports and their reception and clearance capacity; identify support methods and procedures required; identify vulnerabilities of infrastructure and forces; provide coordinated onward movement; include joint, contracting, host nation (HNS), and multinational support; and include national providers to identify and fill requirements.¹⁵ Traditionally, sustainment brigades use the MDMP to plan support for their assigned maneuver units based on orders developed by that unit.

For problems that are not well structured or that are complex, a new technique is emerging known as “design.”¹⁶ The intent of design is to develop a detailed understanding of the environment and problem and develop a course of action that will address the underlying sources of the problem.¹⁷ *FM 3-24 Counterinsurgency* describes design as inquiring “into the nature of a problem to conceive a framework for solving that problem.” Furthermore, design focuses on learning more about the nature of a new or unfamiliar problem. From this perspective, the requirement for design is to determine what the problem is before determining a solution to the problem.¹⁸ With the complicated command, control, and support relationships for logistics organizations and the fluid nature of the modern battlefield, the development of support systems

¹⁵ *FM 4-0*, 5-5

¹⁶ US Army School of Advanced Military Studies. *Art of Design, Student Text*, Version 1.0 (Fort Leavenworth, 24 September 2008), 58. *Art of Design* defines complex systems as “systems in which the interactions of elements and components have so many possible interrelationships and feedback loops that their behavior is largely unpredictable and their transformation is, essentially, a matter of trial and error.”

¹⁷ Design in this context is used for the entire process of understanding the system through the beginning of the planning process or development of a course of action. Many sources in Army doctrine include the term design focusing only on the development of a course of action for a campaign. For the duration of this monograph, design refers to the entire process, from understanding the environment through developing a course of action.

¹⁸ Department of the Army. *FM 3-24 Counterinsurgency* (Washington, DC: Government Printing Office, 15 December 2006), 4-2.

tend to be ill-structured problems.

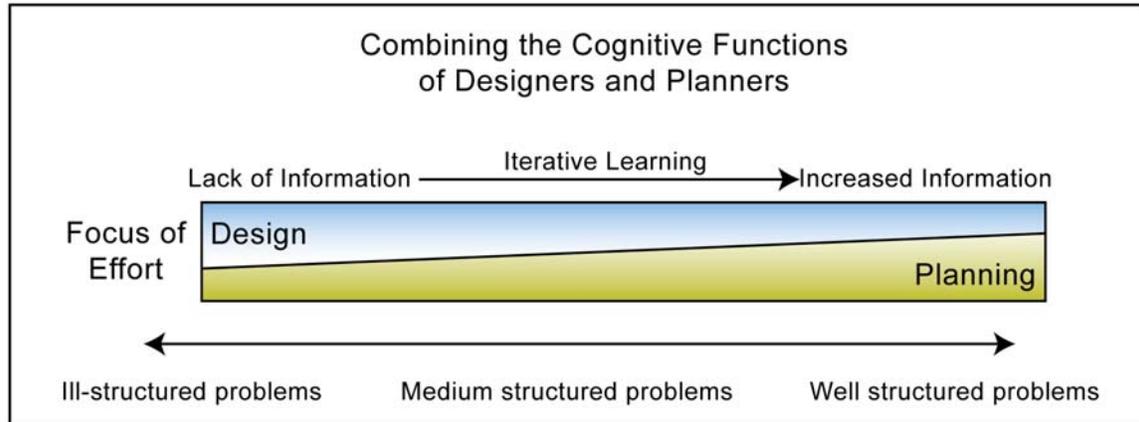


Figure 1 - Design – Planning Continuum¹⁹

While much of the existing work on design hints that design is a replacement for planning, a more appropriate approach would be that design is the foundation of planning and continues during the application of the existing planning methodologies in both the Joint and Army communities. For example, in describing the role of design in planning, FM 3-24 states, “Design precedes and forms the foundation for staff planning. However, design is also continuous throughout the operation.”²⁰ The chart below appears in a number of publications and shows the difference between the two processes. Upon closer review, the activities listed under design are necessary to create an understanding of the situation and must be integrated into the planning process for a campaign to be successful. Without the activities of either column, the solution developed may be ineffective. Without design, the plan may “solve” the wrong problem and without planning, the design will remain just a series of concepts without any way of implementation to reach the desired end state.

¹⁹ *Art of Design*, 20.

²⁰ *FM 3-24*, 4-2.

Designing	Planning
— Problem-framing	— Problem solving
— Start with a blank sheet	— Start with a coherent design or
— Questions the limits of existing knowledge	— Functions within the existing paradigm
— Questions assumptions and method	— Follows established procedure
— Conceptual	— Physical and detailed
— Questions the cognitive approach	— Develops products
— Develops understanding	— Paradigm accepting
— Paradigm setting	— Patterns and templates activity
— Complements planning, preparation, and assessment.	
Output: a broad approach to problem solving (a design)	— Output: detailed plan for action

Figure 2 - Design and Planning Functions²¹

Because of the unique role of logistics organizations in supporting maneuver forces, the purpose of design as written today requires modification when applying it to those organizations. In describing the purpose of design, FM 3-24 states that, “Design provides a means to conceptualize and hypothesize about the underlying causes and dynamics that explain an unfamiliar problem. Design provides a means to gain understanding of a complex problem and insights towards achieving a workable solution.”²² While this description is useful for organizations addressing a problem as a whole, for logistics organizations, a better description of the application of design is that it provides a means to conceptualize and hypothesize about existing and potential challenges and solutions in supporting a larger operation or campaign.²³ The understanding of the underlying conditions is useful in providing context for the maneuver

²¹ *Art of Design*, 18.

²² *FM 3-24*, 4-2.

²³ *FM 4-0*, 5-5. CSS operations “compliment combat plans and operations, thus enhancing the ability of the supported commander to accomplish his mission.”

commander's operations. However, logistics organizations focus on supporting the organizations that address the underlying causes.

TRADOC Pamphlet 525-5-500 Commanders Appreciation and Campaign Design (CACD) describes the current application of campaign planning using design. This approach focuses primarily on understanding the environment and designing a framework for the campaign but does not discuss the planning of the actual campaign in detail. CACD includes three major steps, which eventually lead to a campaign plan. These steps are commander's appreciation, campaign design, and campaign planning.²⁴ Through these steps, the commander understands the environment in which he operates, identifies problems to be addressed, determines the actions most appropriate to address those problems, and describes how the command will implement those actions.

Developing a Campaign Plan

Given the complex operational environment and the new command, control, and support relationships, logistics organizations must adopt robust planning methodologies in order to properly support the maneuver commander. Additionally, the nature of current military interventions require that all commanders plan for all phases, from initial deployment, through major combat operations, stability, transition, and finally redeployment. In order to meet these requirements, logistics commands must develop a plan to support the maneuver commander's operations not only in the short term, but also throughout the duration of the intervention. In short, the plan must cover the entire campaign. CACD provides a basis for this planning process. However, the focus on JTFs and Combatant Commands leads to some limitations for logistics commanders. Therefore, the methodology described below is modified and specifically focused

²⁴ *TRADOC Pamphlet 525-5-500*, 20-31. The pamphlet allocates less than one page out of a total of 32 pages to the campaign plan. Additionally, the discussion focuses on what the plan is rather than how the plan should be developed.

on logistics organizations. The diagram below shows how each of the parts of campaign planning and execution relate, as well as their interdependence.

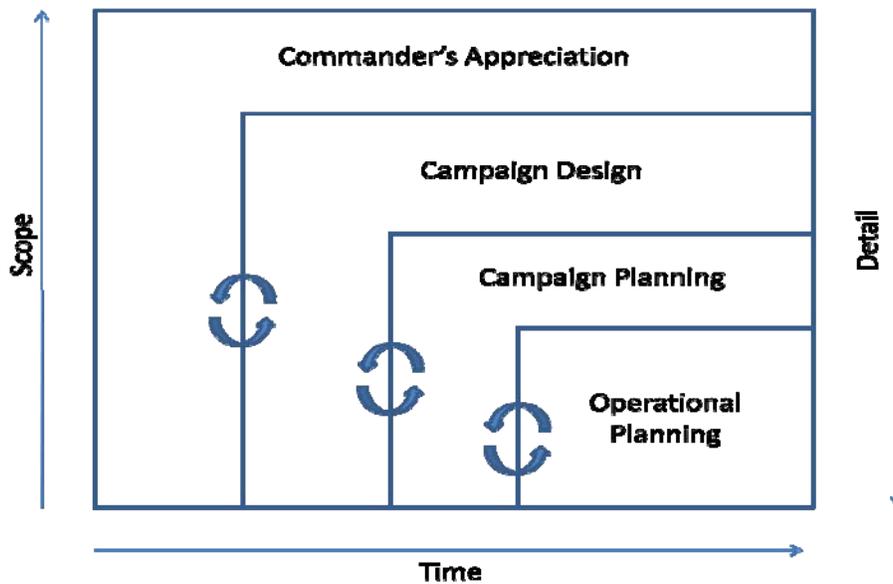


Figure 3 - Campaign Planning Process²⁵

To develop the campaign plan, the commander must first determine the appropriate composition of the design and planning team. In a sustainment brigade, the staff is not sufficient to dedicate members of the staff full time to campaign design. As a result, members of the staff should be pulled out of their normal function at designated times to conduct campaign design, planning, and assessment. In structuring the design and plan team, the commander must select individuals who have both the functional expertise and planning abilities to effectively develop the campaign plan. While the commander should be closely involved in the process, he does not have to be the lead designer or planner.²⁶ The Support Operations staff is the largest section in the sustainment brigade headquarters. However, other members of the staff and potentially even subordinate headquarters should participate in the design team. The commander must balance

²⁵ Based on sketch by and discussions with Mr Kenneth Long, Assistant Professor, Department of Logistics and Resource Operations, US Army Command and General Staff College. 17 February 2008.

²⁶ John F. Schmitt. "A Systemic Concept for Operational Design." United States Air Force Air University. http://www.au.af.mil/au/awc/awcgate/usmc/mcwl_schmitt_op_design.pdf, 22-23(accessed 15 February 2009).

having sufficient input with having too many ideas, which may slow the process and reduce efficiency. An alternative is to create a design team that is separate from the existing planning staff. While there are advantages to this approach, the transition of knowledge and understanding from the design team to the planners who will develop the campaign plan will be challenging at best. Once the design and campaign planning process is complete and the focus shifts to operational planning and execution, the members of the team should return to their normal positions to assist in the execution, monitoring, and evaluation of the resulting plan.

