

Lines of Communication Security in the Contemporary Operational Environment

**A Monograph
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Army**



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Lines of Communication Security in the Contemporary Operational Environment

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ABSTRACT

Lines of Communication Security in the Contemporary Operational Environment
by Major Gregory K. Jacobsen, 50 pages

The importance of securing lines of communication (LOC) during warfare has been recognized since the time of Sun Tzu and Thucydides. An Army in the field must be consistently resupplied in order to function effectively. Despite the importance of LOC security, doctrine provides very little guidance for commanders and planners in this area. Many critical lessons concerning LOC security were learned during the Vietnam War; they are being relearned today in Iraq. This monograph examines current LOC security doctrine and the execution of LOC security during the Vietnam War and Operation Iraqi Freedom.

The monograph concludes by recommending the addition of Armored Security Vehicle (ASV) equipped units to every Brigade Combat Team. One of the primary missions assigned these units should be LOC security and convoy escort. It also recommends the creation of a separate field manual for theater sustaining operations security in order to fill the current doctrinal void. Finally, to assist in planning for LOC security, the areas of communication, convoy security, regional response forces, and route clearance and maintenance should always be considered.

TABLE OF CONTENTS

ABSTRACT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	v
INTRODUCTION	1
DOCTRINE	3
Army Doctrine	3
Joint Doctrine	10
LOC SECURITY IN THE COE	11
CASE STUDY ANALYSIS	14
Vietnam War	14
Operation Iraqi Freedom	23
CONCLUSIONS AND RECOMMENDATIONS	30
ANNEX A: ACRONYMS	39
BIBLIOGRAPHY	42

LIST OF TABLES

Table 1. Threat Levels.....	7
Table 2: Comparative performance of all modes of transportation in Vietnam for 1970.	15
Table 3: Route Security Classifications in the RVN.	18

INTRODUCTION

The importance of securing Lines of Communication (LOC) during warfare has been recognized since the time of Sun Tzu and Thucydides. The great military theorists Carl von Clausewitz and Antoine Henri Jomini both recognized the absolute necessity of maintaining secure LOCs as well. In the 20th and now the 21st century warfare has changed significantly in some ways, in others hardly at all. Ammunition, fuel, food, medical supplies, spare parts, and all other classes of supply required for an army to function away from garrison are still needed on a routine basis. These supplies and the personnel and equipment used to transport them must be protected from harm. As Sun Tzu wisely relates in *Art of War*, “We may take it then that an army without its baggage-train is lost; without provisions it is lost; without bases of supply it is lost.”¹

During the Vietnam War the American Army faced a different sort of challenge than it was accustomed to after WWII and Korea. The U.S. military forces in Vietnam fought on a relatively nonlinear and oftentimes noncontiguous battlefield. Because of this and the nature of the dense jungle that pervaded most of the country, LOCs were extremely difficult to secure. The Army learned many unique and currently relevant lessons while successfully dealing with this asymmetric challenge.

The most recent challenge the Army faced in LOC security was during the initial phases of Operation Iraqi Freedom (OIF). The Army’s V Corps, alongside the 1st Marine Expeditionary Force (MEF), fought what initially looked like a very traditional linear type battle north from Kuwait to Baghdad. Problems arose when the front lines advanced extremely rapidly, outpacing the Coalition Forces Land Component Command’s (CFLCC) and V Corp’s ability to maintain and secure LOCs in the traditional manner. The bypassed enemy units combined with insurgent forces turned the battlefield into a nonlinear fight. The CFLCC operational reserve and the 101st

¹ Sun Tzu. *The Art of War*, trans. Ralph D. Sawyer (Boulder: Westview Press, 1994), p. 197.

Airborne Division were committed to the fight in order to preserve LOC security and keep the enormous quantities of fuel, ammunition, and other supplies moving to the front lines.

This monograph asserts that the Army is relearning lessons from Vietnam concerning lines of communication security at the operational level. The Vietnam War and now OIF have both presented some uncommon yet very similar challenges in this respect. This monograph will explore both of these conflicts to gain a better understanding of insights and knowledge gained concerning LOC security in order to prevent these lessons from being learned a third time. This paper will focus primarily on ground LOC security from port to major logistics bases in a theater of operations; to explain further, the lines of communication under the control of the senior Army commander in a theater of war or joint operations area.

The paper will also examine whether current LOC security doctrine for the Army is adequate given the nonlinear nature of the contemporary operational environment (COE). To do this, current and applicable Army and Joint doctrine, starting with FM 3-0 *Operations* and JP 3-0 *Doctrine for Joint Operations* will be examined. This will help set baseline definitions for lines of communication and security and determine exactly what the current Army and Joint doctrine prescribe in this area. In order to do this, the nature of the COE and the challenges it presents concerning LOC security must also be investigated. These issues will be explored along with current doctrine to determine if Army doctrine dealing with LOC security is adequate to meet today's threats.

DOCTRINE

Doctrine provides the foundation from which Army forces operate. While doctrine has never forced commanders to conduct operations a certain way, it is used as a strong guideline and provides a common frame of reference for soldiers to rely on. The doctrinal underpinnings for LOC security is often nebulous and worth close examination. This section of the monograph will discuss and analyze current Army and Joint doctrine, or the lack thereof, relating to LOC security. Doctrine for Army and Joint operations and combat service support will be analyzed as well as the Army doctrine that supports theater and corps level operations.

Army Doctrine

FM 3-0 *Operations*, June 2001, is the overarching doctrine for the United States Army. It is constantly revised and updated, the latest version being published relatively recently in 2001. General Shinseki describes it as, “our capstone operations doctrine, which describes how Army forces, as part of the joint team, will be responsive and dominant across the full spectrum of operations.”² This manual provides the intellectual framework from which all other Army doctrine is derived.

Since FM 3-0 serves as the bedrock from which all other Army doctrine is built, it should be used to establish a common understanding of the definition of LOCs and security. In chapter 12, “Combat Service Support,” of FM 3-0 LOCs are described as:

All routes—land, water, and air—that connect military forces with their support base and along which supplies, personnel, equipment, and military forces move.³

FM 3-0 expands on this and goes on to say:

The designation of LOCs and securing their use is commanders’ business. LOCs and the assets on them must be protected. LOCs consist of complex networks of facilities, procedures, arrangements, and units. They link the strategic

² Field Manual 3-0, *Operations* (Washington, D.C.: Department of the Army), 2001, p. i.

³ Ibid., p. 12-17.

sustainment base to the operational support base and the operational support base to tactical formations.⁴

In other words, in OIF the lines of communication stretched from the continental United States, across the Atlantic and Indian Oceans and the Persian Gulf to the sea port of debarkation (SPOD) in Kuwait, and then forward from Kuwait to the tactical forces in Iraq.

Security, one of the nine principles of war, is described in 3-0 as “measures taken to protect and preserve combat power.”⁵ FM 101-5-1, *Operational Terms and Graphic*, September 1997, and JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, April 2001, define it much more clearly as “measures taken by a military unit, an activity or installation to protect itself against all acts designed to, or that may, impair its effectiveness.”⁶ It further defines it as “A condition that results from the establishment and maintenance of protective measures that ensure a state of inviolability from hostile acts or influences.”⁷ This monograph will use the latter definitions from JP 1-02 and FM 101-5-1 to define security.

FM 3-0 organizes the battlefield into three categories of operations defined by their purpose: decisive operations, shaping operations, and sustaining operations. LOC security is interpreted as a subcomponent of sustaining operations in rear area and base security, movement control, and terrain management.

FM 3-0 also outlines the use of a tactical combat force (TCF) to respond to level III threats in the rear area. Preventing these threats from interdicting friendly LOCs is part of the TCFs responsibilities. On the modern battlefield, the “rear area” is not always easily distinguishable from the front lines. Nonlinear and noncontiguous operations in the contemporary operational environment (COE) often make the traditional deep, close and rear

⁴ Ibid.

⁵ Ibid., p. 4-14.

⁶ Field Manual 101-5-1, *Operational Terms and Graphics* (Washington, D.C.: Department of the Army, 1997), p. 1-138

⁷ Ibid.

areas of the battlefield meaningless. FM 3-0 does not address this problem. A traditional TCF responsible for level III threats in the rear no longer has any real applicability in this environment. The Army has adapted in practice but not doctrinally by creating “regional response forces” or “quick reaction forces” to handle immediate localized security issues in this environment.

