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Joint and Combined Theater Logistics: The Future Reality

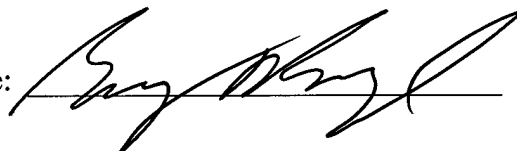
by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College, the Department of the Navy, or the Department of the Army.

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Abstract of

JOINT AND COMBINED THEATER LOGISTICS: THE FUTURE REALITY

Focused logistics is one of the four pillars of the joint vision published by the Joint Chiefs of Staff that must be accomplished in an efficient and effective manner. Logistical operational military forces must be organizationally structured with systems that maximize support capability to the joint and combined future military force.

The Army is, currently, developing Army specific Theater Support Command (TSC) doctrine and corresponding force structure. While this is certainly a step in the right direction, future logistical operations in any theater must operate in both multi-national and joint environments. Stovepipe support systems in the individual services do not support focused logistics as discussed in Joint Vision 2010. Critical forces such as technology, tactics, and battlefields of the future are demanding change to the logistical structure that supported our forces of the past. We must develop an efficient, effective, and centrally orchestrated with a decentrally executed logistical support system.

A Joint Theater Support Command (JTSC) is the organization that can allow our logistical support to operate successfully on the joint and combined battlefield of the future. It improves our ability to address all five critical logistics characteristics that are vital to mission success. The JTSC is a modular organization that is capable of operating in an operational environment as the single logistical headquarters in a theater of operations and reports directly to the war fighting theater commander.

Introduction

Logistics has been defined as, “the practical art of moving armies and keeping them supplied.”¹ Joint and combined operational concepts go even further in including logistical support not only for armies but also to the other components of our military force including those of our coalition or allied partners. When discussing certain aspects of inadequate logistical support operations over 150 years ago, Carl von Clausewitz stated, “Often the finest victory has been robbed of its glory as a consequence of this problem. Strength ebbs away, retreat becomes unavoidable, and gradually the signs of genuine defeat appear.”² Focused logistical support operations continue to play a vital role in delivering relative combat power in any military operation by our current military as well as our forces of the future. General John Shalikashvili, the former Chairman of the Joint Chiefs of Staff, recently commented that, “Logistics is the foundation of our combat power. We must, therefore, continue to develop and refine joint doctrine that promotes the most efficient, effective use of all available assets. Adherence to that doctrine is the key to our success.”³

Joint Vision 2010 continues to establish focused logistics as a crucial element of our joint doctrine. Focused joint logistical operations require support systems that are efficient and effective and contain the five logistical characteristics: anticipation, integration, continuity, responsiveness, and improvisation.⁴ The Army Training and Doctrine Command (TRADOC) and its subordinate organization, the Combined Arms Support Command (CASCOM), is working to develop and implement an Army specific Theater Support Command (TSC) structure that will provide common user, theater level, modular logistics support to joint and combined forces. Current operational logistical

doctrine, including the concept under development by CASCOM, is still based on legal requirements that demand each service component trains and supplies their respective forces. In my opinion, the current and proposed changes do not properly achieve a joint and combined focused logistical support system that proves both effective and efficient in supporting the military force of both today and the future. This fact is underscored in that even CASCOM is working to develop a system that manages joint theater distribution. The future logistical system that evolves to support our forces on the future battlefields, in accordance with Joint Vision 2010 guidance, must be a seamless organization that provides state of the art support with joint efficiency while maximizing effectiveness.