Commander's Appreciation

Logistics campaign planning by definition will follow the initiation of the same process for a maneuver force or higher commander. However, the delay between the initiation of the maneuver forces' planning and logistics organizations' planning must be kept to an absolute minimum.²⁷ The understanding of the operational environment can begin immediately upon the identification of a possible military intervention or deployment. The commander's appreciation is "the act of estimating the qualities of things and giving them their proper value."²⁸ In simpler terms, the commander's appreciation is the ability of the commander to not only have situational awareness but to also have situational understanding. The commander must understand the interrelations between actors in the environment, the significance of individual events, and the system's likely reaction to military actions. The development of the commander's appreciation includes framing the problem and mission analysis.²⁹ While there is no definitive checklist of tasks that must be accomplished as part of developing the understanding of the environment, what

²⁷ US Department of the Army. FM 100-16 Army Operational Support (Washington, DC: Government Printing Office, 31 May 1995), 3-2.

²⁸ *TRADOC Pamphlet 525-5-500*, 20. While the existing literature on Commander's Appreciation and Campaign Design always refers to only the Commander in this appreciation, it should also include the staff's appreciation of the problem. If the staff does not have the same understanding of the situation, the Commander's guidance will often be misunderstood and ineffective. However, for consistency with the literature, Commander will always be used but should be understood to include the staff as well.

²⁹ *TRADOC Pamphlet 525-5-500*, 20.

follows is a list of critical items that should be considered and a discussion of how that analysis may be performed.

Problem Framing

Each operational environment requires a detailed analysis of the areas identified by the commander and staff as being relevant to the situation. The items below are in a specific order, but the analysis of each of these areas should be an iterative process and the analysis must include the interaction between different components of the system. The result of this process will be an understanding of not only the situation as it exists today but also what makes the system function.³⁰

Under the concept of design, the system and operational framing are two distinct functions with the system frame being the larger of the two and the operations frame being a subset of the entire system. The system frame includes all actors and components of the entire system, regardless of their impact on the problem. The operations frame includes only those areas that require intervention in order to reach the desired state.³¹

CACD combines the system and operations framing into a single effort, known as problem framing. The higher headquarters' warning order, operations order, or planning guidance should define the initial boundaries of the problem. For logistics commanders, the boundaries will be in the form of physical boundaries or a list of supported units. While this initial set is critical, it will only serve as the basis for framing the problem. The assigned area or units will likely change during the course of the campaign. The commander must, through his own analysis and through discussions with higher and peer commanders, determine the true boundaries for the campaign, both physical and units to be supported. Additionally, the commander must determine if there are

³⁰ *TRADOC Pamphlet 525-5-500*, 20.

³¹ *Art of Design*, 34.

additional areas beyond those boundaries that will impact his operations, similar to the area of interest in traditional planning. Beyond these areas, the eight following tasks create the commander's appreciation:

1. Establish the strategic and operational context
2. Synthesize strategic and operational guidance
3. Describe the operational environment
4. Determine strategic and operational trends
5. Identify gaps in knowledge and establish assumptions about the problem
6. Identify the operational problem
7. Determine the initial mission statement
8. Obtain approval of the problem and mission statement³²

TRADOC Pamphlet 525-5-500 defined these tasks for a Joint Task Force (JTF) conducting campaign design. However, as modified, they are applicable to logistics organizations at all levels.

Establish the strategic and operational context. The strategic context of a problem will have several potential impacts on logistics organizations. First, the willingness of the national leadership to commit additional troops either to engage the enemy or support logistical operations will have a significant impact on the nature of the operation. Additionally, the strategic objectives of the operation will likely influence the duration and character of each phase of the intervention and therefore the types of logistical support needed by supported forces. At the operational level, the role of the supported organizations is critical to determining how support will be provided. Additionally, the mission that the supported command is likely to execute will have significant impacts on the requirements for support. In the event that the supported organizations are the main effort and conducting major combat operations, the priority and

³² Based on *TRADOC Pamphlet 525-5-500*, 22. Changes have been made to make more appropriate for logistics organizations at the sustainment brigade level. Specifically, "operational" was added in 1-3 and 4 is a combination of two steps in the original document.

amount of support required will likely be much higher than a shaping operation in low intensity conflict.³³

Synthesize strategic and operational guidance. This step takes on two distinct characteristics for logistics organizations. While theater strategic guidance is an important part of the planning process, the guidance given to the supported commanders takes a higher priority. Because of the diverse relationships described above, the logistics commander must work with all organizations that the command may support to determine what guidance they have received and how they will implement that guidance. Additionally, the commander must work with supported commanders to determine how they desire to be supported.³⁴ This is an area where the staff will become intimately involved in this process. The Sustainment Brigade Support Operations Officer (SPO) will work directly with the G4/S4 and SPO of the supported units to begin the process of determining requirements and methods of support. The detailed work will occur later in the process but this translation of their commander's guidance to a rudimentary concept of support is critical for framing the problem. Additionally, by understanding the strategic and operational end state of supported units, the logistics commander can derive information on the operations that will occur and the required support. While this guidance is not the national or theater strategic guidance as described in CACD, it is critical for understanding the context of the operation. Additionally, the operational guidance may serve as a basis for planning and may include restrictions on operations or directed courses of actions.

Describe the operational environment. This is the first place where the CACD process for a logistics organization significantly differs from the maneuver forces. Logistics organizations should focus on solid numbers and calculations more so than the maneuver forces. While a

³³ Department of the Army. *FM 3-0 Operations* (Washington, DC: Government Printing Office, February 2008), 6-2 – 6-3.

³⁴ US Department of the Army. *FM 6-0 Mission Command: Command and Control of Army Forces* (Washington, DC: Government Printing Office, August 2003) 5-22.

narrative description of the system is the goal of maneuver organizations, a network diagram, or series of diagrams, is perhaps more important for logistics organizations, with less focus on the narrative.³⁵ Similar to the supported commands, the analysis must include friendly forces, organizations, and entities; adversaries; and neutral parties.³⁶ This process is similar to the “logistics preparation of the theater” as described in FM 4-0 *Combat Service Support*.³⁷

In describing the operational environment, logistics organizations should focus on the infrastructure and factors that will influence its usability. Not only is the logistics network critical from a logistics perspective, it may have significant impact on the operational forces as well. The staff should analyze each portion of the network in order to determine its impact on the logistics organization and its mission. The critical portions of the environment to analyze include five areas: infrastructure, civilian population, supported forces, enemy forces, and other logistics organizations. Each of these areas can and likely will have an impact on the others and those impacts should be considered.³⁸

Infrastructure. Analysis of the physical infrastructure will be critical for understanding not only the situation but also its impact on the campaign plan of both the logistics unit and the supported maneuver commander. The commander and staff must determine what infrastructure exists as well as what conditions are likely to exist throughout the operation. During the early stages of planning, the analysis will focus primarily on the Main Supply Routes (MSR), Alternate

³⁵ *Art of Design*, 32. Because maneuver forces are more focused on influencing the environment, the logic of the system as described in the narrative is critical for developing the campaign design. Logistics organizations focus more on operating in the environment and supporting those influencing the environment.

³⁶ *TRADOC Pamphlet 525-5-500*, 25.

³⁷ *FM 4-0*, 5-9 – 5-13. LPT is also described in *FM 4-93.4*, Appendix A and *FM 100-16*, Appendix B. LPT in both of these documents focuses on not only understanding the theater but also taking steps to improve the theater. While those actions are not part of campaign planning, as soon as the requirements are developed, efforts should begin to develop the capabilities or conditions.

³⁸ Based on the items listed in *FM 4-0*, 5-10 – 5-12. As previously discussed, this is a general list of topics and additional areas must be included if they are relevant to the system.

Supply Routes (ASR), and key nodes in the system.³⁹ Over time, the same analysis should be expanded to other routes and facilities likely to be used to support operations.

In addition to the road network, the commander must assess other components of the infrastructure, including potential aerial ports of debarkation (APOD), seaports of debarkation (SPOD), warehouses, and other critical nodes. In analyzing these areas, the commander should focus on the availability, usability, security, and capacity of these nodes.⁴⁰ Outside of the operational area, the analysis must also cover the entire supply chain, from the CONUS supply depots to the forward fighting forces. While the sustainment brigade commander does not have control over these elements, their operations and concept of support will have a direct impact on how the sustainment brigade will execute its mission and what missions it must execute. Through analysis of these facilities, the commander gains a more complete understanding of the true capabilities of the system.

Once the current conditions of the infrastructure are determined, the staff must determine the ability to develop, maintain, and repair the infrastructure once operations begin. Close coordination with the Maneuver Enhancement Brigade operating in the area is critical during both the planning and execution to ensure that the road networks are maintained and secure.⁴¹

Beyond the physical infrastructure of the operational area, the staff should analyze nonmilitary transportation assets that can support operations. Depending on conditions in the area, the civilian trucking industry may be able to provide significant support to military operations. An additional source of support is coalition and contract transportation assets. In the current conflicts in Iraq and Afghanistan, contracted logistics has taken on a significant portion of

³⁹ US Department of the Army. *FM 4-93-4 Theater Support Command* (Washington, DC: Government Printing Office, Undated), 6-18.

⁴⁰ *FM 4-93.2*, Appendix A.

⁴¹ Maneuver Support Center Briefing on the Maneuver Enhancement Brigade, Undated.

the burden. LOGCAP (Logistics Civilian Augmentation Program) planning is a critical part of the logistics planning process but is beyond the scope of this monograph.⁴²

Civilian Population. After gaining an understanding of the logistics network capability, the next step is to determine the attitudes and likely actions of the local population. Regardless of the type of operation being conducted, the civilian population will have significant impacts on the operations of logistics organizations. Those impacts may take the form of intentional interference with operations, competing use of infrastructure, requirements to support with humanitarian assistance, and the ability to support operations. Determining the presence of civilian population centers and their attitudes toward military operations is critical in determining the usability of each part of the infrastructure.⁴³ Between the network analysis and the understanding of the local population, the commander gains an understanding of the unconstrained capability of the logistics system.

Supported Forces. Once the infrastructure has been analyzed and an understanding of the local population has been developed, the supported forces must be analyzed. This process will involve an analysis of higher maneuver commanders' orders, discussions with supported unit commanders, and SPO to SPO coordination. The actions included in this step are similar to some steps of mission analysis that is part of the MDMP. In order to effectively frame the problem, the commander must assess the higher (supported) unit's missions and the associated logistics tasks inherent in supporting their missions.⁴⁴ There is still a requirement to conduct a separate mission analysis once the problem framing is complete.⁴⁵ During this early portion of campaign planning, the logistics organization must develop an understanding of where supported forces may operate, when those operations might occur, and what the logistics requirements for that organization

⁴² During the planning process, commanders and their staffs should focus on the requirements to support forces without regard for the source of that support. Once the requirements are determined, the units or organizations to support those requirements can then be determined. For more information on LOGCAP, see *FM 4-0* and *AR 700-137*.