As described in the definition of LOCs in FM 3-0, security of the LOCs is commander’s business. It also maintains that considerations for LOC security are extremely important when determining operational objectives. The type, number, and length of the LOCs, as well as the anticipated operational environment and framework, have a great impact on the allocation of forces. Depending on the threat, noncontiguous and/or nonlinear operations typically require more forces allocated to LOC security than linear and contiguous operations.

FM 3-0 makes it abundantly clear that operational reach, the distance over which military power can be employed decisively, depends largely on the sustainment capabilities of the force. The sustainment capabilities of a force are only as good as the LOCs. An interrupted or unreliable flow of supplies due to poor LOC security greatly reduces a commander’s operational reach.

On the whole, FM 3-0 seems to provide a fairly good foundation for LOC security. It consistently reinforces the importance of LOC security and the responsibility of commanders to provide for it. It states that forces should be provided for additional security to CSS units when operating on extended LOCs and/or especially during nonlinear type operations. It even mentions a commander’s option of moving resupply by air in noncontiguous operations when LOCs are tenuous.

Just as FM 3-0 serves as the keystone doctrine for operations in the Army, FM 4-0 *Combat Service Support*, August 2003, serves as the overarching CSS doctrine for the Army. This manual does not add significantly to the guidance on LOC security found in FM 3-0. As in 3-0, FM 4-0 stresses the direct relationship between operational reach and LOC security. It also reinforces the difficulty of securing LOCs in a nonlinear or complex (such as urban terrain)

environment. The manual also suggests the added flexibility of planning for aerial resupply as a supplement to tenuous ground LOCs or as an alternative in the event of ground LOCs being cut entirely.

In a joint environment, FM 4-0 specifically states that within the context of the Joint Force Commander's (JFC) plan it is the Army Forces (ARFOR) HQs responsibility to conduct CSS security, maintenance of the LOCs, and provide C2 for the Tactical Combat Forces (TCF) in the rear area.⁸ In OIF Lieutenant General McKiernan was the CFLCC, ARFOR, and the Army Service Component Command (ASCC) commander. He assumed great risk in these areas and chose to delegate most of these tasks to V Corps. He attempted to resource them accordingly but the additional forces required were not available. He kept the V Corps rear boundary extended all the way to Talill Airbase until the after the Corps entered Baghdad. Unfortunately, because most of the MP support had been pushed to the rear of the force flow, the CSS convoys moving north out of Kuwait had little to no security during the first few weeks of operations.

FM 100-7 *Decisive Force: The Army in Theater Operations*, May 1995, contains the key principles that guide Army forces and operations at the operational level of war. It provides the framework necessary for translating strategic guidance into operational objectives and tactical execution.⁹

At the theater level it is the operational commander's obligation to plan and provide for LOC security in his area of operations (AO). Planners must ensure that the Army forces on the ground are provided with timely and sufficient resources. Lines of communication must be planned that are capable of sustaining the logistics resupply for the forces. This includes planning

⁸ Field Manual 4-0, *Combat Service Support* (Washington, D.C.: Department of the Army, 2002), p. 2-7.

⁹ Field Manual 100-7, *Decisive Force: The Army in Theater Operations* (Washington, D.C.: Department of the Army, 1995), p. iii.

the number and type of LOCs, the physical location of the LOCs, and their maintenance and security if and when necessary.

The doctrine further outlines that the ASCC is responsible for coordinating the response to all three levels of threats in the theater rear area. Preventing the LOCs from interdiction is outlined as one of the key tasks. Table 1 lists the three levels of threats and appropriate responses as outlined in FM 100-7.

LEVEL	THREAT	RESPONSE
I	Agents, saboteurs, sympathizers, terrorists	Unit, base, base cluster self-defense measures
II	Small tactical units, unconventional warfare forces, guerrillas	Self-defense measures and response forces with supporting fires
III	Large tactical force operations, including airborne, heliborne, amphibious, infiltration, and major air operations	Commitment of tactical combat force

Table 1. Threat Levels¹⁰

Military police are typically designated to handle level II threats in the rear area in accordance with their standard battlefield mission of rear area security. The size and nature of the TCF designated by the operational or joint force commander should be based on the structure of the theater of operations and the assessed risk.

FM 100-7 stresses the need to use economy of force in the rear area security missions. If the threat levels in the rear grow to the point where the commander must divert combat forces from other missions it usually requires significant changes to the original plan. For example, in WWII on the eastern front the Germans began to face growing threats in their rear area. These threats consisted of inserted special forces, bypassed enemy units, and guerrilla type forces. In order to preserve their LOCs and supply bases the Germans were forced to commit over 25

¹⁰ Ibid., p.7-12.

divisions to rear area security.¹¹ This impacted significantly on operations in the Eastern as well as the Western Front.

The guidance to use economy of force for rear area security in order to not detract from the fight on the front lines presents a case of conflicting goals that are negatively linked.¹² More forces dedicated to “rear” security leave fewer forces for the “front” and vice versa. The problem becomes even more confusing during nonlinear operations. This guidance for economy of force, while practical in contiguous operations, lends to an archaic mindset that rear area and LOC security are only a secondary concern. On today’s modern nonlinear and noncontiguous battlefield the rear area has become harder and harder to identify. Conventional linear contiguous combat has traditionally conveyed a certain level of security to the rear areas by default. The rear was called such because it was further away from the forward line of own troops (FLOT). As the Army doctrine evolves to recognize this and incorporate the new battlefield framework of sustaining, shaping, and decisive operations the doctrine for LOC and “rear” or logistics security must evolve as well.

FM 100-15 *Corps Operations*, October 1996, restates much of the doctrine already discussed concerning LOC security. The corps is generally considered on the fringe between tactical and operational level operations. As such, there are a few salient points concerning LOC security that FM 100-15 does bring to light.

The first is that the standard for most Corps size TCFs is a brigade size unit consisting of infantry, attack helicopter, air cavalry, engineer, and fire support elements. It says that armored or mechanized units may also be used as the situation dictates.¹³ The corps MP brigade is typically tasked for responding to level I and II threats in the rear but also may be tasked as the

¹¹ Ibid., p.7-13.

¹² Dietrich Dorner, *The Logic of Failure*. New York: Metropolitan Books, 1996, p. 57.

¹³ Field Manual 100-15, *Corps Operations*. (Washington, D.C.: Department of the Army, 1996), p. 5-15.

TCF responsible for level III threats depending on the mission, enemy, time, terrain, troops available, and civilian considerations (METT-TC).

Another pertinent point the manual makes is similar to what has been previously discussed in FM 100-7. The Corps commander must reassess the operational viability of mission accomplishment every time significant assets must be diverted away from his decisive or shaping operations to deal with threats to the LOCs and the rear area. The manual states, “Although the corps may be able to sustain the temporary loss of support from its rear, it cannot sustain the loss of its decisive operations.”¹⁴

FM 90-8 *Counter guerrilla Operations*, August 1986, is the only manual that has an entire section dedicated to securing lines of communication. It is nested in the defensive operations portion of the manual and does not appear to have changed much from the doctrine followed during the Vietnam War. It recommends a combination of patrolling and securing key chokepoints on the LOCs with roadblocks, checkpoints and guardhouses. It also recommends using engineers to locate and clear mines and potential ambush sites along the route.¹⁵

Army doctrine repeatedly stresses the commander’s responsibility to plan and execute LOC security in their AOs. It also highlights the advantages to be gained by severing the enemies LOCs. However, it is generally deficient in the area of LOC security, especially in a nonlinear and/or noncontiguous environment.

Joint doctrine is designed to assist in the planning and synchronization of joint military efforts in a theater or area of operations. Joint doctrine must then outline or establish guidance for LOC security in a Joint environment as occurred during the Vietnam War and during OIF.

¹⁴ Ibid., p. 5-16.

¹⁵ Field Manual 90-8, *Counter Guerrilla Operations*, (Washington, D.C.: Department of the Army, 1986), pp. 3-35 – 3-36.

Joint Doctrine

Joint publication 3-0, *Doctrine for Joint Operations*, September 2001, offers virtually no assistance or guidance in the area of LOC security. JP 3-10, *Joint Doctrine for Rear Area Operations*; however, goes into greater detail that is worth some elaboration.