During the course of this paper, I will argue that while efforts by agencies such as CASCOM and other Department of Defense (DOD) logistical organizations are certainly steps in the right direction toward improving theater level support operations, future logistical operations in any theater must be both combined and joint. We must constantly debate the pertinent issues to determine the best way to provide logistical support to the operational and tactical commanders. Stovepipe support systems in the individual services will not support focused logistics as discussed in Joint Vision 2010 as well as in current joint doctrine. We must develop an operationally joint and combined, centrally orchestrated logistical “system of support systems” for the future. I will address this issue, initially, via a historical perspective that leads to our current and proposed doctrine. My focus will be based on the major critical vulnerabilities and weaknesses that are forcing the inevitable changes that must occur in our future logistical doctrine. I will also provide some examples to illustrate why this needs to be accomplished and how we can improve relative effectiveness. Basically, I will address the question as to how can we

enhance support operations while improving effectiveness and efficiency in accordance with the joint guidance of General Shalikashvili.⁵

Historical Perspective

Historically, logistical support has been provided to commanders at the operational level of war, usually, on an ad hoc basis. Also, we can observe that, throughout history, technological and operational innovations are interrelated to advances in logistical support capabilities. It is imperative to understand that the adversary who has maximized the integration of technology, operational innovation, and logistical support usually achieves an advantage in relative combat power over his foe. The natural confusion that develops during war caused by ad hoc logistical organization can be overcome with additional resources and effort. However, history has proved that the more an organization can fight or execute its mission as it has trained, the higher the probability of success it may achieve. Organizations and individuals that have habitual relationships developed by working together and who understand standard operating systems, naturally, perform more effectively.⁶

Countless historical examples demonstrate that military commanders and organizations have at least achieved temporary success through innovative, effective, and efficient employment of logistical support resources. Napoleon and the French forces successfully demonstrated legendary mobility of large forces while maintaining adequate logistical support prior to the invasion of Russia that became the model for armies during the early 1800's.⁷ However, it is also interesting to note that their ultimate defeat was, in part, caused by a great deficiency of the French force in that its logistical support was not coordinated by a single organization but was a fragmented operation.⁸ General William

T. Sherman successfully, due in large part to his effective logistical service and organization, conducted his infamous march to the sea in 1864 even though the rail lines to his source of supply were completely interdicted for almost seven days by Confederate forces. Although ultimately unsuccessful due in a large part to the fragmented logistical support employed by the axis forces, General Erwin Rommel demonstrated in depth understanding of the criticality logistical support played during his North African Campaign. Regarding this clear understanding of logistics, General Rommel once commented that, "In fact, the battle is fought and decided by the quartermasters before the shooting begins."⁹ When analyzing historical examples of military operations, the relative operational success or the lack thereof can, usually, be traced in some respect to the effective and efficient use of all available logistical resources.

Major evolution and innovation concerning logistical support operations has occurred primarily during the last two centuries. The industrial revolution and the related effects including the revisions in operational tactics and doctrine have driven these changes. Current changes are continuing to be driven by the previous factors of change, but the information age is also causing radical changes in almost every facet of life, and logistical support doctrine is not exempt from this influence. All of these forces of change are interrelated in that each directly effects the other as one logistician succinctly stated, "Implementation of strategy is dependent upon the current or programmed state of logistics readiness."¹⁰ The military organizations that achieve successful change in arenas such as operational strategies, advances in technology, and improvements in support operations have a definite advantage over their adversaries allowing them the greater probability of success on the battlefield.

Current Doctrine

All current and proposed future American military logistical doctrine is based on Title 10 of the United States Code that requires each individual service component to train and supply their respective forces. Under these legal constraints, operational commanders are dependent upon the various individual components to provide the amount and types of forces that are required in order to accomplish the assigned mission. Further compounding this problem in the operational theater, each service component as well as allied and coalition members each establish individual logistical organizations that provide support to their respective forces in the theater.

Current and proposed doctrine builds on the concept of centralized planning and decentralized execution within all American military operations. These concepts rely on the same basic principle in that a task is left to the individual or individuals that occupy the best position to achieve the optimal solutions for mission requirements.¹¹ Current and future logistics doctrine advocates modularity and split based operations grounded on these centralized planning and decentralized execution fundamentals. In my opinion, these fundamentals are some of the natural historical strengths previously demonstrated by American combat forces.