⁴³ *FM 4-0*, 5-23.

might entail. In close coordination with the SPO of supported organizations, the sustainment brigade SPO can develop a detailed list of requirements for the supported organization for each type of operation.

To make this information useful, it must be gathered in a systematic and consistent way, focusing on the major commodities that will be consumed and the services that will be required. While these numbers are simply estimates, they should be as accurate as possible in order to later determine how that support will be provided. The timing of these operations will also be critical in considering their impact in two areas. First, how long will each operation last, and second, how does the operation of a single unit relate to operations of other supported units. In the event that all supported units are conducting operations that require large amounts of supplies, this may place a significant strain on the ability to load and issue these supplies. Similarly, if units are moving over long distances all at the same time, the ability of the sustainment brigade may face challenges in delivering supplies to supported units.⁴⁶

After completing this analysis, the information should be overlaid on the network diagram developed during the infrastructure analysis. Depending on the type and duration of campaign, it may be useful to develop a series of diagrams for multiple courses of action or phases within the campaign in order to accurately depict the network and the demands placed upon it. At this point, the commander understands the capacity of the network and the requirements that will be placed on his organization and the network.

Enemy Forces. The next step is to determine constraints or impedances placed on the network. Closely related to friendly forces and their actions are the presence and activities of

⁴⁴ *TRADOC Pamphlet 525-5-500*, 24-26. Problem framing and mission analysis are separate steps but the nature of logistics organizations requires that some portions of mission analysis will be conducted during problem framing. However, each of these areas is revisited in mission analysis to ensure that they receive the appropriate attention.

⁴⁵ This mission analysis is distinct from the mission analysis included in MDMP. Specifics of how a logistics unit can conduct the CACD version of mission analysis are included below.

⁴⁶ COL Sharon L. Leary. *Sustaining the Long War*. US Army War College, 26 March 2007. 4-5.

enemy forces. The major operations of the enemy are inherently included in the friendly forces analysis because their operations will directly address large enemy presence in the operational area. As a result, for the sustainment brigade, the intelligence efforts should focus on the likely impacts of enemy action on logistics operations and hubs.⁴⁷ During the campaign planning process, there may be limited information on convoy incidents. Even so, every effort must be made to develop as detailed information as possible as to likely threat TTPs and areas where convoy and logistical operations may be significantly impacted by enemy activity.

Other Logistics Organizations. In nearly any operation, there will be logistics organizations outside of a single sustainment brigade that will assist in providing support. This information is included in the systemic nature analysis and is refined and further developed at this point. In a typical theater, there will be a theater opening brigade and a theater distribution brigade, which will be responsible for the receipt and delivery of supplies to the sustainment brigade operating in support of forces or an assigned area.⁴⁸ The capabilities, mission, and operations of the other organizations will have significant impact on the campaign plan of the logistics organization. While these organizations should be conducting planning at the same time, in order to efficiently plan, the commander must understand their capabilities, likely locations, and how they will operate in support of maneuver force operations. Like all previous analysis, this information should be included in the network diagram developed during the analysis of the infrastructure.

With the description of the operational environment complete, the commander must conduct his first analysis of the feasibility of supporting the maneuver commander's plans. If there are significant challenges associated with operating in the areas identified by the maneuver

⁴⁷ MAJ T.D. Moore. *Logistics Intelligence: The First Step in Operational Sustainment?* School of Advanced Military Studies. 32.

⁴⁸ *FM 4-93.2*, 2-1 -- 2-2 All sustainment brigade headquarters have the same basic organization and capabilities. In the event they are going to serve in a specific role, they will receive augmentation to enable that capability.

commander or specific operations, the sustainment brigade commander must communicate those challenges so that the maneuver commander can adjust the plan as required to make the operation supportable.⁴⁹

Through describing the operational environment, the commander will have an understanding of the operational plan, the logistics network, and an initial assessment of the feasibility of supporting the planned or projected operations. These conditions represent the current conditions in the operational environment. The next step is to determine the likely future conditions in which the organization will operate.

Determine strategic and operational trends. For logistics organizations, the overall trends of the system must be determined and then translated into their impacts on logistics operations. Some of this analysis is conducted during the previous stage when evaluating the supported units. Their likely courses of action and enemy reactions are of primary concern. As previously mentioned, the limited S2 staff will dictate that the majority of this analysis will be drawn from the maneuver and supported units and their analysis of the situation. The sustainment brigade planner must consider both the adversary and the local population. As operations develop, there is a likelihood that convoys will become a target for military forces as well as sympathetic irregular forces.⁵⁰ However, depending on the situation, continuing operations and success may facilitate logistical operations through increased use of local resources and better integration with local authorities to maximize the usefulness of existing civilian infrastructure. In coordination with the supported forces, the commander must determine which of the trends is most likely and the impacts on his operations.

⁴⁹ FM 4-0, 5-5.

⁵⁰ As an example, following the move north by 3ID during OIF, the lines of communication were targeted by remaining Iraqi forces and the Fedayeen. *On Point: The United States Army in Operation Iraqi Freedom*.

Identify gaps in knowledge and establish assumptions. These gaps represent areas where the commander identifies a need for additional information in order to make an informed decision. Once the gaps are identified, the commander may choose to make assumptions related to those areas in order to continue planning.⁵¹ Just as every reasonable effort must be made to fill information gaps, assumptions must be validated or disproved as quickly as possible to ensure that the plans being developed will interact with the system as desired. Invalid assumptions about the system may cause the actions taken to have unintended results. While listed as a separate step, this should be an ongoing process and is only included to ensure that the commander and staff are aware when assumptions are made.

Identify the operational problem. Through the above analysis, the commander should have a detailed understanding of the system and how his organization fits into the situation. While the generic description of the problem for logistics organizations will always be, “How do I support X while they conduct Y?” there will be specific areas of importance for each type of operation.⁵² These areas should focus on features that vary from normal operations, including unusually high consumption, limited infrastructure, non-contiguous areas of operations, or particularly dangerous areas for logistics organizations.

Develop the initial mission statement. Derived from this analysis to determine the operational problem, the commander will develop an initial mission statement. Like with the operational problem, the mission statement for logistics organizations will be somewhat static, resembling: On order, sustainment brigade will conduct sustainment operations in support of X in order to facilitate Z. The majority of this information will come, not from the higher logistics

⁵¹ *TRADOC Pamphlet 525-5-500*, 26.

⁵² X is the unit or area of operations as directed by the higher commander. Y is the type or types of operation(s) that X will be conducting.

headquarters but from the forces the unit is tasked to support. The supported units' mission and intent will directly influence how the sustainment organization executes operations.⁵³

Obtain approval of the problem and mission statement. The final step in framing the problem is obtaining approval of the problem and mission statement.⁵⁴ While the typical maneuver commander will gain approval from their higher headquarters, the process for a logistics organization is somewhat more complicated. Because of the multiple command, control, and support relationships, the commander must ensure that there is agreement from all of the concerned leaders. The earlier development of the network should provide the basis for gaining approval and serve as a guide for whose approval is needed. Perhaps the most important approval is from the supported units. While the SPO or G4/S4 likely conducted most of the analysis and coordination during the development of the network, the discourse between the supported maneuver commander and the sustainment brigade commander will confirm that they have a common understanding of what type of operations they will conduct, what the support requirements will be, and how that support will be delivered. Discussions with supported commanders should include any organic support organizations to further the common understanding and give the maneuver commander a level of comfort that the sustainment brigade's support plan is integrated with his organic support organization's plan.⁵⁵

The sustainment brigade commander must also work with other sustainment brigade commanders to ensure that they also agree with the problem and mission statements developed. A common understanding at this point will likely limit conflict over mission boundaries later and will also ensure that the theater distribution and theater opening brigades have a common

⁵³ Development of the mission statement is one of the outputs of Step 2 of the MDMP (FM 5-0). While this appears to be a conflict between CACD and MDMP, the entire process of Commander's Appreciation is in reality a form of mission analysis with the logical output being a mission statement. The mission statement should be reviewed again during the mission analysis phase and during operational planning for each portion of the campaign.

⁵⁴ *TRADOC Pamphlet 525-5-500*, 22.

⁵⁵ *FM 4-93.2*, 1-2 – 1-7.

understanding of the supported maneuver unit mission and plan. This process is similar to adjacent unit coordination conducted every day during execution but ensures that the communication occurs early in the planning process to address potential problems or gaps before they affect mission success. Ultimately, the common understanding will be the driver for all logistics decisions and the early common understanding will be critical for future success. Finally, the sustainment brigade commander must gain the approval of the ESC or TSC commander. This process will ensure that the sustainment brigade's understanding of the problem and the derived mission are properly nested with the higher logistics commander. This process will further facilitate the understanding of the problem for the ESC or TSC.⁵⁶ In each of these discussions, the sustainment commander must not only get concurrence on his own problem and mission statement but must also gain an understanding of the other commander's operational problem and his likely approach to the problem.

At the conclusion of problem framing, the commander will have identified the relevant areas of the system and determined their impacts on his mission and operations. Through this process, he also will have established the basis for the campaign planning process. In order to translate this understanding into action, the commander must now consider how he will act within the operational environment in order to accomplish his mission.

Mission Analysis

As stated in *TRADOC Pam 525-5-500*, "The ultimate goal of mission analysis is to define or identify where there is potential for meaningful and productive action that supports the resolution of the problem and the realization of national strategic aims."⁵⁷ This statement directly applies to a maneuver force but the same concept applies to logistics organizations. The inherent

⁵⁶ *FM 4-93.2*, 1-6.

⁵⁷ *TRADOC Pamphlet 525-5-500*, 26.

assumption is that the logistics organization will support actions of the maneuver forces. While sharing a name with step two of MDMP, the steps and outputs are different. Much of the IPB process and identifying the operational problem occurs during the development of the commander's appreciation, while the development of the commander's intent occurs during a later step.

While a significant amount of analysis is conducted during the framing the problem steps listed and discussed above, the newly approved problem and mission serve as a basis for renewed analysis. The approved mission statement will allow for a more focused analysis on the portions of the network in which the organization will operate or influence. The problem statement will likely allow for a more clearly drawn boundary for analysis and will provide better understanding of the types of operations that the supported forces will conduct. At this point, the generic planning for units and operations can be adjusted on the network diagram to show actual units, what types of operations they expect to conduct, and when those operations will occur. While these timelines will still be somewhat generic, they allow analysis that is more detailed.