The Joint Force Commander can designate a joint rear area (JRA) and with it a joint rear area coordinator (JRAC). The joint rear area is normally designated in the joint operational area (JOA) and consists of operations to protect the JRA and support the joint force. The JRAC is responsible for coordinating the security of the JRA to include the LOCs. This is done by direct coordination with subordinate service component commanders to ensure they maintain security in their respective areas of operation (AOs).

JP 3-0 goes into greater detail than either FM 3-0 or FM 100-7 on coordination of host nation security support. It outlines several planning factors for dealing with host nation support. Among considerations for host nation support it specifically mentions the possibility of using host nation forces to supplement rear area security operations. For LOC security this could include host nation security and/or host nation military forces assisting with convoy security, tactical combat force (TCF) type operations, and even counter guerrilla and insurgency operations. Specific types of host nation security support listed are: civilian guard and labor service units, special military units, individual military personnel units, paramilitary units, light infantry and security units, civilian police, intelligence units and agencies.

Overall, joint doctrine makes scarce reference to LOC and rear area security for operational planners and commanders. It describes the responsibilities of the JRAC for coordinating security but puts the burden of planning and execution with the respective service component commanders to ensure LOC security in the their AOs.

LOC SECURITY IN THE COE

The contemporary operational environment (COE) is described in FM 7-100 *Opposing Force Doctrinal Framework and Strategy*, May 2003, as “the operational environment that exists today and for the clearly foreseeable future.”¹⁶ This environment is continually changing and evolving, requiring Army planning, doctrine, and force structure to adapt as well. For the present, conventional armies continue to rely on logistics and LOCs much as they have since the beginning of the 20th century. The tremendous amounts of fuel, ammunition, and repair parts required by modern weaponry makes them a necessity. In order to properly secure these operationally vital LOCs the nature of the modern threat must be understood as well.

The more traditional operational environment generally considered the major threats to American sovereignty to be established states, such as the former Soviet Union or Nazi Germany. Today there is an ever-growing threat from failed states or non-state actors and groups such as the terrorist group Al Qaeda. Massive conventional force-on-force operations are becoming less likely as the possibility of small insurgent and guerrilla type conflicts increase. With the United States as the world’s lone super power the threat has evolved. America’s enemies have resorted to asymmetric attacks such as terrorism, kidnapping, and suicide bombs. Information operations, the media, and global opinion are also weapons in modern warfare. Without any hope of winning a conventional fight, the threat has pitted their strengths against perceived weaknesses. As science and technological advances increase, groups, actors, and states will have magnified capabilities to perform both good and evil.¹⁷

One of those perceived weaknesses is the American Army’s lines of communication. The American Army’s heavy mechanized forces require enormous amounts of fuel and supplies to

¹⁶ Field Manual 7-100, *Opposing Force Doctrinal Framework and Strategy*, (Washington, D.C.: Department of the Army, 2003), p. iv.

¹⁷ “The Joint Operational Environment—Into the Future,” (United States Joint Forces Command, Coordinating Draft 2004), p. 58.

operate. The unarmored and lightly armed combat service support forces and the routes they travel make more attainable and lucrative targets for asymmetric type foes to take advantage of. Just as in Vietnam, today in Iraq there is no discernable rear area. A nonlinear and noncontiguous operational framework results in LOCs without the traditional security and buffers afforded them in a linear contiguous framework. There is no forward line of own troops (FLOT) or forward edge of the battle area (FEBA) in this environment.

An increase in urbanization across the globe has made the possibilities of urban conflict more likely than ever before. Urban environments are complex systems that can degrade communications, surveillance, and weaponry. The environment consists of multiple layers and levels of buildings, rooms, sewers, rooftops and streets. While this is very similar to the jungles of Vietnam with spider holes and snipers in the treetops, the added burden of civilians and urban infrastructure creates another order of complexity. Soldiers must consider appropriate levels of response to attacks in urban environments in order to prevent or minimize civilian casualties and collateral damage. Guerrilla type forces generally have no such morals and have the added advantage of blending into the population. Security of LOCs in an urban environment can require a tremendous amount of resources.

The power of the modern day media is enormous. Wars or conflicts such as Somalia in the early 90's can be won or lost by the change of public opinion. A certain amount of attrition on the LOCs has been historically acceptable. If a commander did not have to divert forces from the front lines and supplies and communications were not significantly interrupted, operational objectives could still be achieved and security was deemed good enough. On today's battlefield this is not the case. The American public has grown casualty adverse. Every soldier killed in Iraq is recounted in lurid detail on the home front. Casualty numbers are tracked daily. As of

October 2004, out of 175,000 convoy missions in Iraq, only 24 soldiers have been killed.¹⁸ On a mission that requires 110,000 cases of bottled water, 200,000 meals, and 1 million gallons of fuel daily, this number would seem insignificant; yet the impact the deaths have on public opinion in America is enormous.¹⁹ Such is the nature of warfare in the information age.

In order to properly plan and execute LOC security in the COE, today's complex environment must be clearly understood. Although maintaining an uninterrupted flow of supplies and equipment remains the overall endstate for LOC security, the impact of any American Army and civilian casualties cannot be overlooked. Proper organization, equipment, training, doctrine, planning and execution can overcome the difficulties of LOC security in the COE.

¹⁸ Rowan Scarborough, "Unit First to Balk in 175,000 Iraq Convoy Missions," *Washington Times*, October 20, 2004, p. 3.

¹⁹ *Ibid.*

CASE STUDY ANALYSIS

Vietnam War

In Vietnam the U.S. military found itself in a situation much like the one in Iraq today. The operational framework was nonlinear and noncontiguous in nature, just as in OIF. Corps and division size units were given areas of operations throughout Vietnam in which they were responsible for conducting full spectrum type operations. The enemy was elusive and capable of blending in with the local population. Their tactics were generally asymmetric, utilizing indirect methods to attack the technologically superior U.S. forces. The LOCs providing vital resources to U.S. military forces were extremely vulnerable to such attacks. The Vietnam War provides an excellent source of relevant information and lessons learned concerning LOC security in the COE today.

The Republic of Vietnam was an underdeveloped country and the transportation systems that existed in early 1965 were extremely poor. The LOCs in the Vietnam Theater of War were diverse in nature. As seen in Table 2, the vast majority of supplies were delivered in convoys across South Vietnamese roadways. Monsoon floods and enemy interdiction had devastated the railways in Vietnam. Coastal waters along Vietnam were used to a limited extent but provided an inefficient method of delivering supplies to logistic depots. Inland waterways used were primarily restricted to the MeKong Delta, and even those were subjected to constant attack. Contracted support and military convoys flooded the roadways delivering supplies to forward logistics areas. From 1965 onward the U.S. recognized the problem and began a program to upgrade the airfields, railroads, and roadways of the country. Despite this, by 1970 eighty-two percent of the tonnage delivered was still by road. This has remained true today. By far, the majority of supplies delivered in Iraq and other theaters of war use vehicles convoys on roads as the primary means of delivery.

MODE	SHORT TONS	PERCENT
Highway	7,667,000	82
Water	949,000	10
Rail	451,000	5
Air	318,000	3
Total	9,385,000	

Table 2: Comparative performance of all modes of transportation in Vietnam for 1970.²⁰

Doctrine frequently used at the time for LOC security in Vietnam was FM 31-23 *Stability Operations*, December 1967. It established four basic tasks as the foundation for LOC security:

- 1) Provide detailed surveillance of the LOC.
- 2) Provide security for key installations along the LOC.
- 3) Provide escorts for convoys and trains.
- 4) Establish priorities for the protection of LOCs.²¹

Doctrine was followed initially with much success. The defensive nature of the doctrine and its narrow focus on the supply routes and installation security proved inadequate, however. What was adopted on the ground over the course of this 10-year war was an understanding that LOC security, especially in a nonlinear insurgent type war, must include offensive operations as well. The LOCs must not be only considered as the roads, railways, waterways and airspace used to transport military logistics and supplies in a theater. The terrain surrounding and influencing these routes must be considered and secured as well.

Highway 19 in Vietnam provides a perfect example of how U.S. forces adapted to meet the LOC security challenges in Vietnam. Highway 19 runs from the port of Qui Nhon all the way to Pleiku. In 1954 the French unit GM 100 (roughly the size of a U.S. mechanized brigade) was tasked with holding Highway 19 open from Pleiku to An Khe. About a month after the fall of Dien Bien Phu the French were gradually being attrited throughout Indochina and along Highway

²⁰ Army Concept Team in Vietnam, *Final Report Vehicle Convoy Operations in the Republic of Vietnam*, (Defense Technical Information Center, September 30, 1971), p. II-8.