The new doctrinal concepts currently being developed by CASCOM are focused on an army specific organization that provides common user logistical support to army, joint, combined, and allied forces in the theater of operations. It is also structured to incorporate Host Nation Support (HNS) assets that may prove available to support the supported forces. This organization is designed to report to the Army Service Component Commander (ASCC) and also focuses on the elimination of logistics

fragmentation within the army component. By incorporating the theater army level Personnel Support Command (PERSCOM), Transportation Command (TRANSCOM), Engineer Command (ENCOM), Finance Command (FINCOM), Medical Command (MEDCOM), and Theater Army Support Command (TAACOM) into a single large, streamlined support organization, fragmentation within the ASCC may be reduced.¹²

Doctrinal Change, Weaknesses, and Vulnerabilities

Change in doctrinal concepts and structure should occur based on addressing current or future vulnerabilities and weaknesses of the affected organization. Operation Desert Shield/ Desert Storm clearly demonstrated the obvious need for revision of our existing theater level logistics doctrine and infrastructure. Lieutenant General William G. Pagonis commented about the early phases of Desert Shield that, "Logisticians had to compete for space on incoming planes to get experts in-theater, and create a structure for a deployment that was already well under way."¹³ It became readily apparent during these operations that changes in tactics, strategy, and technology require a corresponding modernization or evolution of logistics operations. Because of changes in technology and the nature of modern warfare, the operational commander was forced to establish the 22nd Support Command (Provisional) that was an ad hoc organization tasked with insuring adequate support for these missions. As an example of how the changes technological and tactical advances have impacted on the scope of the logistical support mission, recent figures demonstrate that, "The modern division consumes as much as a World War II field army."¹⁴ Obviously, organizational change must occur when such modifications to mission requirements appear. The Department of Defense appears to

agree that change is required to the logistics organizational structure in that new doctrinal concepts are currently being addressed by CASCOM.

There are numerous weaknesses and vulnerabilities that are forcing these pending changes many of which are interrelated. All of these reasons can be attributed back to most, if not all, of the five logistics characteristics that must be addressed to successfully support the forces. For example, by improving our ability to anticipate in planning, we can reduce our requirements to improvise. Not only must we look at these factors in the context of today but our military force of the future. These changes will occur while we continue to focus on the joint guidance of Joint Vision 2010 as well as maintaining a complete understanding that almost all of our future operations will probably be combined operations. I will now address some key examples of the weaknesses and vulnerabilities that, in my opinion, exist under our current and proposed operational logistical doctrine.

Priority of support in theater

As an operational logistician attending a tactical or operational operations briefing, one of the first questions to enter my mind is to determine who receives the priority of support especially if the operation is being conducted in a constrained resource environment. Under our current and proposed individual service component theater level logistical support doctrine, priority of support becomes extremely unclear at the joint and combined levels. Therefore, each service specific logistician strives to maximize support to his individual customer while, in many cases, competing for the same resources with another organization¹⁵ that should actually be receiving priority of support based on published operations plans or orders. This factor is especially crucial when addressing

the fact of the limited availability of transportation assets capable for deployment of the force.

Total Asset Visibility

Especially when managing scarce resources, logistical structure must facilitate the ability to redirect or cross level critical items of supply from one organization to another. The senior operational logistical commander must achieve total asset visibility and control of all available resources and supplies in order to maximize efficiency. During the recent war with Iraq, over 41,000 containers of supplies were delivered to the theater of operations, and the logisticians had to open approximately 28,000 just to determine what they contained due to lack of total asset visibility.¹⁶ As an example, if the Marine force was the priority of effort in the theater per the guidance of the theater commander and they happened to be short of M-1 tank ammunition, the joint theater logistician must possess the ability to cross level supplies from, possibly, an Army organization. Our existing and proposed logistics systems in the present stovepipe environment do not provide a single, logistical commander the total asset visibility or authority required to easily accomplish this simple task.