The three critical steps to mission analysis associated with commander's appreciation are: describe the systemic conditions that the command must realize to achieve the strategic aims, identify campaign objectives, and identify the potential for campaign action.⁵⁸ Through these three steps, the commander and staff will build the foundation for planning the campaign and the included operations.

Describe the Systemic Conditions. While maneuver commanders focus on building a series of conditions that ultimately lead to a final set of conditions linked to the overall objectives, logistics commanders must focus on conditions to support current and future operations. In describing the conditions that the commander must realize, there will be a series of intermediate conditions, linked to the maneuver commander's critical events as well as capabilities or

⁵⁸ *TRADOC Pamphlet 525-5-500, 27.*

conditions needed over time. For instance, the maneuver forces will need to have a base camp as a staging area immediately upon arrival. This will be the first set of conditions. Next, the commander will require the ability to conduct major combat operations over a defined area (condition 2). Then the commander will expand that area and conduct a variety of operations (condition 3). Finally, the commander will transition to stability operations and begin the process for redeployment (condition 4). The sustainment brigade commander may identify capabilities not currently available that would facilitate future operations (condition 5). Each of these conditions will likely be described with respect to location of assets and capabilities at specified times. The diagram below shows a portion of a campaign for maneuver forces. All operations in the campaign lead to the seizure of a single objective, building on past successes. As shown, however, logistics forces may have significantly different missions in support of each phase or operation which may not be additive. As will be discussed later, these conditions may only apply to a single supported brigade. Each supported organization will likely require different support as they conduct operations.

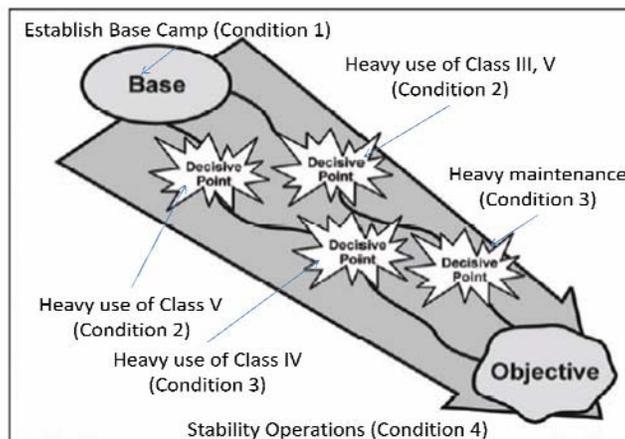


Figure 4 - Maneuver Operations with Logistics Conditions⁵⁹

The next diagram shows a sample of different missions or responsibilities that a sustainment brigade may execute during a maneuver campaign and their distribution over time.

⁵⁹ FM 3-0, 6-12. Modified to include primary logistics tasks at different stages.

For each of these tasks, there are a series of conditions and capabilities that the commander must establish in order to accomplish the assigned tasks.

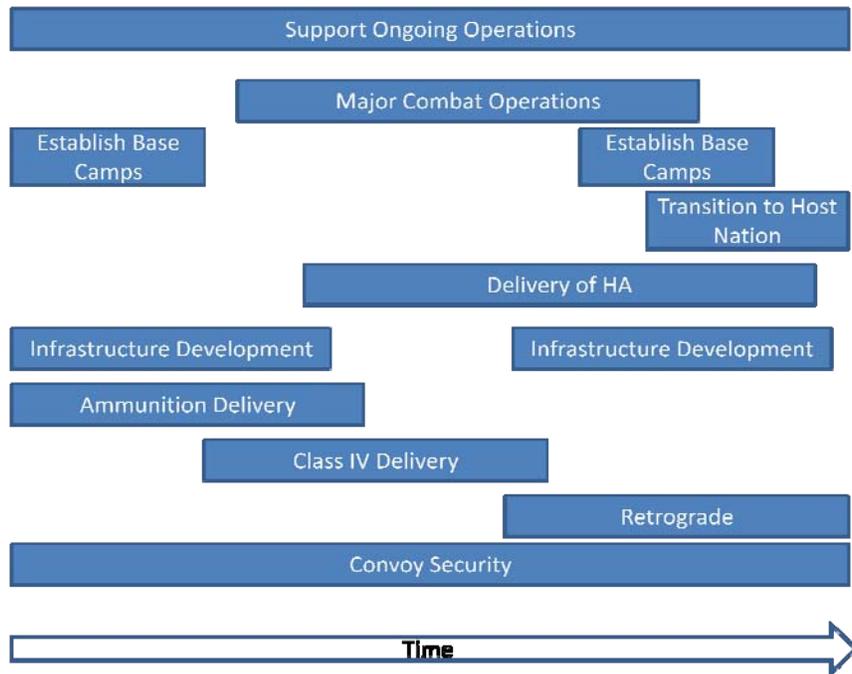


Figure 5 - Logistics Capability Requirements

By combining the conditions required to support the maneuver force and the mission requirements, both internal and external, of the sustainment brigade, the commander develops a clear understanding of the conditions required for successful execution of operations. From this information, the commander can develop broader objectives for the campaign.

Identify Campaign Objectives. The overall campaign objective for all logistic organizations should be to enable the supported commander’s operations in order to allow them to effectively accomplish their objectives. To apply this concept to logistics organizations, the commander must identify lasting capabilities or conditions that he wants to create that will remain in place during and after the maneuver campaign. Capabilities that the commander may want to develop and sustain may include rapid mobile support, humanitarian assistance, coalition support or other specific capabilities that are needed based on the operational environment.

Identify Potential for Campaign Action. For logistics organizations, the potential for campaign action will come not in their own campaign action but the ability of the supported units to conduct operations as they see necessary. Through the analysis discussed above, the logistics commander will have an understanding of the supported commanders' intent and his ability to support those operations. The ability to support operations will likely affect the supported commanders' choices of which courses of action to follow and how they will sequence operations.⁶⁰

Through the above commander's appreciation methodology, the commander develops an understanding of the operational environment as well as the support that the sustainment brigade will provide to the supported organizations. Additionally, the communication established with peer and higher commanders will facilitate the planning process because of the shared understanding and mutual agreement on the approach to the problem. The products, both written and graphical, developed during the commander's appreciation steps will serve as a reference point for future discussions and planning. The understanding will serve as the basis for developing the campaign design and eventually the campaign plan.

Campaign Design

As the process transitions to design of the campaign, the detailed understanding of the system developed to this point will serve as a basis for developing a plan to support the designated maneuver force. The three major steps of campaign design are: describe the commander's intent for the campaign, describe the campaign approach, and describe the requirements for reframing.⁶¹ While all of the steps in campaign planning are sequential, they are also iterative. At any time, the commander and staff may need to revisit previously accomplished

⁶⁰ US Department of the Army. *FM 3-93 The Army in Theater Operations (DRAG Edition)* (Washington, DC: US Government Printing Office, 2 February 2005), 5-16.

⁶¹ *TRADOC Pamphlet 525-5-500*, 29.

tasks based on a new understanding of the problem or a changing situation. Additionally, because the lines between each of the major steps of planning are not definitive, the commander will often begin working on the next step before completing a previous step.

Campaign Commander's Intent

As with traditional planning, the commander's intent serves as a key building block for all planning. As a result, development of the intent is the first step in designing the campaign plan. In describing his intent, the commander must succinctly express his understanding of the problem and provide guidance for subordinates. FM 3-0 defines commander's intent as "a clear, concise statement of what the force must do and the conditions the force must meet to succeed with respect to the enemy, terrain, and desired end state."⁶² Based on the format in TRADOC Pam 525-5-500, developed for a JTF or Combatant Commander, a recommended format for the logistics commander's intent is:⁶³

Problem: State the problem as the commander envisions it. The description should link to the operations that the maneuver forces will conduct and how those operations drive the logistical approach. This is simply a concise statement of the problem developed during the commander's appreciation process.

Purpose: The logistical purpose should focus on supporting the operations of the maneuver force and should include the maneuver commander's purpose to provide context for the problem. Including this information will prevent subordinate units conducting logistics operations for the sake of logistics.

Key Objectives: For logistics operations, the objectives will likely each have a time and duration or event associated with them. The conditions developed during commander's

⁶² FM 3-0, 5-10.

⁶³ TRADOC Pamphlet 525-5-500, Appendix B.

appreciation are restated in general terms in order to ensure subordinate commanders understand what they are and their importance. In determining the key objectives, the commander should consider enduring capabilities required, support to the maneuver commander's decisive operations, and decision points in the supported commander's campaign plan.

Priorities: For logistics organizations, there are a number of ongoing priorities, including support to maneuver forces and force protection. The commander should also include any specific units or operations that will be high priority during different events. The commander can also include capabilities he deems critical to the success of the organization or that need to be developed.

Risk: As with the maneuver commander, the logistics commander must articulate the acceptable risk in terms of threat to the force, areas where support may be minimal in order to support other forces, and other areas where he is willing to assume risk. After identifying the risks, the commander must also address mitigation of those risks.

End State: As discussed in objectives above, the conditions and capabilities at the end of the campaign may actually be less than those during the maneuver campaign. As a result, the end state will focus on the ongoing capabilities and actions of the sustainment brigade and how they will support the maneuver forces in their operations. The statement should conclude with the maneuver commander's end state to provide context for the logistics campaign.

Campaign Approach

Once the commander has developed his intent, he and the staff can develop the campaign approach. As previously discussed, the maneuver commander describes the starting conditions and works towards a single end state. However, the process for a sustainment brigade will transition through a series of intermediate conditions. After developing the intermediate conditions, based on the operational phases or key events, the overall direction of the campaign will become evident.

The first step is to describe the initial conditions.⁶⁴ This description, and the description of all future conditions, should include the supported forces, available logistics forces, available supplies, and the infrastructure used during operations. The description of the supported forces should include the task organization, type of operation, and support requirements along with any other pertinent information. Depending on the operations being conducted, each supported organization may require a separate description or multiple brigades may be combined if they are conducting similar operations.

Next, the commander and staff should describe each major phase, operation, or event as designated by the supported maneuver commanders. The supported units' campaign plans (or initial concept in the absence of an existing campaign plan) should provide a general timeline their major operations and phases, which serve as the basis to develop a clear picture of the overall requirements for the sustainment brigade. This information was originally gathered in framing the problem but should be refined at this point based on any additional information available.

One of the difficult decisions the commander will face is the choice of which operations are likely to occur and how to include them in the campaign design. The maneuver commander is likely to have a concept of the major operations but is also likely considering a series of branch and sequel plans that may significantly change the complexion of the campaign.⁶⁵ For this reason, the sustainment brigade commander must systematically address all of those plans to determine which potential operations should be explicitly included, which operations should be considered, and which operations should be discounted when developing the support plan.