²¹ Dale R. Sweetwood, "Securing Land Lines of Communication in Insurgent War – A Proposed Doctrine," (Fort Leavenworth, KS: United States Army Command and General Staff College, 1969), p. 8.

19. GM 100 was ordered to abandon An Khe and retreat west to Pleiku. During the retreat the Vietminh ambushed them along the road. GM 100 was effectively destroyed with less than half of its original force of 3500 men and virtually none of their equipment reaching Pleiku.²²

The French attempted to keep Highway 19 open through the use of heavy fortifications and outposts along it combined with the mobile combat power of GM 100. They endured heavy attrition rates despite these efforts and ultimately were decimated by one timely ambush. The interesting thing is that this was essentially much the same technique used by American forces in Vietnam for LOC security 14 years later. The difference was that the Americans were successful.

How was this accomplished? First of all Highway 19 in Vietnam was only one lane wide and bordered by thick jungle and elephant grass on both sides. When America entered the ground war in 1965 the poor state of transportation systems in the country was recognized and major efforts made to improve them. Highway 19, for example, was paved and expanded to two lanes. The pavement very effectively prevented the enemy from hiding mines in the roads. To eliminate cover and concealment for the enemy along the route Rome Plows were used to cut the jungle back 300 to 500 meters. This allowed high-speed maneuver on and beside the road when necessary.

Fortified outposts protected key terrain such as bridges and intersections along the LOCs. Rapid response forces such as helicopter gunships, tanks, mechanized infantry, and artillery were able to respond quickly and lethally to any enemy attacks along the route. Convoy security was normally provided by “homemade” armored trucks as well as MP jeeps and armored cars. These vehicles could travel the LOCs without tearing them up like tracked vehicles. They could survive the initial hit, return fire, and radio for help.

During the Tet offensive in 1968 Highway 19 was not closed for a single day.²³ The Americans succeeded where the French failed for many reasons. The main reasons lay in the

²² “The Valley of the Crosses,” *Typhoon*, reprinted by Pat Costello. Retrieved November 06, 2004

multi-level and combined arms plan the military implemented. The combined details of the aforementioned plan for LOC security caused the Vietcong and NVA to pay an enormously disproportionate price for all attempts to interdict Highway 19.

A major part of LOC security is properly managing the vehicles and convoys on them. In Vietnam, vehicle traffic on roadways was controlled and monitored by the Transportation Management Agency (TMA), Military Assistance Command Vietnam (MACV). The primary agencies concerned in the convoy request process were TMA, MACV, United States Army Republic of Vietnam (USARV), the support command, the shipper, and the receiving unit. Security provided and coordination conducted for convoys between these agencies varied widely based on the threat levels and the Military Region. In comparison, during OIF the 377th Theater Support Command (TSC) under CFLCC coordinated and controlled the resupply convoys moving along the LOCs from Kuwait to Iraq. Some of the methods used for insuring LOC security in Vietnam will be discussed in more detail.

The main supply routes were classified in the Republic of Vietnam (RVN) using a standard security classification found in FM 19-50, *Military Police in Stability Operations*, February 1970. The system used the traditional green, amber, red classification system as seen in Table 3 below. This allowed a common understanding of the condition of routes throughout the theater. The classification was assigned by the four different Military Regional (MR) commands. Support Command's Movement Control Centers (MCC) provided convoy clearances and were the primary agency for controlling road space to prevent conflicts in critical areas.²⁴

from the World Wide Web. Available at <http://www.landscaper.net/namstory.htm>

²³ Jac Weller, "Highway 19: Then and Now," *Military Review*. Vol. XLVIII No. 12, December 1968, p. 63.

²⁴ Army Concept Team in Vietnam, Final Report Vehicle Convoy Operations in the Republic of Vietnam, p. II-14.

ROUTE SECURITY CLASSIFICATION	
GREEN	Segment of Line of Communication (LOC) between two points is physically open. Control of surrounding area is such that traffic can move during daylight hours, with relative freedom from enemy sabotage, attacks, and harassment.
AMBER	Segment of LOC between two points is physically open. Security of surrounding area is such that thorough security measures, including armed escorts, are required, and that frequent incidents may occur.
RED	A segment of LOC between two points is closed by enemy control or by extensive physical interdiction. It requires tactical operations and/or engineering efforts to open and/or restore for traffic.

Table 3: Route Security Classifications in the RVN.

There were numerous other agencies involved in the coordination of convoy operations. The engineers, tactical ground forces, military police, aviation, and artillery were all involved in the safe passage of logistics traffic on the LOCs in some capacity. Most of the above listed players conducted their role in this as routine procedures without any specific coordination or requests. Formal means of conducting coordination was severely lacking and many convoys relied on hearsay and fragmentary information concerning artillery support, route status, and other critical information. Many convoy personnel rarely even knew who was providing them security (if any) until they met with them at the appointed time and place prior to execution.

Engineer support was coordinated directly between TMA,²⁵ MACV and the engineer operations staff at brigade level. Engineer units operating in each area convoys were scheduled to travel through were notified of the exact times and routes. Road clearance operations were conducted based upon this information and the local threat level. In areas of higher threat levels, the engineers were provided additional security forces by the local combat forces in the specific AO.²⁶

Army Regional Commands assigned divisions areas of operation within the different Military Regions (MR). Missions conducted in these MRs were full spectrum in nature and

²⁵ In 1971 MCC was eliminated and its responsibilities combined with TMA, MACV.

²⁶ Gerald R. Jacobsen, former 11th ACR Delta Troop Commander in Vietnam, interviewed by MAJ GK Jacobsen. August 27, 2004.

varied from search and destroy missions to assisting and training the Vietnamese RF/PF (regional / popular forces).²⁷ All of these missions contributed either directly or indirectly to the security of the LOCs running through their sector. Depending on the threat level some divisions, like the 1st ID in 1968, habitually dedicated one battalion or even brigade size element specifically to LOC and convoy security within their AO.²⁸

In almost all areas the tactical units provided local reaction forces for responding to level III type threats to the LOCs. These forces varied from infantry to mechanized forces with aviation and artillery units frequently in support; the response time varied widely by region and threat level. In many cases MACV and the TMA considered the roads running through a particular area secure by the mere presence of tactical units in the vicinity. This did not always prove the case. This same phenomenon is occurring again in OIF.

Aviation units frequently provided aerial route reconnaissance as well as reaction forces. The request and coordination process for convoys to receive this level of support was done through the field force or equivalent headquarters. Helicopter gunship teams were occasionally used to provide convoy escorts and this method proved extremely effective; however, the large number of flight hours this required could not be supported. Placing aircraft on strip alert was the most common form of aviation support. This proved a particularly effective method of employing aviation support. Helicopter gunship teams were placed on stand-by strip alert and monitored the progress of convoys through high threat areas via FM radio. This drastically reduced the reaction time and allowed the gunship response force to arrive at the ambush site in an average of 5-10 minutes and frequently under 5 minutes.²⁹ The ability to respond rapidly to

²⁷ The RF/PF forces were South Vietnamese National Guard type local and regional forces vice the ARVN (Army of the Republic of Vietnam), which was the Republic of Vietnam's Army.

²⁸ Lessons Learned, Headquarters 1st Infantry Division. *Operational Report of 1st Infantry Division*, (Department of the Army, May 27, 1968), p.37.

²⁹ Army Concept Team in Vietnam, Final Report Vehicle Convoy Operations in the Republic of Vietnam, p. II-42.

an enemy ambush with appropriate level response forces was an effective deterrent to enemy interdiction of friendly LOCs and greatly enhanced security.

Artillery fires were occasionally available to convoy commanders for immediate suppression of enemy forces. The reality was that most convoy commanders admitted to being out of practice in their call for fire procedures and did not feel comfortable calling for artillery themselves. Most of the artillery used to suppress convoy ambushes on the LOCs was called and adjusted by the local tactical response forces, whether they were aviation, infantry, cavalry, or armor. This and other deficiencies in vital warrior skills have been recognized in the Combat Service Support (CSS) forces in the Army today. Proper training for CSS personnel in these areas could potentially reduce the number of additional combat forces needed for convoy security.