Movement control

Under current doctrine, the Army specific Theater Movement Control Agency (TMCA) is tasked with management and control of the transportation networks in the theater. This certainly sounds good, but is this mission above the realistic capability of the commander? It is a fairly logical assumption to make that, in a country other than the United States, the available transportation networks are controlled by the host nation such as Korea. Obviously, the TMCA will coordinate for the usage of those networks, but

this process may occur simultaneously while the Marines, Air Force, or other coalition members are attempting to use the same networks. Because no single service can prioritize the needs of another service, allocate transportation assets, or deconflict movement access, a Joint Theater Movement Control capability is required.¹⁷ Clearly, this organization must function in a joint and combined environment.

Management of scarce resources

Current and proposed doctrine does not provide a single joint manager, commander, or organizational structure in a theater of operations that is designed to provide detailed management and guidance of common, critical items of supply that may exist in limited quantities. Also, other items of critical support such as limited transportation assets or medical facilities must be efficiently managed. The theater commander must have an individual commander or organization that he can hold responsible and accountable for the effective and efficient management of all commodities and support in his theater. In accordance with current doctrine, the multiple logistics organizations that reside in a theater of operations do not allow for the prudent management and control of, possibly, limited resources. Economy of force operations can be seriously impacted by the inability to properly manage scarce resources in a constrained environment. During Operation Desert Storm, many of our current systems seemed to perform admirably in the management of resources,¹⁸ but many tasks performed during that operation will not always be possible in an economy of force situation such as existed in the Pacific Campaign during World War II. As one logistician succinctly stated, "Economy of logistics force is the basic logistics principle."¹⁹

Command and Control

Simple, clearly defined unity of command and control is a crucial advantage to any organization, and logistical organizations are no exception. Doctrinally, command and control of American, allied, and coalition partners operates in a fragmented and disjointed environment. Obviously, multiple operational logistical command and control organizations detract from effectively employing the unity of effort concept.

Service and Agency Competition

Many would argue that competition between the individual services is an integral, healthy part of American society reflected in the military. Currently, especially during economy of force operations, joint operations create highly competitive situations for logistical resources.²⁰ However, while competition is healthy at certain times and places, it is not healthy as a part of the command and control structure in a theater of operations during war that already possesses adequate levels of confusion and stress. During conflict, the military must function, as a joint team that, while foregoing interservice rivalries, remains capable of conducting combined operations. Additionally, agencies both within and outside of the military such as supporting organizations like the Military Sealift Command, Military Traffic Management Command, the Defense Logistics Agency, civilian contractors, and numerous other critical agencies must be fully integrated to maximize support for the combatant force.

Unity of effort

An operational logistical structure that fails to achieve unity of command and maintains stovepipe organizations will, naturally, detract from unity of effort. A senior army logistician once said, "Stovepipes, with their single functional focus, create

unnecessary layers that are often more procedure oriented than consumer oriented.”²¹ Further, this type of operational environment causes, in many cases, duplication of effort and wastes limited resources. As an example, during Operation Desert Storm, each of the individual service combatant commanders procured enough antitank ammunition or bombs to destroy the entire Iraqi tank forces with their respective service combat forces. If analyzed from the individual service perspectives, this procurement appears to demonstrate effective planning. However, realistic assessments conducted after the conflict demonstrate that there was entirely too much ammunition delivered to the theater of operations. Obviously, this waste of limited transportation resources and funding would have been further exacerbated in an economy of force situation. Did this waste delay the initiation of operations that allowed the ultimate success of the United States and the coalition forces? Can we continue to afford this type of waste in the future? Unity of effort achieved through unity of command can eliminate or greatly reduce this problem for the future military.