In discussions with the maneuver commander, the sustainment brigade commander should assess the probability that the operation will occur, the ability to support the operation, and

⁶⁴ *TRADOC Pamphlet 525-5-500*, 29.

⁶⁵ *FM 5-0*, 1-17.

the impact on follow on operations.⁶⁶ Obviously, if an operation has a high likelihood of execution, it must be considered in the planning. If the likelihood is less, the commander should ensure that the support plan during that phase is flexible enough to support the operation but should not build the support plan to specifically support the operation. Finally, if the operation is not likely, the commander should ensure that the failure to plan for it would not lead to catastrophic failure. In every case, the support concept must be sufficiently flexible to adjust to any likely change in the maneuver plan. Beyond supporting the maneuver plan, there will be missions that are internal to the function of the sustainment brigade as well as specified or implied tasks from higher headquarters. These missions may prove a significant drain on manpower or equipment and impact the ability to support maneuver forces.⁶⁷

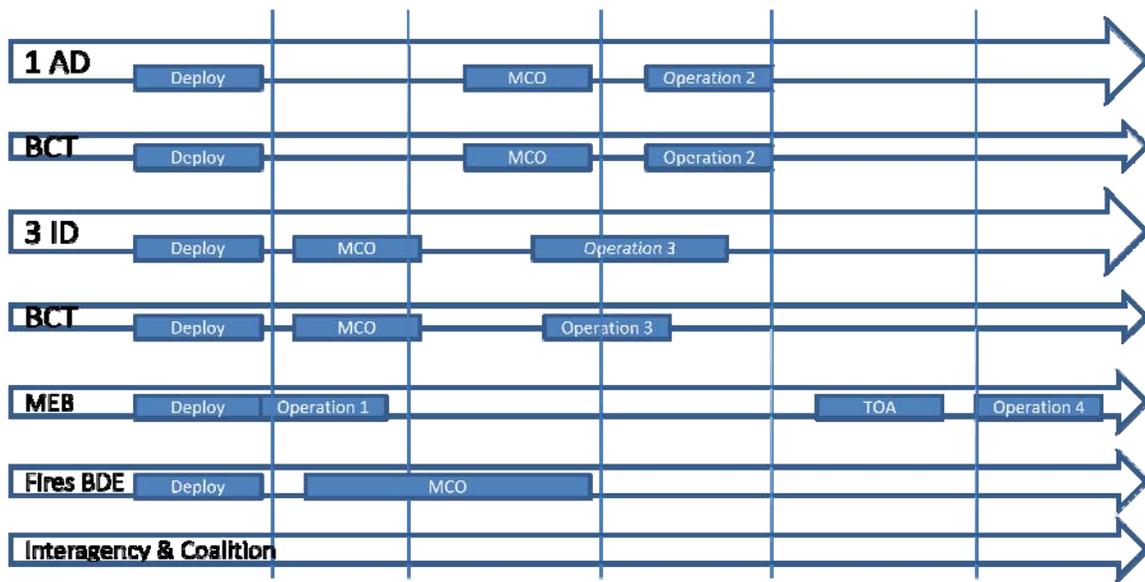


Figure 6 - Maneuver Campaign Operations and Logistics Phasing

With the operations combined into a single diagram, they can be divided into phases or blocks of time for the sustainment organization, as depicted by the vertical lines above. These

⁶⁶ Kenneth Long, email to author, 5 February 2009.

⁶⁷ In Iraq, many logistics organizations are being given additional tasks such as FOB mayor or training of Iraqi Security Forces. Colonel Darrell K. Williams, Lieutenant Colonel Lillard D. Evans, and Captain Brittany R. Warren, “Modular Transformation and the 3d Sustainment Brigade,” *Army Logistician* (JAN-FEB 2009): 8.

phases can also be called individual operations. However, because logistics units provide continual support, the term phase may be more applicable. When determining phases, the commander should focus on both the operations and the likely logistics challenges.⁶⁸ If the phases for the logistics commander do not line up with those of the maneuver commander, some confusion may exist. In this case, the logistics commander may choose to subdivide the maneuver phases to eliminate these problems.⁶⁹ From there, the planner should describe the logistical conditions that must exist at the beginning of the phase. As part of this process, the planner must also consider the activities of coalition and interagency partners. While some of the activities will occur without significant impact on the logistics operations, there may be events that require significant support from US Army logistics organizations.

Depending on where in the overall planning process or execution the sustainment brigade is operating, the commander may have an ability to influence the composition of his sustainment brigade. The commander must compare the requirements in each section to the capabilities of the assigned units for each block of time. Just as during the problem framing analysis, when shortfalls occur, the commander must analyze the situation to determine if the shortfalls can be addressed by adjusting the internal task organization or remissioning internal units.⁷⁰ If the sustainment brigade cannot address the shortfalls using internal assets, those requirements must be consolidated and forwarded to the higher logistical command so that they can be filled by outside resources or operational plans modified or the operational plan must be modified. As the operations continue, the commander may determine a need to change the task organization of the subordinate organizations, request additional capabilities, or reorganize the headquarters in order

⁶⁸ US Marine Corps. *MCDP 1-2 Campaigning* (Washington, DC: Government Printing Office, 1 August 1997), 48.

⁶⁹ For instance, the commander could break maneuver phases 3 and 4 into 3A, 3B, 4A, and 4B and have the same support concept for both 3B and 4A. For a discussion of phasing, see *FM 3-0*, 6-17.

⁷⁰ *FM 4.93-2*, 2-4.

to be support the operation. While these decisions are part of the campaign planning process, they are also part of the design process.

When determining what conditions must be established at the beginning of each block of time, the commander must also consider how far in advance he can begin establishing those conditions. In some areas, the conditions will remain constant throughout an operation. For instance, the command must be able to provide Class I support from the day the first soldier arrives in the operational area through redeployment. However, others will vary. Typically, to develop a capability, there will be a cost in the form of diminished capability in another area. The commander should determine when he can begin decreasing support in one area, without adversely affecting the mission, to build capability in another area.

During maneuver campaign planning, information operations are a critical portion of each phase. While information operations are important to logistics organizations, they will rarely need to generate their own messages and themes. In most cases, logistics units will implement the IO campaign of the supported maneuver commander because logistics organizations do not typically own terrain. However, it is critical that logistics soldiers understand the information operations of the organizations they support. Because of the large area that the sustainment brigade supports, it is possible that the messages are different in each area. Soldiers must understand the messages and the environment in which they are operating in order to ensure their own safety as well as the overall success of the operation.⁷¹

Through the above analysis, the commander and staff will have developed a broad concept of the logistics campaign. From this design, the staff and subordinate commanders will be able to understand the major operations that will occur, how operations will be supported, and how logistics fits into the broader effort.

⁷¹ Information Operations (IO) are listed as a portion of the campaign approach in *TRADOC Pamphlet 525-5-500*. For more information on IO, see *FM 3-0*, chapter 7 and *FM 3-13 Information Operations: Doctrine, Tactics, Techniques, and Procedures*, 28 November 2003.

Reframing the Problem

Because of the changing nature of military operations, there will be times when the existing campaign plan is no longer valid or requires significant adjustment. In those cases, the commander and staff must reframe the problem to develop a new understanding, which more accurately describes the operational environment. During the initial campaign design, the commander must designate criteria for when to review or reframe the problem.⁷² The most obvious case is when the maneuver forces significantly change their concept of the operation or change their campaign plan. In some cases, the problem for the sustainment brigade will remain the same but there will be cases when it will change, only through conscientious examination will the commander be able to determine if there is in fact a change in the environment requiring revision of the campaign design. The commander should also review his understanding of the problem at the transition between phases of the maneuver commander as well as any time that significant new constraints are placed on his operations by the higher commander.

Similar to short term tactical planning, the commander must determine Commander's Critical Information Requirements (CCIR) that will help indicate when reframing the problem is required. The key difference between traditional CCIR and CCIR related to a campaign plan is the result of one of these items being answered. Traditional CCIR, drives a decision commander while campaign CCIR triggers reframing of the commander's understanding of the environment. Below are generic examples of information requirements that can be adapted to the commander's specific situation.

Priority Information Requirements (PIR):

Has the enemy shifted tactics or areas of operations, driving changes in friendly force operations?

Have logistics operations become significant targets of enemy operations?

Friendly Force Information Requirements (FFIR):

Have the capabilities of other or subordinate logistics organizations significantly changed?

⁷² *TRADOC Pamphlet 525-5-500*, 30.

Have the units being supported significantly changed?
Have planned major operations for supported units been changed?
Are there changes to the concept of support by other logistics organizations?
Environmental Information Requirements (EIR)⁷³:
Have there been significant changes in the political environment that are likely to change the nature of the conflict?
Are there significant changes to the capabilities of the infrastructure?
Are civilian logistics capabilities available that were not previously capable?
Have civilian logistics capabilities been significantly degraded?

By monitoring these information requirements, the commander will be able to anticipate changes to the operational environment that may require a change to the campaign plan and the support concepts for the individual operations.⁷⁴ While some of these information requirements can be passed to subordinate logistics organizations, it is important for the sustainment brigade to continue to monitor the entire environment for indications that reframing is required. When one or more of the established criteria are met, the commander should determine why the environment is not operating as expected. Of the many possible causes, two are the most common. First, there could be a failure in accurately assessing and understanding the environment. Second, the failure could be in the execution of the campaign plan. No matter the cause, the commander must take steps to resolve the issues and refine the plan as required to effectively support the maneuver forces.⁷⁵

After completing the campaign design process, the commander and staff should have a clear understanding of the operational environment as well as the systemic problems and how the brigade will address those problems for the duration of the campaign. With the commander's intent and campaign approach, both the staff and subordinate commanders should be able to begin the planning process for the campaign. If the commander elected to use a separate design

⁷³ New term in *TRADOC Pamphlet 525-5-500*, 31. In this case, they are focusing on maintaining the understanding of the environment beyond simply friendly and enemy perspectives.

⁷⁴ CCIR is discussed in *FM 5-0*, beginning on page 3-7.

⁷⁵ Schmitt, 28.

team, they will have to produce a series of documents and presentations to transfer the information and understanding to the planning team. If the same staff will also conduct planning, they should also document the thought processes and decisions as a point of reference for later reference. As an example, the diagram of the infrastructure and projected operations developed when analyzing the network and friendly operations will be valuable in translating the understanding developed during the early steps of the process into an effective plan to support those operations. When reviewing the work done during commander's appreciation and the campaign design, there are a number of similarities between the information gathered and the first three steps of MDMP (receipt of mission, mission analysis, and course of action development).