One of the major stumbling blocks to providing continuous and consistent LOC security in Vietnam was communication. Though adequate convoy briefings were conducted and updated information provided, radio frequencies and current operational graphics were frequently left out. Definite points for switching from one frequency to another were usually lacking as well. This problem was exacerbated by the fact that radio frequencies of units were changed daily. This made coordination for support upon enemy contact extremely difficult. Often, help was needed but the convoy commander was either out of radio contact or did not know the unit responsible for providing reaction forces in a particular AO and/or the frequency needed to contact them.³⁰ Interestingly enough, this problem exists today in OIF despite the fact that units maintain the same frequency hopset throughout their time spent in Iraq.³¹ The 911 emergency response net that is discussed in the OIF portion of this paper, was developed to surmount this problem.

In Vietnam, as in OIF, the need for Military Police (MP) greatly exceeded the forces available. Depending on the Military Region, MPs provided either the primary convoy security

³⁰ Ibid., p. II-31.

or supplemented the transportation units existing security measures. Extensive coordination was conducted between the MP units and the transportation corps to facilitate this.

The MPs provided this support in a myriad of vehicles to include the XM706, V-100 armored car, the gun-jeep, and armored personnel carriers. The desirable attributes of the escort vehicle were crew protection, maneuverability, firepower, and communications. Because there were not enough MP escorts, transportation units were frequently forced to provide their own security. Five-ton trucks were converted to “gun trucks” by adding ¾-inch armor plating and mounting as many guns as possible. The truck and personnel were taken out of hide. The equipment and armament used to upgrade the trucks was acquired by whatever means possible.

The homemade armor mounted on many trucks during Vietnam for protection seemed to work fairly well in protecting crews from ambushes and even mine strikes. The second order effect of the add-on armor was the premature wear out of the trucks. The additional weight and stress placed on these vehicles greatly surpassed their design specifications and caused serious and frequent maintenance problems. This same trend with its inherent problems can be observed today in OIF. High Mobility Medium Tactical Trucks (HMMT) drivers and other light skinned vehicle drivers in the Army are bolting and welding as much steel onto their vehicles as possible for additional protection from mines and ambushes along the LOCs.

The biggest threat in Vietnam to vehicles was mines. The Vietcong and North Vietnamese Army (NVA) made extensive use of mines to interdict LOCs and attrit U.S. forces and equipment. Many of these were homemade improvised type devices much the same as the improvised explosive device (IED) found in Iraq today. A study was done on eleven pieces of key army equipment from 1967 thru 1970. It found that 68% of all combat equipment losses were due to mines.³²

³¹ MAJ John Vorhees, Office of Army G3 Force Management, Interviewed October 16, 2004.

³² Army Concept Team in Vietnam, Final Report Vehicle Convoy Operations in the Republic of Vietnam, p. II-93.

The preventive measures developed to counter the interdiction of LOCs with mines and/or other explosive devices varied from the use of mine detection dogs to mine rollers. At the operational level the most effective method of preventing mine strikes was the paving of the major LOCs. This succeeded in preventing the enemy from burying mines in the middle of the road. Additionally, TMA coordinated routine mine sweeping and route clearance operations on the LOCs by engineer units. The clearance of vegetation beside the roadways produced a negative and unexpected side effect. While successful in reducing the number of enemy direct fire ambushes, it allowed the enemy to bury undetectable mines in these newly cleared areas. Vehicles stopping for maintenance or attempting to maneuver off the road and around convoys often fell victim to these mines.

Another method for countering LOC interdiction was the Volunteer Information Program (VIP). The VIP was a countrywide MACV program designed to encourage civilians to volunteer useful information concerning enemy activities in exchange for monetary rewards. It met with mixed success but was responsible for saving more than a few lives. A direct correlation was found between the number of VIP psychological operations (PSYOP) missions conducted in an area and the appreciable results of the program.³³

The lessons learned during the Vietnam War concerning LOC security at the operational level were both numerous and varied. In OIF the Army seems to be relearning many of these lessons. The 504th MP battalion participated in numerous after action reports cited in this monograph concerning LOC and convoy security in Vietnam. They have recently returned from Iraq where they performed a similar mission and are once again recording and analyzing lessons learned. A large portion of these lessons learned concerning operational issues affecting LOC security during OIF were learned over 30 years ago, in Vietnam.

³³ Ibid., p. II-82.

Operation Iraqi Freedom

On 21 March 2003 the ground campaign in Operation Iraqi Freedom (OIF) began. An astonishing 18 days later on 8 April, 3rd ID and V Corps had succeeded in penetrating to the heart of Baghdad with an entire Brigade Combat Team (BCT). This modern war demonstrated the unprecedented mobility of the modern United States Military. The achievement of this feat required lengthy and often tenuous lines of communication across a nonlinear and noncontiguous battlefield. The planning and execution of the Army's LOC security during OIF was a success story and bears closer examination.

Central Command (CENTCOM) and the CFLCC planners built the broad outline for the plan that became known as Operation Iraqi Freedom. CENTCOM, CFLCC, V Corps, I MEF and their subordinate divisions conducted the detailed planning in parallel; enabled by information systems it was nearly simultaneous. One of the key questions that needed answering was, "How many and what type of units were needed to start offensive operations and how they would get into the theater of operations?" The three choices considered were: a force flow using Time-Phased Force Deployment Data (TPFFD) as in Desert Storm, an almost no-notice deployment which would start the war with very few forces on the ground, and a hybrid of the first two. Plans were made for each of these options but in the end the final plan was a compromise between the no-notice and hybrid options.³⁴

The coalition's plan relied on the fundamental assumption that the Iraqi military would readily capitulate when attacked. This allowed for the planning of a relatively small force to begin offensive operations. The CFLCC, under Lieutenant General McKiernan, planned and envisioned a simultaneous and synchronized attack on Baghdad from multiple directions: 4th Infantry Division would attack from Turkey towards Baghdad; V Corps would attack from

³⁴ E.J. Degen, Gregory Fontenot, David Tohn, *On Point*, (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), pp.44-46.

Kuwait south to north on the west side of the Tigris-Euphrates river valley; I MEF would attack out of Kuwait on the east side of the valley. The plan called for the two corps to control the liberated portions of Iraq as they progressed towards Baghdad. As the corps advanced north toward Baghdad they would conduct, in McKiernan's words, "a rolling transition to stability and support operations."³⁵ This would ensure security for their lines of communication, assist with population control, and facilitate sensitive site exploration and the search for weapons of mass destruction.

During the planning phase the need for military police was readily apparent. They would be needed to handle the anticipated large amounts of Enemy Prisoners of War (EPWs) expected and to assist in stabilizing the region as the combat forces maneuvered towards Baghdad. This would also help the corps to maintain LOC security. The original plan called for the 18th MP Brigade out of Germany to have eight to ten MP companies and two battalion headquarters on the ground in Kuwait when offensive operations commenced. As D-day approached, CFLCC decided to assume risk and push the MP units to the end of the force flow in order to bring combat units into the theater more quickly.³⁶

Other aspects of the plan changed as well. When the 3rd ID crossed the berm on 20 March (D+1) it was the only Army Division ready to fight of the four originally planned. The remaining units were still in various stages of the deployment and/or the reception, staging, onward movement, and integration (RSOI) process. 4th ID was denied ground access into Iraq through Turkey and would have to move all the way back around to Kuwait in order to enter the country. The 101st Airborne Division was just completing the onward movement and integration phases of their deployment and would not be ready until D+3. The 1st Armored Division was still

³⁵ Ibid., p. 55.

³⁶ Ibid., pp. 69-70.

in the preparation stages of deployment and 3rd ACR and 2nd ACR (L) still had many weeks until they could be expected to enter the theater.³⁷

CFLCC had originally planned on the 1st Armored Division providing rear area security behind 3rd ID as they attacked toward Baghdad. The plan for 4th ID coming from the north was for them to pull their own rear area security. The reasoning behind the difference was that 3rd ID was the main effort and there was much less of a threat perceived by CFLCC north of Baghdad.³⁸ Without the 1st AD the V Corps fought to constantly balance rapid maneuver against the need to secure their own LOCs and prevent logistical shortfalls.³⁹ V Corps aggressively attacked through the cities of An Nasiriyah, As Samawah, and An Najaf. The further they advanced the more combat forces they were forced to commit to LOC security. By the time the 3rd ID reached An Najaf two of their three brigade combat teams were fully committed to LOC security and ongoing fights in As Samawah and An Najaf. The now lengthy LOCs were tenuous at best and stretched almost to the breaking point.