Recommendation and Discussion

When considering the future direction of an organization, we must first consider the guidance from our leadership. Recent guidance from the Joint Chiefs of Staff states that, “Logistics, then, is key to arranging the operations of campaigns and should be planned and executed as a joint responsibility.”²² The guidance also emphasizes that we must maintain the capability to operate in a combined environment in stating that, “The Armed Forces of the United States should be prepared to operate within the framework of an alliance or coalition.”²³ Also, it is important to remember that, “Logistics functions will transition from rigid, vertical of the past to integrated, modular, and specifically

tailored combat service support packages.”²⁴ Obviously, the primary focus of the logistics community should be to maximize effectiveness and efficiency while providing all required support to the operational combatant commander in the joint and combined environment of the future battlefield.

Based on the guidance mentioned above and the focus of logistical support operations, I believe that we must develop a single theater level operational logistics command and control organization that is both joint and combined in nature that reports directly to the Commander in Chief (CINC) of the theater. Further, this Joint Theater Support Command (JTSC) will be responsible and accountable for all required logistical support provided by United States forces in the theater. The structure will be modular in design allowing operations at any level of conflict through centralized planning and decentralized execution. Modularity also enables split-based operations as well as the incorporation of reserve component follow on forces in this streamlined, tailored organization. Also, the JTSC will focus on improvement to the five characteristics for logistical support to the theater commander. This new JTSC will have the capability to improve support operations by addressing all critical vulnerabilities and weaknesses of our current and proposed support systems. It will also serve as an enabler and a combat force multiplier in the delivery of relative combat power to any conflict or operation. Simplified command structure and modularity of logistics operations will enhance support efforts to both United States and allied combat forces.

There are countless advantages for streamlining our logistical support structure and systems. The simplified command and modular structure of the JTSC is, by design, flexible allowing for focused joint logistical operations that are focused, efficient, and

effective. One senior logistician recently stated that, "Joint Theater Logistics Commands provide the best alternative of effectively supporting the war fighter and bringing efficiencies in reduced organizational structures and required assets."²⁵ It also improves the capability of the JTSC support forces to incorporate the five logistical characteristics due to unity of command and the resultant unity of effort. Logistical support priorities, total asset visibility, theater movement control, and management of critical resources are now simplified through a centralized, joint and combined theater command and control structure incorporating decentralized execution. Healthy competition can continue to exist between logistical organizations of individual services, but the JTSC can now quickly resolve issues in the theater based on guidance received from the war-fighting commander.

There are several disadvantages that must be addressed to successfully achieve this doctrinal revision. A theater level logistical support structure can evolve into a rather large, although modular, organization with the related problems such as battlefield signature and difficulties in command and control. It is also possible that a single combined command may not be established for political, economic, or military reasons with foreign allied or coalition forces in a multi-national force environment. In order to accomplish the doctrinal changes I propose, one must also understand that modification to Title 10 of the United States Code is required for the changes to occur on this politically sensitive issue. The individual service components may also feel threatened in the current constrained resource environment and resultant period of force reductions. However, I believe that all of these challenges may be overcome by truly joint and combined vision at all levels of our military command structures.

Conclusion

Focused joint as well as combined logistics is one of the four pillars of Joint Vision 2010 that demands logistics support and systems that will, “enable joint forces of the future to be more mobile, versatile, and projectable from anywhere in the world.”²⁶ Professor Milan Vego recently stated that, “Logistics are a critical element of combat power that assumes even greater importance at the operational level.”²⁷ Doctrinal guidance within individual service components such as army operations manuals state that, “Joint integration of logistics is crucial to unity of effort. The concept of joint logistics cannot be fully realized until accountability and acquisition procedures are completely integrated.”²⁸ After an in depth study conducted during the cold war regarding combined operations, a former senior army logistician stated that, “Logistics procedures must be standardized and harmonized to provide flexibility between nations.”²⁹

Clearly, a variety of factors are demanding change to current logistical operational doctrine. The large cumbersome forces of the cold war are being replaced with agile, smaller, and more lethal forces that require a modern logistics infrastructure capable of providing efficient and effective support. The current and foreseeable resource environment will continue to be constrained with all of our forces consistently being asked to do more with less. Technology and advances in the information age are providing excellent opportunities for increasing productivity and efficiency. The possibility for improving our operational logistics structure is only limited by our innovation and imagination.