Campaign Planning

With the completion of the campaign design, using JOPP or MDMP, the commander and staff can develop the campaign plan, which will later be the basis of operational planning and execution. The following discussion generally parallels the MDMP in developing the campaign plan. However, it does not necessarily include all of the individual inputs and outputs as described in *FM 5-0*.

TRADOC Pamphlet 525-5-500 states, "A campaign plan should be broad and conceptual."⁷⁶ This statement is problematic in that it does not clearly state the meaning of broad and conceptual. As a result, the line between campaign planning and operations planning is not clearly defined. Some level of operation planning is needed in order to inform the campaign plan. This is especially the case for logistics organizations in that they need to understand the requirements of the maneuver force in order to determine how they will be required to operate in support of operations.

For logistics organizations, the objective of campaign planning is to provide effective and efficient support to the supported commanders throughout his campaign. During the design and

⁷⁶ *TRADOC Pamphlet 525-5-500*, 31.

planning process, the logistics command and supporting staff must focus on the eight characteristics of Combat Service Support as described in FM 4-0.⁷⁷

Responsiveness	Sustainability
Simplicity	Survivability
Flexibility	Economy
Attainability	Integration

The ultimate goal is to optimize support in all eight of these characteristics throughout the campaign. In developing the concept of support for each phase and the campaign as a whole, the staff should optimize the plan in regards to five main areas. These areas are task organization; location; command, control, and support relationships; training; and equipment. Many of these areas are interrelated but specific considerations apply to each. The result will be a campaign plan that will serve as the basis for planning operations.

Optimization

Optimization has been defined as “the urge for efficiency and can be both qualitative and quantitative.”⁷⁸ In logistics planning, the optimum solution will meet all of the needs of the supported commander while minimizing costs without accepting unreasonable risk. While the traditional definition of the optimum solution for military planners has been the ideal solution for a situation, a new perspective is needed. In current and future operations, the optimum solution is

⁷⁷ FM 4-0, 1-4.

⁷⁸ Kenneth Humphreys. *Jelen's Cost and Optimization Engineering* (New York: McGraw-Hill, Inc., 1991), 252.

the one that is flexible enough to adapt to a changing situation while providing the necessary support rather than the perfect plan for what the commander expects to happen.⁷⁹

When determining the optimum solution, the commander must determine if he is trying to determine the minimum cost, reduce risk, or a specific combination of both. An additional challenge of optimization is ensuring that the solution identified is in fact the optimum solution and not a local optimum point. In this case, the solution identified is better than those around it but a completely different solution presents a better option.⁸⁰ As a result, commanders must ensure that all possible solutions are considered in order to identify the best solution for supporting the operation. While mathematical optimization is relatively straightforward, using equations to determine a cost and risk value, optimization of a logistical planning is significantly more complicated.

Because the focus of campaign planning is on supporting the entire campaign, the decision as to whether to change the concept of support for each phase or to develop a single concept of support that will support operations throughout the campaign is important. Of course, this is a generalization in that there are only two options but the concept is critical in determining how the support campaign plan will develop.

With a single, stable support concept throughout the campaign, the effectiveness and efficiency will vary from operation to operation. During some operations, the support will be optimal while during other phases, efficiency or effectiveness may decline. Conversely, if the support concept changes with each operation, the support may be the perfect balance between efficiency and effectiveness but there will be a transition cost between operations. Moving units,

⁷⁹ Dr Anne-Marie Grisogono SAMS lecture 9 October 2009. Dr Grisogono stated that the optimization should be focused on creating an adaptive solution rather than addressing the problem as it is now known. This concept has been expanded by the author to apply to a logistical challenge. Optimum is defined on www.merriam-webster.com as “greatest degree attained or attainable under implied or specified conditions.” (accessed 30 January 2009).

⁸⁰ Humphreys, 253.

changing task organization, and changing procedures are all significant challenges that may degrade the efficiency or effectiveness of the logistics support.

Planners should develop a method for systematically developing and comparing concepts of support for the entire campaign. In practical application, there will be some components of the support concept that will remain stable through all phases, while others will change frequently. As a way of developing the best concept, the following discussion will lay out a methodology to determine the optimum solution for logistics support to a campaign. This discussion will remain theoretical but following the theoretical discussion will be the application of the theory to actual areas for optimization.

Once the commander is ready to develop the actual campaign plan, he should develop the best solution for each phase when considered as a distinct operation. Given the optimum solution for each phase, the commander should then analyze the costs associated with transitioning between the concepts for each phase. The costs associated with the transition may be, among other things, decreased effectiveness during the transition, time and resources required to move support units, and confusion on the part of the supported organization as to how they receive support.

After determining the costs associated with transitioning between concepts, the commander should compare those costs to the decrease in effectiveness associated with retaining the same concept of support across multiple phases. Through this explicit comparison, the commander can determine whether it is more effective to transition for each phase or if it is more effective to retain the same concept across multiple phases. Obviously, some components of the support concept may remain stable while others change but it is only through this analysis that the commander can determine the optimum solution for providing support.

Areas for Optimization

As previously discussed, the areas for optimization include task organization; location; command, control, and support relationships; training; and equipment. Using the methodology described above, the commander can determine the optimum solution for supporting the assigned maneuver forces. This process is similar to a combination of steps three through five of the MDMP (course of action development, course of action analysis, and course of action comparison). One key point to remember is that the optimum solution includes not only the currently understood operations but also includes a degree of flexibility in the event that the current understanding of the maneuver campaign changes.

Task Organization. The first area requiring optimization is the task organization of the sustainment brigade.⁸¹ As stated in FM 6-0, “Organization of C2 should aim to create unit of command, reasonable spans of control, cohesive mission teams, and effective information distribution.”⁸² First, the commander must determine what forces are required in order to meet the supported commander’s needs. While the natural tendency is to request units specifically designed to provide a particular type of support, there may be opportunities to use organizations for other purposes when their primary mission is not required. For instance, the truck assets of an ammunition company could be used for moving humanitarian assistance after the end of major combat operations. The capabilities should be determined by phase and the appropriate organizations then selected to meet the requirements. The obvious intent is to build the smallest force possible while supporting the mission and maintaining a sufficient reserve to adjust to a changing situation.⁸³ In some cases, the task organization will have already been determined by a higher headquarters. If that is the case, the commander should still conduct the same analysis to

⁸¹ *FMI 4-93.2, 4-3 – 4-5.*

⁸² *FM 6-0, 5-23.*

⁸³ *FM 4-0, 1-9.*

assess the ability to execute the required missions. When shortfalls are identified, the commander should look for outside capabilities to accomplish the task.⁸⁴

Beyond the number and types of units, the commander must determine how to task and organize the assigned elements in order to maintain the maximum flexibility and efficiency. Typically, there are two approaches to organizing logistics organizations. They can be either functional or multifunctional. Depending on the operational environment and the maneuver force requirements, the commander may determine that it is more effective to organize into a series of multifunctional battalions with the same capabilities present in each battalion. In other situations, the commander may determine that the best way to organize is to retain the functional expertise of each battalion. The current trend is toward Combat Sustainment Support Battalions (CSSB), which are inherently multifunctional. Like the battalions, the companies within the battalions can also be task organized based on the required capabilities.⁸⁵ While it is not uncommon to combine maintenance, transportation, and supply capabilities into a single battalion, ammunition, POL supply, and movement control battalions typically are organized along functional lines in large operations.⁸⁶

As an example, if a sustainment brigade is supporting a division with brigades operating along two MSR routes in separate directions, the commander may determine that organizing multifunctional battalions, with each operating in direct support of a series of units is the most effective. Asking a functional ammunition battalion and a supply battalion to dispatch convoys along the same route at the same time may not be the most efficient use of resources.

When considering task organization, the commander should assess the level of technical expertise and supervision required for the subordinate organizations. There are certain mission

⁸⁴ US Army Command and General Staff College. *Campaign Planning: Tools of the Trade, Second Edition*. June 2006. 15.

⁸⁵ FM 4-93.2, 4-4.

⁸⁶ FM 4-93.2, 4-14, 18, and 33.

that may require specific technical expertise on the part of the commander and staff in order to effectively command and control the subordinate organizations.⁸⁷

Location. Once the task organization is determined, the commander must determine the best physical location for the subordinate battalions and his own headquarters. In determining the physical location, the commander should consider the requirement to maintain continuous, flexible, and efficient support. Depending on the road network and tactical situation, the ability to continue support may significantly impede the ability of the sustainment brigade to support the maneuver force. As an example, the commander should avoid positioning his organization in such a way that there is a single route available to the supported force that is easily interdicted. The most obvious example is placement of the sustainment brigade on one side of a river from the supported force when there is only one bridge available. In the event that the enemy is able to destroy the bridge, the supported command is cut off from all ground resupply. In this case, having the support brigade on the same side of the river as soon as tactically possible is critical in order to continue to provide support. While this scenario may lead to the sustainment brigade being cut off from higher logistics organizations, the internal storage capability of the sustainment brigade may allow the maneuver force to continue operating until the infrastructure can be repaired or alternate routes developed.

If the commander has determined that functional battalions are the optimum task organization, the battalions will likely be centrally located with the ability to easily reach the supported organizations. The commander must also consider the requirement to reach the supported organizations in the event that the situation changes and the routes to those organizations are compromised. Redundancy of routes is critical in maintaining a continuous support of maneuver forces. In the event that the commander determines that multifunctional battalions are the best solution, the commander may determine that collocating some or all of the

⁸⁷ *FM 4-93.2*, 4-14, 4-18.

battalions with the supported unit is the optimum solution. This will allow rapid response to a changing situation and prevent the need to transport supplies in the case of an emergency. On the other hand, the commander may determine that keeping the battalions collocated is better because of the increased flexibility and ease of control. However, this creates the challenge of having to transport supplies to the supported units when required.

The third option is a combination of the two previously discussed concepts. The commander may determine that forward locating some support assets to provide rapid support while retaining other assets to maintain flexibility is the optimum solution. The tactical and operational situation will likely dictate the appropriate location of each organization.

Command, Control, and Support Relationships. As previously discussed, all of the sustainment brigades and their subordinate battalions are now assigned to the TSC. However, the commander of the TSC/ESC and the sustainment brigade must determine what relationship the brigade and battalions will have to maneuver forces. As defined in FM 3-0 *Operations*, there are five different command relationships: organic, assigned, attached, OPCON, and TACON.⁸⁸ Sustainment brigades typically only have an organic brigade troops battalion (BTB). The remainder of the battalions are either assigned or attached for a specified period.⁸⁹ Typically, the subordinate organizations will retain their command relationship with the sustainment brigade. However, there may be cases when the commander may determine that they should be under the OPCON (operational control) of another organization. The relationship which requires the most significant consideration is the support relationship with the maneuver force.