At this time, D+5, Lieutenant General Wallace recognized the danger of advancing further before cleaning up the areas already taken. As stated in FM 100-15 *Corps Operations*, the commander must reassess the operational viability of his plan if he is forced to divert combat power from his decisive operations in order to deal with a threat to his rear area or LOCs. Combat forces are only as good as their logistics. Without a certain level of security along his lines of communication the V Corps was in danger of culminating prior to even reaching Baghdad. He also realized that he would need more assets than he currently had in order to do it. To extend his operational reach, he asked for and received the CFLCC's reserve, one brigade of the 82nd Airborne and the division headquarters. He tasked the 101st ABN, now completed with RSOI, and the 82nd ABN (-) to provide LOC security from An Nasiriyah to An Najaf (about 300

³⁷ Ibid., p. 94.

³⁸ COL Kevin Benson, CFLCC planner during OIF. Interviewed October 12, 2004.

³⁹ E.J. Degen, Gregory Fontenot, David Tohn, *On Point*, p.90.

kilometers). This would allow the 3rd ID to consolidate south of Karbala and continue the attack north. For the next five days the V Corps halted their advance north and focused on LOC security, logistics resupply, and the consolidation of 3rd ID. Lieutenant General McKiernan believes that his decision to give V Corps the 82nd was his most important decision during the war.⁴⁰ The V Corps and CFLCC commanders had recognized the critical condition of security along the LOCs and acted in a timely fashion to prevent their interdiction.

Major General Swannack, the 82nd Airborne Division Commander, gave very clear guidance to his soldiers concerning LOC security. He said, “I don’t want anybody or anything to touch a US or coalition force along this road.”⁴¹ The first step towards accomplishing this mission was clearing the major towns and cities along the LOCs. For the 82nd this meant clearing the city of As Samawah. For the 101st it meant clearing An Najaf.

Immediately upon releasing the 82nd to V Corps, Lieutenant General McKeirnan asked CENTCOM to move one squadron from the 2nd ACR (L) forward in the flow of forces into theater. They received their deployment order on 26 March and joined the 82nd at As Samawah on 8 April. The CFLCC commander recognized the major fighting in the cities along the LOCs would be complete by the time the 2nd ACR (L) arrived and planned on using them to provide the mobile combat power necessary to finalize the fight for LOC security. Attached to the 82nd they succeeded in securing the lateral routes between the towns by 11 April. The LOCs were at last reasonably secure from the northern most tactical unit all the way to Kuwait.⁴²

In Northern Iraq the LOCs were radically different. When the 4th ID was denied access into northern Iraq through Turkey a new plan had to be developed. The 173rd Airborne Brigade was augmented with Task Force 1-63 Armor and placed under Joint Special Operations Task Force (JSOTF) control. After conducting an airfield seizure at Bashur, the brigade was

⁴⁰ Ibid., p.210.

⁴¹ Ibid., p.278.

⁴² Ibid., pp.220-221.

augmented with Europe's Immediate Ready Force (IRF), TF 1-63 AR. Logistical resupply was executed by a combination of aircraft flown from Germany to northern Iraq and contracted support from Turkey. Kurdish Pershmerga and SOF forces initially secured the movement of the logistics convoys into northern Iraq. When the 173rd arrived in Northern Iraq they assumed the majority of the security missions for the ground resupply convoys. There was never a set standard for the security of the logistics convoys in northern Iraq and at times they consisted of as little as two soldiers with M-16 rifles in a rented sports utility vehicle.⁴³ This amount of security, amazingly enough, proved adequate and no major interdictions occurred.

In southern Iraq CFLCC issued an edict on single vehicle travel in Iraq after a Sergeant Major was killed while driving his High Mobility Multi-purpose Wheeled Vehicle (HMMWV) alone.⁴⁴ After the incident with 507th Maintenance Company and PFC Jessica Lynch⁴⁵ CFLCC stood up Task Force protection and placed them under the control of the 82nd Airborne Division. Initially, this task force consisted of an MP company and L/3/2 ACR. They had the mission of securing convoys as they moved in support of V Corps and 1st MEF.⁴⁶ CFLCC mandated that all convoys leaving Kuwait going north into Iraq must have security. Despite this, a standard level of security was never set. Frequently, in the first few months of the conflict, convoy security was only a couple of soldiers with M16s.⁴⁷ Unlike the relatively much safer LOCs in the northern parts of Iraq, this sometimes proved inadequate, as the 507th Maintenance Company found out.

For the most part, the flow of supplies along the Army LOCs during OIF was uninterrupted. Though somewhat lacking in foresight and even the necessary resources, the

⁴³ MAJ Isaac Peltier, JSOTF North. Interviewed October 14, 2004.

⁴⁴ COL Kevin Benson, CFLCC planner during OIF. Interviewed October 12, 2004.

⁴⁵ The 507th Maintenance Company was ambushed and some of its soldiers captured in An Nasiriyah.

⁴⁶ ILT Adria Toth, MAJ John Vorhees, "The 504th Military Police Battalion Secures the Iraqi Theater Main Supply Route," *Military Police*, (PB 19-04-1, April 2004) available online at <http://www.wood.army.mil/MPBULLETIN/pdfs/April%202004%20pdfs/Voorhees-Toth-504th%20supply%20route.pdf>.

⁴⁷ MAJ Eric Shirley, CFLCC AAFES LNO. Interviewed October 11, 2004.

situational awareness of the operational level commanders during the battle allowed them to continuously assess the risks involved and reallocate forces accordingly. Lieutenant General Wallace recognized that his operational reach would remain extremely limited until he managed to secure his LOCs. His decision to halt V corps's advance north on D+5, just south of Karbala, was a wise and timely decision. Lieutenant General McKiernan's commitment of his operational reserve for LOC security at this time reflects another well thought out command decision. Rarely does an army have the resources and forces available to commit more than an economy of force to rear area and LOC security. Properly planned and rehearsed decision points for diverting combat forces from the front and proper commitment criteria for the commission of reserve forces can greatly facilitate proper LOC security in spite of limited resources.

Some other key decisions that helped successful LOC security during OIF are of note. V Corps used alternate main supply routes (ASRs) very successfully. When threats were identified on the MSR, the affected portion was shut down and all convoy traffic diverted around the identified danger areas. Once the threats were neutralized the MSR was reopened. For example, on D+4 it was identified that paramilitary troops in As Samawah posed a threat to the LOC. V Corps immediately ordered logistics traffic and soft-skinned vehicles to divert from Highway 8 to Highway 28 via a bypass that avoided the danger zone.⁴⁸

The military police along with the 101st, 82nd and 2nd ACR effectively secured the LOCs behind 3rd ID and V Corps by holding key terrain, clearing key towns along the LOCs, operating an emergency response net, and conducting security patrols along the route. One of the major challenges initially faced concerning LOC security was the coordination of response and security forces with the closest unit whose sector the LOCs cut through; this problem was also encountered during the Vietnam War. On the nonlinear and noncontiguous battlefield in Iraq there was not a traditional rear area that was specifically owned and controlled by the highest

⁴⁸ E.J. Degen, Gregory Fontenot, David Tohn, *On Point*, p. 131.

common headquarters. There was no single TCF type force. The level II and III response forces changed as you progressed further north through different unit AOs along the LOCs. Convoy support centers, log bases, and other unit base camps represented the only relatively secure areas along LOCs that ran over 600 kilometers from Kuwait to Baghdad.

To overcome this problem 220th Military Police Brigade established a 911 type emergency frequency for MSR Tampa (the main MSR from Kuwait to Baghdad) from Kuwait to Talill airbase. They did this after one of their soldiers was injured on a night patrol and had no communications link available to call for an emergency medical evacuation. This emergency frequency they established was a single channel plain text net that a convoy could use in case they encountered trouble along the MSR. The system was later expanded to reach even further north and become known as “The Sheriff Net.” This ingenious emergency response net played a huge role in simplifying and streamlining the method for coordinating responses to level II and III threats along the LOCs in Iraq. The net continues to expand its coverage area and is still in operation today. ⁴⁹

⁴⁹. MAJ John Vorhees, Office of Army G3 Force Management, Interviewed October 16, 2004.