A truly Joint Theater Support Command that possesses the capability to efficiently operate in a combined environment is critical to the battlefield success of our future military forces. We can no longer afford a fragmented and compartmentalized logistical support structure with duplication of efforts and the resultant waste. Change of logistical doctrine from current, effectively functioning systems should not occur except by demand based on customer support requirements. Our military forces that are evolving for the future and our commitment to the American citizens are demanding and forcing this change. In meeting this demand for change, our future Joint Theater Support Command will provide the versatile and flexible organizational command and control structure that allows our tailored, operational support forces the capability to execute any mission requirement with outstanding results.

END NOTES

¹ Crevel, Martin Van, Supplying War, Logistics from Wallenstein to Patton. (New York, NY: Cambridge University Press, 1977), 1.

² Clausewitz, Carl Von, On War, ed. And translated by Michael Howard and Peter Paret, (Princeton, NJ: Princeton University Press, 1976), 340.

³ Joint Chiefs of Staff, Doctrine for Logistics support of Joint Operations, (Joint Pub 4-0) (Washington, DC: January 27, 1995), introduction.

⁴ Headquarters, Department of the Army, Field Manual 100-5, Operations, (Washington, DC: 14 June, 1993), 12-3 through 12-5.

⁵ Joint Chiefs of Staff, Doctrine for Logistics support of Joint Operations, (Joint Pub 4-0), intro.

⁶ Tibbets, Major John R., "Power Projection Logistics: What Theater Support Unit?," (Unpublished Research Paper, United States Army Command and General Staff College, Fort Leavenworth, KS, 1995), 38.

⁷ Crevel, 71-75.

⁸ Thorpe, George C., Pure Logistics, (Newport, RI: Naval War College Press, 1997), 19.

⁹ Joint Chiefs of Staff, J-4, "Shaping Logistics for Tomorrow," Defense 96, issue 2, (Washington, DC: 1996), 21.

¹⁰ Paparone, LTC Christopher, "Case for an Unified Logistics Command," Army Logistician, (Fort Lee, VA: March-April 1995), 2.

¹¹ Thorpe, 40.

¹² Combined Arms Support Command, Concept for Support Command and Control at Echelons above Corps, (Fort Lee, VA: December 6, 1996), 14.

¹³ Pagonis, LTG William G. with Jeffrey L. Cruikshank, Moving Mountains: Lessons in Leadership and Logistics from the Gulf War, (Boston, MA: Harvard Business School Press, 1992), 6.

¹⁴ Headquarters, Department of the Army, Field Manual 100-5, Operations, (Washington, DC: 14 June, 1993), 12-2.

¹⁵ Vego, Milan, On Operational Art, NWC 1035A, 2nd Draft, (Newport, RI: U.S. Naval War College, March 1998), 178.

¹⁶ Pagonis, 206.

¹⁷ Conrad, Scott W, Moving the Force: Desert Storm and Beyond, (McNair Paper 32) (Washington, DC: National Defense University, 1994), 63-64.

¹⁸ Pagonis, 158.

¹⁹ Heiser, LTG Joseph M., Jr., A Soldier Supporting Soldiers, (Washington, DC: United States Army Center of Military History, 1991), 229.

²⁰ Vego, 178.

²¹ Salomon, General Leon E., "Open Letter on a Unified Logistics Command", Army Logistician, (Fort Lee, VA: September-October 1995), 10.

²² Joint Chiefs of Staff, Doctrine for Joint Operations, (Joint Pub 3-0) (Washington DC: February 1, 1995), III-20.