In the situation described in this monograph, the sustainment brigade is in direct support of a specified force. Key to that relationship is that the support priorities, both by organization

⁸⁸ FM 3-0, B-10.

⁸⁹ FM 4-93.2, 2-1.

and by type of support, are determined by the supported commander.⁹⁰ While that is effective when the sustainment brigade is in direct support of a single division, if the sustainment brigade is in direct support of brigades from multiple divisions, the need for mutual understanding is even more important. In this case, it may be the Corps commander who becomes the arbiter of conflicting support priorities. With a support relationship but no command relationship, the sustainment brigade commander can determine the support relationship between subordinate logistics organizations and lower level maneuver forces. For instance, the commander can determine that one of the support battalions should be in direct support of a specific brigade. This relationship will provide clarity to both the sustainment brigade commander and subordinate battalion commander of the role assigned to the battalion.

The other option is for support battalions or other elements of the sustainment brigade to remain in a general or area support relationship. In this case, they provide support to the entire force supported by the sustainment brigade and the priorities are set by the sustainment brigade. This relationship is most appropriate when a capability is limited or required by all of the supported forces.

It is possible for a situation to exist where the most effective way to support the maneuver force is to attach a subordinate organization to a maneuver force. When considering this, the commander must consider a number of factors. First, once the attachment is effective, the sustainment brigade commander loses all control over that unit until the attachment is rescinded. For that reason, the commander must determine that the capabilities of that organization are only needed by the unit receiving the attachment and will not be required in the near future by others. Additionally, the commander should only attach a subordinate element if they are likely to remain

⁹⁰ *FM 3-0*, B-11.

in place for an extended period. Finally, the attached element should be self sufficient to the extent that it will not become a resource drain on the supported unit.⁹¹

Beyond determining the initial command, control, and support relationships, the commander must look throughout the duration of the campaign and determine how those relationships will evolve over time. In the case where they will change, the commander should look at how the transitions will occur and what systems should be in place to effect those changes. The transitions should include specific criteria as to when the change will occur, whether that is event or time driven. Preplanning the transfer of control will allow for the most efficient transition and clearly identify any gaps in support that may occur during the transition.

Training. Once the commander determines the available forces and the mission requirements, there is a possibility for a gap between capabilities and requirements. Given a resource-constrained environment, the command must determine the most effective way to close the gap. One possibility is to retrain and reassign parts of the organization. As previously discussed, it is possible to simply shift the type of cargo being carried by an ammunition battalion to other classes of supply. While that is a relatively simple change, there are other areas where significant training may be required.

The timing of that training is significant. Given sufficient time before the beginning of operations, the commander should initiate the required training prior to deployment. If that is not possible, the commander should review the campaign and determine opportunities for training. Ideally, the commander will identify a time when the unit's normal capabilities are not required and use that time to develop the new capability before it is required. During this process, the commander should consider the level of proficiency required, the difficulty of training the task, and the impact of losing the normal capability.

⁹¹ *FM 3-0*, B-10 – 11.

Equipment. Closely related to training is equipment. The commander should determine where there are gaps associated with the equipment needed to accomplish the assigned missions. Units will most likely have the appropriate equipment to execute their doctrinal missions. The challenge arises when the sustainment brigade assumes non-traditional missions. Similar to the process for training new capabilities, the commander should identify when new or different equipment is required. Once identified, under-utilized equipment during the same phase should be located and re-allocated to fill the gaps. If not available, other logistics organizations will likely have to accomplish the mission.

The result of the optimization process is recommended support concept for the duration of the campaign. While the commander is involved in the entire process, the concept cannot be considered approved until the sustainment brigade commander has presented the concept to both the supported commanders and the higher logistics commander. These discussions are primarily for information purposes but there may be instances where another commander identifies a shortfall in the support provided which requires modification to the campaign plan. The details of which commanders are briefed and how the plan is communicated are discussed later.

Evaluation of the Plan

Throughout the entire process and again at the conclusion of the campaign planning step, the commander and staff must evaluate the plan to determine if it is both effective and complete. When reviewing the plan, three major areas should be considered. These areas are the continuity between phases, gaps in support, and does the plan address the problem and missions identified during the commander's appreciation step.

When reviewing the plan for continuity, the commander must ensure that support is provided in similar ways throughout the operation. Radical changes in support structures may cause confusion on the part of the supported units as to where their support is coming from and the process needed to request additional support. When there are significant changes in the

support concept for a supported unit, the commander must ensure that the transition between concepts is clearly described. To facilitate this analysis, the commander may choose to review the plan from the perspective of each supported force, thereby taking a different perspective and potentially identifying discontinuities in the plan.

Closely related to continuity is the need to locate gaps in support to supported forces. Using similar techniques, the commander should also ensure that support is provided throughout the supported force's operations. Most commonly, the gaps will occur during transitions between phases. However, geographic dispersion, units conducting independent operations, and other factors may cause the planners to inadvertently provide less than optimum support.

Finally, the commander should review the problem statement and mission statement developed during the commander's appreciation to ensure that those items are being addressed by the plan. Additionally, the commander should review his understanding of the environment to assess its accuracy based on the analysis and planning conducted throughout the planning process.

Based on this analysis, if the commander identifies faults in the campaign plan, he must then determine the source of the fault as well as the appropriate remedy. In many cases, a relatively simple change to the plan can correct the deficiency. However, faults may indicate larger problems with the understanding and planning, requiring the commander and staff to reframe the problem and develop new concepts for all or part of the campaign plan.

Evaluation of Execution

In order to effectively execute a campaign plan, evaluation criteria must be put in place prior to the beginning of operations. These criteria must be both easily measured and linked to mission accomplishment. Additionally, they must also indicate the area where the unit is failing if the established standards are not being met. Metrics that simply indicate that the maneuver commander's plan was adversely impacted by logistics consideration, while important, are not

effective in fixing the deficiency and addressing the underlying causes. Once put in place, these criteria require periodically evaluated to determine if they are effectively measuring performance and mission accomplishment.

When determining the metrics to be used, the following items should be considered: what is the purpose of the metric, is the metric relevant to mission accomplishment, and what is the cost benefit of measuring the metric.⁹² The metrics used should determine if not only the process is succeeding but also why they are not meeting established goals. While some metrics clearly describe if an organization is not meeting a specific goal, if that goal is not directly related to supporting customers (internal or external), the commander should consider eliminating or refining the metric. Finally, some metrics may require extraordinary amounts of time to gather and analyze the data. In this case, the metric should again be revised to make data collection and analysis easier.⁹³

Given this conceptual understanding of the need for evaluating operations, the commander must develop measures of performance and measures of effectiveness. Measures of performance relate to task accomplishment while measures of effectiveness relate to the result of a units collective action. While each subordinate organization and the sustainment brigade should have standing measures of performance related to their specific capabilities, the sustainment brigade should develop a series of measures of effectiveness for the campaign and each phase or maneuver operation. These will be specific to the mission and associated tasks; the overall measure of effectiveness is if the supported force is able to accomplish its mission without concern for logistics constraints.⁹⁴ Similar to the areas discussed as the outcomes of the planning

⁹² Thomas Goldsby and Robert Martichenko. *Lean Six Sigma Logistics* (Boca Raton, FL: J.Ross Publishing, 2005), 237-238.

⁹³ US Department of the Army. FMI 5-0.1 The Operations Planning Process (Washington, DC: Government Printing Office, March 2006), 5-4.

⁹⁴ *FM 4-0*, 1-1.

process, the Balanced Scorecard areas of internal practices, external support, learning and growing, and financial are useful areas to develop specific metrics.

Finally, during execution of the plan, the subordinate organizations will likely determine gaps or errors in understanding of the environment and problem. When these areas are identified, mechanisms must be in place to feed that information back into the design and planning team to ensure that the campaign plan is as accurate and effective as possible.

Communicating the Plan

Upon completion of the planning process, the commander must be able to effectively communicate the plan to higher, subordinate, and supported commanders.⁹⁵ Below is a basic outline of what should be included in the campaign plan. This format can be adapted to be more specific or more general based on the clarity of the situation as well as the preferences of the commander.

Campaign Intent. This will be taken from the campaign design process and summarizes the problem, purpose, key objectives, priorities, risk, and endstate.

Campaign Approach. The commander should describe each phase and the general requirements for support as developed during the campaign design. This description should show how the phases relate and how the support plan nests with the supported commanders' campaign.

Phase Description. For each phase as determined during the campaign design process, the commander should describe how the operations of the supported commanders will be supported. In describing each phase, the critical elements are the internal organization and capabilities, support requirements, and preparations for follow on operations.

⁹⁵ Henry Mintzberg. *The Rise and Fall of Strategic Planning* (New York: The Free Press, 1994), 392. Mintzberg states that plans should be communicated to three groups, internal, external, and the environment in the form of feedback. These roughly translate into subordinate, higher, and supported units.

The phase description should begin with a task organization for the sustainment brigade and its subordinate elements. This task organization should reflect location, command, control, and support relationships. For each subordinate organization, the specific requirements for that organization should be explained in sufficient detail for the commanders to conduct operations planning. The phase plans should also describe the critical capabilities required at the beginning of the phase, major missions, capabilities required at the beginning of the next phase and the criteria for transitioning to the next phase, from both the supported unit and logistics unit's perspective. The plan should also describe the same characteristics of the sustainment brigade as a whole.

The commander of the sustainment brigade should share the final campaign plan with the same group of commanders that he included in commander's appreciation discussions. By presenting the completed campaign plan to those commanders, he is able to revalidate his understanding of the situation and gain buy-in from the other commanders for the concept of support.

Through the above campaign planning process, the commander and staff will translate the campaign design previously developed into a campaign plan that is understood by both the subordinate organizations as well as the supported organizations. This plan will also serve as the basis for operational planning during each phase of the campaign. For each phase of the campaign, the commander, with staff assistance, will review his understanding of the operational environment, assess past and ongoing operations to determine their effectiveness, and review the campaign plan to ensure that it is still applicable to the current situation. From there, he will direct more detailed planning for upcoming operations in the form of JOPP or MDMP.

Conclusion

Because of the changes in logistics command and control and the increasing complexity of the contemporary operational environment, logistics organizations must develop new

techniques for planning support over the duration of the maneuver campaign. Using this approach, the commander is able to effectively understand the environment in which he will operate and eventually develop a plan to address to support the maneuver commanders and their operations. The process is summarized in the diagram below.