CONCLUSIONS AND RECOMMENDATIONS

The lessons learned from the Vietnam War and those recently and currently being encountered in Iraq are frighteningly familiar. The Vietnam War has been over for almost thirty years and the lessons gleaned from it are far from fresh in the collective memory of the Army. Operation Iraqi Freedom was initiated in March 2003. Though the details of the operation and the lessons learned are just beginning to be made available it seems apparent that many lessons in the area of LOC security are being relearned. This portion of the monograph will attempt to succinctly highlight and analyze the similarities in these two conflicts concerning the planning and execution of LOC security at the operational level. Where appropriate, the author will make recommendations concerning these issues to enable more informed planning, preparation, and execution in this area for future conflicts.

As in the Vietnam War, mines, IEDs and guerilla/asymmetric type ambushes have been and continue to be the largest threat to the LOCs and the equipment and personnel that travel them in Iraq. Unfortunately, most of the lessons learned in these areas 30-40 years ago in Vietnam have been forgotten and are being relearned in Iraq today. Many of these are simple tactics, techniques, and procedures, others organizationally and operationally based. The focus of discussion will remain on problems affected at the operational level of war.

A recurring problem that has been encountered in Iraq is the lack of adequate security for the convoys traveling the LOCs. As learned in Vietnam, tracked armored vehicles tear up the roads and are much too costly and impractical to cover the 500 or more kilometers some trucks and convoys are driving daily. MPs in armored and hardtop HMMWVs with 50 Caliber machineguns are routinely used but the need for more platforms with adequate firepower and better protection remains. Additional security resources must be authorized, funded, procured and fielded as quickly as possible.

The second order effect of the inadequate convoy security is a repeat of what occurred in Vietnam. While the Army resolves this problem, in the interim weapons and armor of all types are being acquired and fitted, welded, or bolted onto every vehicle possible. Once again, vehicles are breaking down much more frequently than normal due to the excess wear and tear imposed by the significant weight gains inherent with such accoutrements. This recurring problem had arguably a strategic impact in October 2004 when worldwide media sources reported that a Reserve Quartermaster platoon in Iraq was refusing to deliver fuel to an air base north of Baghdad. The reasons cited for refusing the mission were the poor maintenance status of the trucks and their lack of armor protection.⁵⁰

The recommendations made 30 years ago to solve this problem ranged from providing more weapons and armor to transportation units so they could secure themselves to acquiring more armored car type vehicles for MP escort of convoys. Today in Iraq there are only 74 Armored Security Vehicles (ASVs, M1117 Guardian) and at the Pentagon the exact same debates over adequate convoy security platforms and the appropriate methods for providing it are occurring.⁵¹

This monograph contends that the primary solution should be the addition of ASV type vehicles to every Brigade Combat Team (or Unit of Action). The exact numbers, type of vehicles, and personnel required are beyond the scope of this paper but the M1117 Guardian appears to be a more than adequate platform for the present. It has twice the firepower of the up-armored HMMWV and twice the crew protection.⁵² It also allows the crew to remain completely protected within the turret while firing the main weapon systems. Soldiers manning the

⁵⁰ Scarborough, "Unit First to Balk in 175,000 Iraq Convoy Missions,"p. 3.

⁵¹ MAJ John Vorhees, Office of Army G3 Force Management, Interviewed October 16, 2004.

HMMWV must expose their upper torsos out of the top of the vehicles in order to fire the mounted weapon system. The requirement for an armored wheeled security platform is once again clear and the Army and its soldiers cannot afford to learn this lesson yet again in future conflicts.

The security vehicles should not be made organic to transportation and CSS type units for several reasons. The first is that the prohibitive cost of maintaining such an asset in a logistics unit during peacetime or in a low threat environment would not be acceptable. In such an environment the security assets would be detached performing other missions more often than not, rendering their organic nature moot anyway. Another issue with making the security vehicles organic is the maintenance and training involved would detract from the overall logistics focus of such units. Transportation units should have organic weapon systems and should be trained in self-defense; however, these units work relentlessly at trying to fulfill their day-to-day logistics missions and have a difficult time even maintaining proficiency on their personal weapons and other infantry type warrior skills.⁵³ The addition of a combat ground maneuver platoon to these units would quickly overwhelm their ability to plan, train, and execute their primary mission of logistics and logistics distribution. Additionally, a large number of vehicles and convoys traversing the LOCs providing support to tactical units are contracted civilian trucks.⁵⁴ Security organic to Army transportation units would not help in this case, especially if the majority of the operational level support was contracted. The security forces provided for

⁵² Information obtained from GlobalSecurity.Org. Available online at: <http://www.globalsecurity.org/military/systems/ground/asv.htm>. The M1114 Up-Armored HMMWV allows only one weapon to be mounted on the roof of the vehicle and provides crew protection up to 7.62mm small arms fire. The M1117 Guardian is equipped with a M2 50 caliber (12.7mm) machinegun, MK-19 40mm grenade launcher, and a Squad Automatic Weapon (5.56mm machinegun). The guardian provides crew protection from up to 12.7mm machinegun fire and Rocket Propelled Grenades (RPGs).

⁵³ This observation is based off of the author's personal experiences and his year as an HHC Observer Controller at the National Training Center in Ft. Irwin California.

⁵⁴ MAJ Eric Shirley, CFLCC AAFES LNO. Interviewed October 11, 2004.

convoy protection must be tailorable according to the threat level. This will enable the ARFOR commander to allocate his resources appropriately and efficiently.

HEMTTs, 5-tons, FMTVs, and other military distribution type vehicles that frequently traverse the LOCs should be designed with the ability to add-on some form of armored protection for both the drivers and vehicle commanders. This is being done in Iraq now but in an ad-hoc type fashion as it was in Vietnam, bringing with it the same maintenance problems. The vehicles suspension systems and drive trains must be designed to support the additional weight of add-on armor when necessary.

IEDs and guerrilla type ambushes in Iraq today are very similar to the threat that existed in the Vietnam War. Effective methods used to counter this threat were road paving, routine route clearance operations, land clearing, and quick regional TCF type response forces. In Iraq most LOCs are paved and the adjacent land generally does not need clearing; though LOCs passing through urban terrain tend to be especially vulnerable. Route clearance and surveillance is performed routinely in Iraq through the use of UAVs and ground forces. The use of regional response type forces is routine as well. The area of friction remains the communication between the convoys and the different regional forces, just as in Vietnam.

During the initial phases of OIF, vehicles and convoys traveling the LOCs had a very difficult time contacting regional response forces during emergencies and upon contact with level II and III threats. To overcome this the 220th MP Brigade established the emergency response net mentioned previously. This allowed convoys traveling the LOCs to use one frequency to call for help on a large portion of MSR TAMPA. This technique greatly simplified the procedures for contacting additional support regardless of location and should be implemented on major LOCs in theaters of operation whenever possible.

Experience from both wars has proven that quick decisive responses to threats along the LOCs are an effective deterrent. In Vietnam return fire from the convoy itself, indirect fire, and aviation assets on strip alert proved to be among the best techniques. Many of these techniques

are being used in Iraq today. They should be planned and implemented from the start in all high threat areas along the LOC in every theater of operations.

Route classification was not implemented along the LOCs formally until the arrival of Coalition Joint Task Force 7 (CJTF-7) in June of 2003. The ability to properly classify the LOCs according to trafficability and threat level is critical to maintaining an uninterrupted flow of supplies. A common theater level classification system that is universally understood must be implemented from the outset of any operations. Complementary to this system there must be a comprehensive list of alternate MSRs and lateral routes planned and available to divert convoys and logistics traffic in the event of emergency or increase in threat level. V Corps managed to do this successfully on the fly on 23 March 2003, when a paramilitary threat became apparent in As Samawah. Rapid identification of a change in the threat level on the LOCs and good communications channels to immediately implement changes in the routes and their status are essential.

It is often said that logistics are the essence of operational art. Without proper security the LOCs and the logistics support that travels them are worthless. Despite this, the Army has frequently made sacrifices in rear area security type forces to forestall diverting forces from the front lines. This was evidenced in OIF when CFLCC pushed the MPs to the rear of the force flow in order to speed the arrival of combat forces.⁵⁵ The wisdom of this practice in today's nonlinear and noncontiguous environment must be questioned. Proper doctrine in the area of LOC security would greatly facilitate overall awareness and initial implementation of some of the appropriate security measures mentioned in this monograph.