²³ Ibid, VI-1.

²⁴ Joint Chiefs of Staff, Concept for Future Joint Operations: Expanding Joint Vision 2010, (Washington, DC: May, 1997), 55.

²⁵ Plumb, Lt Col Larry P., Jr., "Focused Logistics: Establishing Joint Theater Logistics Commands," (Unpublished Research Paper, U.S. Naval War College, Newport, RI: October 23, 1997), 16.

²⁶ Joint Chiefs of Staff, Joint Vision 2010, (Washington, DC: May, 1996), 24.

²⁷ Vego, 178.

²⁸ Headquarters, Department of the Army, Field Manual 100-5, Operations, 12-6.

²⁹ Heiser, 229.

BIBLIOGRAPHY

- Clausewitz, Carl Von. On War. edited and translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.
- Combined Arms Support Command. Concept for Support Command and Control at Echelons above Corps. Fort Lee, VA: December 6, 1996.
- Conrad, Scott W. Moving the Force: Desert Storm and Beyond. McNair Paper 32. Washington, DC: National Defense University, 1994.
- Creveld, Martin Van. Supplying War, Logistics from Wallenstein to Patton. New York, NY: Cambridge University Press, 1977
- Emery, James S. "Going Purple in the COMMZ." Army Logician. Fort Lee, VA: September-October, 1995.
- Eccles, Henry E. Logistics in the National Defense. Harrisburg, PA: The Stackpole Company, 1959.
- Headquarters, Department of the Army. Field Manual 100-5, Operations. Washington, DC: 14 June, 1993.
- Heiser, LTG Joseph M., Jr. A Soldier Supporting Soldiers. Washington, DC: United States Army Center of Military History, 1991.
- Joint Chiefs of Staff. Concept for Future Joint Operations: Expanding Joint Vision 2010. Washington, DC: May, 1997.
- Joint Chiefs of Staff. Doctrine for Joint Operations. Joint Pub 3-0. Washington DC: February 1, 1995.
- Joint Chiefs of Staff. Doctrine for Logistics support of Joint Operations. Joint Pub 4-0. Washington, DC: January 27, 1995.
- Joint Chiefs of Staff. Joint Vision 2010. Washington, DC: May, 1996.
- Joint Chiefs of Staff, J-4. "Shaping Logistics for Tomorrow." Defense 96. issue 2. Washington, DC: 1996.
- Mitchel, Charles L., Jr. "The Theater Support Command's Contribution to Joint Vision 2010." Unpublished Research Paper, U.S. Naval War College, Newport, RI: February 13, 1998.

National Defense Transportation Association. "Focused Logistics: A Strategic Perspective." Defense Transportation Journal. Alexandria, VA: December, 1997.

Pagonis, LTG William G. with Jeffrey L. Cruikshank. Moving Mountains: Lessons in Leadership and Logistics from the Gulf War. Boston, MA: Harvard Business School Press, 1992.

Paparone, LTC Christopher. "Case for an Unified Logistics Command." Army Logistician, Fort Lee, VA: March-April 1995.

Plumb, Lt Col Larry P., Jr. "Focused Logistics: Establishing Joint Theater Logistics Commands." Unpublished Research Paper, U.S. Naval War College, Newport, RI: October 23, 1997.

The President of the United States. A National Security Strategy for a New Century. Washington, DC: The White House, May, 1997.

Solomon, General Leon E. "Open Letter on a Unified Logistics Command." Army Logistician. Fort Lee, VA: September-October 1995.

Thorpe, George C. Pure Logistics. Newport, RI: Naval War College Press, 1997.

Tibbets, Major John R. "Power Projection Logistics: What Theater Support Unit?" Unpublished Research Paper, United States Army Command and General Staff College, Fort Leavenworth, KS, 1995.

Vego, Milan. On Operational Art. NWC 1035A. 2nd Draft. Newport, RI: U.S. Naval War College, March 1998.