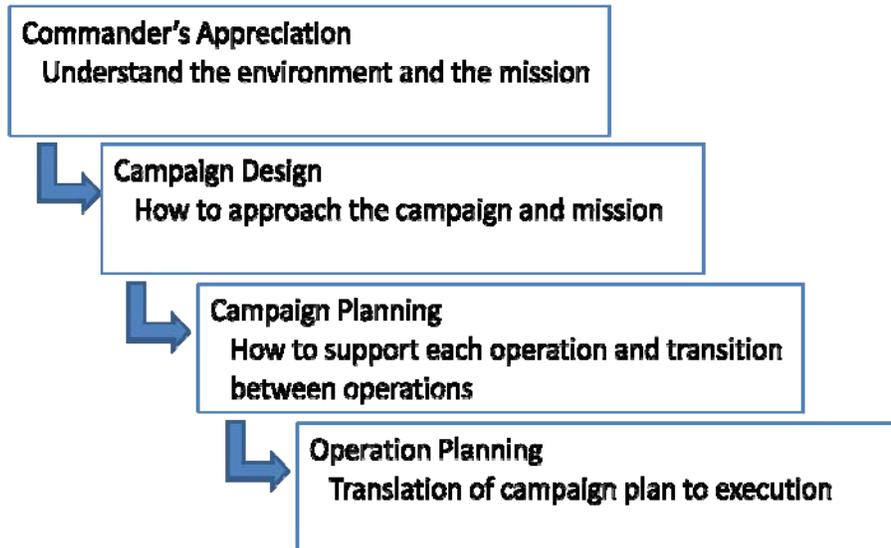


Figure 7 - Campaign Planning Process

Through the commander's appreciation methodology, the commander and his staff develop a detailed understanding of the operational environment, the complex interactions between elements of the environment. As a result of this analysis, the commander identifies the problems that he must address and determines the mission statement for his organization. Once the commander has gained approval of the problem and mission from higher, peer, and supported commanders, he develops a design for the campaign. Like maneuver forces, he develops his intent and how his organization will approach the campaign. That intent and approach is then translated into the campaign plan. The campaign plan describes how the organization will support not only individual operations which comprise the campaign but also the campaign as a whole. This approach allows the commander to ensure that the support provided for each operation is

sufficient to meet the immediate needs of the commander but also sets the conditions for supporting future operations.

The end result of effective campaign planning for logistics organizations is the optimal solution for supporting the assigned forces and a firm basis on which to conduct planning for individual operations as part of the campaign. The understanding developed during the campaign planning, along with additional information gathered during execution of the campaign allows the commander and staff to quickly translate the broad outline of support included in the campaign plan into executable plans by both the headquarters that developed the plan as well as subordinate commands.

Regardless of the operational environment, rotational or expeditionary, high intensity conflict or stability operations, logistics organizations should conduct campaign planning to ensure that they are providing the optimum support to the assigned force. Without this process, the tendency will be to adjust the concept of support to the short-term challenges without looking at long-term requirements and impacts.

Recommendations

As discussed in the introduction, the process described above applies to a sustainment brigade operating in support of a division size element. However, the concepts and methods presented can be applied at a variety of levels, from a brigades support battalion to a theater support command. At each level, the details and complexity will vary but the important concept is that logistics commanders must look at how they will support the assigned forces for the duration of operations. Key points for success of this campaign planning methodology are the involvement of the commander, communication with other organizations, adaptation to fit the environment, and integration of the thought processes into all planning efforts.

The commander's role in campaign design cannot be overstated. In order to be successful, the commander must be involved in each step of the process in order to ensure

common understanding between him and the staff. Additionally, based on experience and personal observation, he may have additional information that the staff may not have. Conversely, the staff has the ability to gather information from a larger number of sources and can dedicate more time to the process. In balancing his involvement with allowing the staff to work independently, the commander should also be aware that his involvement in the process may limit the creativity and effectiveness of the staff.

Related to the commander's involvement is the structure of the design team and its continuity throughout execution. In a sustainment brigade headquarters, there are a limited number of people available to conduct design. As a result, members of the staff will be temporarily reassigned from their normal duties to contribute to the design and planning effort and will return to their assigned duties once execution begins. As previously discussed, there will be times when the problem must be reframed. In those cases, the original members of the team should be reassembled in order to retain the previously gained knowledge and rapidly address the changing situation.

One of the most critical portions of the CACD process is the communication between organizations during the initial commander's appreciation process. While focused on the commander, the staff should also communicate with other staffs and within the headquarters in order to gain a better appreciation for the environment and challenges presented in supporting operations. Only through this communication is the commander able to truly appreciate the operational environment and determine the support requirements of the supported forces. This shared understanding not only assists in the campaign planning process but will also assist in adjusting the campaign plan through either reframing or refining portions of the plan. Shared understanding of both the problem and the support plan also allows a level of comfort for both the supported and supporting commander as they plan individual operations. Additionally, continual monitoring of the execution of the plan not only allows for adjustment of the plan when deficiencies are identified but also allows the logistics commander to anticipate changes in the

operational environment or maneuver operations that will require additional or modified support. In addition to the benefit to the logistics organization, the maneuver commander also gains significant advantages when the logistics organization develops a campaign plan. Because the logistics commander is looking at the entire operation, both as individual operations and as a whole, any potential challenges in supporting his operations are identified early in the planning process. Through this early identification, the maneuver commander is able to make adjustments his plans to make it supportable.

Just as the methodology described above is not rigid, the campaign developed as a result of applying it should also not be rigid. Through the metrics developed during the campaign planning process, the commander and staff will be able to identify when the plan is no longer effective. At that point, the commander must make the decision to either adjust the plan based on the current understanding or restart the program and reframe. In either case, the same level of analytical thought and analysis is required. Just as staff estimates are a living document, which are continually updated, the campaign plan is a living document that will be frequently reviewed and updated as required.

Beyond simply applying these processes to campaign planning, the thought processes described here can be used for operational planning as well. The creativity and holistic approach to problem solving inherent in design will contribute to better solutions for individual operations or situations. While some situations or challenges are familiar enough to the commander to apply standard solutions or quickly apply the MDMP, integrating commander's appreciation will assist the commander in evaluating the situation to determine if it is in fact a familiar situation or may require analysis that is more detailed.

When translating the campaign plan to operational planning, the transitions between support concepts should be a trigger to initiate the MDMP. Each different support concept requires the detailed analysis to confirm that the concept previously developed remains the most effective given the current and projected conditions. Not only while this process confirm the

commander's understanding for the current operations, it may also identify underlying changes in the environment which may cause the commander to reframe for the remainder of the campaign.

As with previous planning methodologies, CACD and the process described here are not rigid processes that must be followed systematically. Based on the commander's expertise, skill of the staff, personal preferences, and available time, the logistics commander can adapt the methodology in order to determine the optimum way to support the operations throughout the military intervention.

Bibliography

Books

- Goldsby, Thomas and Martichenko, Robert. *Lean Six Sigma Logistics*. Boca Raton, FL: J. Ross Publishing, 2005.
- Humphreys, Kenneth K. *Jelen's Cost and Optimization Engineering*. New York: McGraw-Hill, 1983.
- Fontenot, Gregory, Degen, E.J., and Tohn, David. *On Point: The United States Army in Operation Iraqi Freedom*. Washington, DC: US Army, 2007.
- Kaplan, Robert S. and Norton, David P., *The Balanced Scorecard*. Boston: Harvard Business School Press, 1996.
- Mintzberg, Henry. *The Rise and Fall of Strategic Planning*. New York: The Free Press, 1994.

Government Documents

- US Army CASCOM Directorate for Lessons Learned. *R-CAAT Series 4th Sustainment Brigade Iraq Lessons Learned*. December, 2006.
- *R-CAAT Series 593rd Sustainment Brigade Iraq Lessons Learned*. July, 2007.
- US Army Command and General Staff College. *Campaign Planning: Tools of the Trade (Second Edition)*. June 2006.
- US Army School of Advanced Military Studies. *Art of Design, Student Text, Version 1.0*. 24 September 2008.
- US Department of the Army. *TRADOC Pamphlet 525-5-500 Commander's Appreciation and Campaign Design*. Washington, DC: Government Printing Office, 2008.

Joint Publications, Field Manuals, and USMC Publications

- US Department of Defense. *JP 3-0 Joint Operations*. Washington, DC: Government Printing Office, 13 February 2008.
- *JP 4-0 Joint Logistics*. Washington, DC: Government Printing Office, 18 July 2008.
- *JP 5-0 Joint Operation Planning*. Washington, DC: Government Printing Office, 26 December 2006.
- US Department of the Army. *FM 3-0 Operations*. Washington, DC: Government Printing Office, February 2008.
- *FMI 3-93 The Army in Theater Operations (DRAG Edition)*. Washington, DC: Government Printing Office, 2005.
- *FM 3-19.1 Military Police Operations*. Washington, DC: Government Printing Office, 31 January 2002.
- *FM 3-24 Counterinsurgency*. Washington, DC: Government Printing Office, 15 December 2006.

- . FM 3-34.170 Engineer Reconnaissance. Washington, DC: Government Printing Office, March 2008.
- . *FM 4-0 Combat Service Support*. Washington, DC: Government Printing Office, August 2003.
- . *FMI 4-93.2 Sustainment Brigade (Final Draft)*. Washington, DC. 2006.
- . *FMI 4-93.4 Theater Support Command*. Washington, DC: Government Printing Office, Undated.
- . *FM 5-0 Army Planning and Orders Production*. Washington, DC: Government Printing Office, January 2005.
- . *FM 5-0.1 The Operations Process*. Washington, DC: Government Printing Office, March 2006.
- . *FM 6-0 Mission Command: Command and Control of Army Forces*. Washington, DC: Government Printing Office, August 2003.
- . *FM 100-16 Army Operational Support*. Washington, DC: Government Printing Office, 31 May 1995.
- . *Modular Force Logistics Concept, Version 6*. Fort Lee, VA. 20 September 2006.
- US Marine Corps. *MCWP 5-1 Marine Corps Planning Process*. Washington, DC: Government Printing Office, 24 September 2001.
- . *MCDP 1-2 Campaigning*. Washington, DC: Government Printing Office, 1 August 1997.

Monographs

- Leary, Sharon, Colonel, US Army. *Sustaining the Long War*. US Army War College, 26 March 2007.
- Moore, T.D., Major, US Army. *Logistics Intelligence: The First Step in Operational Sustainment?* School of Advanced Military Studies, June 1990.
- Schmitt, John F. "A Systemic Concept for Operational Design."
http://www.au.af.mil/au/awc/awcgate/usmc/mcwl_schmitt_op_design.pdf (accessed 15 February 2009).
- Colonel Darrell K. Williams, Lieutenant Colonel Lillard D. Evans, and Captain Brittany R. Warren, "Modular Transformation and the 3d Sustainment Brigade," *Army Logistician* (JAN-FEB 2009).