Current doctrine, though just barely adequate for conventional linear type operations, is entirely inadequate for nonlinear and noncontiguous operations in the COE. It gives a rather broad hand wave to the concept of LOC security. In some cases, like the definition of threat

⁵⁵ COL Kevin Benson, CFLCC planner during OIF. Interviewed October 12, 2004.

levels, it even conflicts. There is not one definitive manual that can be consulted to facilitate the planning and execution of LOC security and the many complexities involved. Though the COE is not far from what was encountered in Vietnam and numerous other small-scale conflicts the military has been involved in throughout the 20th century, it has made LOC security more difficult than ever. As new doctrine emerges and the Army continues to transform, operational LOC security should receive a dedicated section in all appropriate field manuals. A separate field manual for theater sustaining operations security is recommended as well. Specific areas covered in this manual should include: standards for route trafficability and threat classification status; communications planning for LOCs; response forces for LOCs; logistics base security; countermining operations for MSRs; route clearance and surveillance operations; host nation security support; and reconnaissance in force operations. The concept of a single Tactical Combat Force to counter threats to a rear area is relatively useless in a nonlinear and noncontiguous environment where the rear area is much harder to define. Doctrinally, a TCF is designated to counter level III threats to a unit's rear or flank and is usually under the operational control of the rear operations commander once committed.⁵⁶ Since no rear area actually exists in nonlinear operations, the term Regional Response Force would be much more accurate in describing the multiple infantry, armor, and MP type units dedicated to reacting to Level II and III threats and other local emergencies. This is much more practical and actually occurring on the ground in Iraq today. Since Joint doctrine addresses very little concerning LOC security and the Army is the only service that conducts theater level support routinely, these additions and changes should be easily deconflicted and incorporated in the Joint Publications.

The concept of aerial resupply as an alternative when ground LOCs are interdicted should not be dismissed lightly. In Vietnam after the Tet offensive in 1968 ground LOCs became tenuous in certain areas. To overcome this the 11th ACR resorted to resupplying almost all of

⁵⁶ Field Manual 100-15, *Corps Operations*, p. C-5.

their troop size units in the field twice a day using CH-47 helicopters. This was executed for several months and includes all classes of supply for eight to ten troop size units, each with an average of ten to fifteen tanks and an equal number of ACAVs. The resupply included water buffalos, fuel blivets, spare parts, ammunition, and chow.⁵⁷ While this could not be done for all units in a theater simultaneously it proved that it was indeed possible for select units with additional operational level support.⁵⁸ In the COE this may become necessary and even common in order to allow large units to pursue operationally vital objectives in an isolated AO. FM 3-0 very briefly references the possibility of using aerial LOCs when ground LOCs are tenuous.⁵⁹ More emphasis should be placed on the possibilities associated with the use of aerial LOCs. The above vignette could even be used in the manual.

When planning LOC security, four basic areas should always be considered: communications, convoy security, regional response forces, and route clearance and maintenance. These four areas are not all encompassing but should be used as a baseline to ensure proper planning at the operational and even tactical levels.

The ability for friendly forces to communicate with each other and higher headquarters on and around the LOCs is perhaps simultaneously the most important and most deficient area. CSS vehicles are very rarely equipped with radios or satellite tracking systems, like Blue Force Tracker, that are standard in most combat vehicles. Some CSS and civilian convoys traveling the LOCs during the first few months of OIF had no communications other than one satellite cell phone.⁶⁰ A standard CSS convoy of ten trucks would traditionally have one to two radios in the entire convoy if they were lucky.⁶¹ In a day and age where almost every trucker traveling on the

⁵⁷ Gerald R. Jacobsen, former 11th ACR Delta Troop Commander in Vietnam, interviewed by MAJ GK Jacobsen. August 27, 2004.

⁵⁸ Cavalry units typically have organic air support so very little additional air support was needed in this case.

⁵⁹ Field Manual 3-0, *Operations*. p. 12-11.

⁶⁰ MAJ Eric Shirley, CFLCC AAFES LNO. Interviewed October 11, 2004.

⁶¹ Based on the authors personal experiences as an Army officer.

road in the United States has a CB radio it is almost criminal that the Army cannot equip their trucks similarly. A CSS convoy that is being attacked or ambushed generally has no way to communicate to every truck in his convoy. Soldiers die because of this lack of communication that is vital to security.

When convoys are traveling great distances across numerous unit AOs, a standard 911-type emergency net for contacting Regional Response Forces is a must. Implicit with this is ensuring communications relay stations along the entire LOC. During OIF there were no such checks and safeguards and many convoys were entirely on their own while traveling beyond FM communications range.

The planning of Regional Response Forces and convoy security are inherently linked. They should be based off a detailed and consistently revised threat assessment. The higher the threat level the more convoy security that is needed. The number, type and required reaction speed of a response force should also be based off of the threat assessment. Additionally, greater convoy security and self-defense measures generally allow slower response force reaction times. Helicopters proved to be the quickest and most effective type of response forces in Vietnam while the ASV proved the best convoy security vehicle. Communications within the convoy and with the response forces are essential.

Clearance and maintenance of the routes along the LOC must be planned as well. In Vietnam the engineers played a large role in routinely clearing and maintaining major supply routes. Local combat forces were routinely tasked to secure them during these missions and in the absence or lack of engineers oftentimes performed it themselves. This included clearing of all mines and other obstacles, reconnaissance for ambushes, and even paving of certain roadways to further inhibit mining. In a high threat and noncontiguous environment these specifics must be carefully planned and executed. Failure can result in lost lives and equipment and disruption of an operationally vital LOC for an extended period of time. Key terrain along the LOC such as bridges, defiles, and major intersections may require permanent security forces in order to

maintain the integrity of the LOC. This was performed in Vietnam successfully and these forces could be used to protect the communications nodes and act as response forces when necessary.

The challenge of securing LOCs can be overcome with foresight and planning. Combined with the proper equipment, resources and training the task can be accomplished correctly, with a minimum of casualties, from the start of a mission until the mission is complete. The American people's tolerance of casualties during past major conflicts was much higher than it is today. Hundreds of thousands of U.S. casualties were not considered too high a price for victory in WWII. Today in Iraq, the total U.S. casualty rate has surpassed 1000 and many consider this much too high a price. Learning from past experiences can greatly enhance the proper planning and execution of LOC security. Proper LOC security can extend operational reach, husband vital resources, prevent early culmination, and save lives.

ANNEX A: ACRONYMS

ABN: Airborne

ACAV: Armored cavalry vehicle.

ACR: Armored cavalry regiment.

AD: Armored division.

ARFOR: Army Forces.

ASR: Alternate Supply Route.

ASV: Armored Security Vehicle.

AO: Area of operation.

ASCC: Army service component commander.

BCT: Brigade Combat Team.

CENTCOM: Central Command.

CJTF: Coalition Joint Task Force.

COE: Contemporary operational environment.

CFLCC: Coalition forces land component command.

D-day: Unnamed day on which a particular operation commences.

EPW: Enemy prisoner of war.

FEBA: Forward edge of the battle area.

FLOT: Forward line of own troops.

FM: Field manual.

HMMT: High Mobility Medium Tactical Truck.

HMMWV: High Mobility Multi-purpose Wheeled Vehicle.

ID: Infantry division.

IED: Improvised explosive device.

IRF: Immediate Ready Force.

IRF: Immediate ready force.

JFC: Joint Forces Commander.

JOA: Joint operational area.

JP: Joint publication.

JRA: Joint Rear Area.

JRAC: Joint Rear Area Coordinator.

JSOTF: Joint Special Operations Task Force.

L: Light.

LOC: Lines of Communication.

MACV: Military Assistance Command Vietnam.

MCC: Movement Control Center.

MEF: Marine Expeditionary Force.

METT-T: Mission, enemy, time, terrain, troops available.

METT-TC: Mission, enemy, time terrain, troops available, civilian considerations.

MP: Military Police.

MR: Military Regional.

MSR: Main supply route.

NVA: North Vietnamese Army.

OIF: Operation Iraqi Freedom.

PFC: Private First Class.

PSYOP: Psychological operations.

RSOI: Reception, staging, onward movement, and integration.

RVN: Republic of Vietnam.

SPOD: Seaport of debarkation.

TCF: Tactical combat force.

TMA: Transportation Management Agency.

TPFFD: Time-phased force deployment data.

USARV: United States Army Republic of Vietnam.

VIP: Volunteer Information Program.

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