THE LIGHT INFANTRY DIVISION: ESSENTIAL COMPONENT OF NATIONAL DEFENSE OR COLD WAR RELIC?

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ABSTRACT

THE LIGHT INFANTRY DIVISION: ESSENTIAL COMPONENT OF NATIONAL DEFENSE OR COLD WAR RELIC? By MAJ Michael W. Miller, USA, 58 pages.

The world in 1999 is a rapidly changing place. Regional conflict based on ethnic, religious, cultural and economic differences is increasing because of a lack of superpower containment. The number of regional powers involved in these conflicts and the strength of their military forces is increasing because of the economic gains these nations have enjoyed from an improved world economy. Improved weapons technology is providing very precise weapons with increased ranges to whoever can afford them and improved information technology is permitting enhanced battlefield situational awareness that allows a commander to act and apply combat power faster than an opponent.

The Government has adopted the policy of engagement to counter these many conflicts while they are still manageable and maintain U.S. leadership. To execute the policy of engagement while recognizing that all U.S. military forces have been significantly downsized, the National Military Strategy (NMS) requires that U.S. forces be multi-mission capable, meaning that forces should be trained, armed, and equipped to operate across the full spectrum conflict. The NMS also requires that U.S. forces be lethal so that U.S. forces can defeat the potentially larger opponents that are likely to be involved in these regional conflicts.

The light infantry division was created in 1984 in an effort to provide a more strategically deployable force and to address the increasing number of counter-insurgencies present in the 1980's. This was accomplished by reducing the number and size of mobility and firepower assets in the division to the bare minimum that was thought to be required for operations in low intensity conflict. These reductions have reduce the division's mobility because now only one battalion out of nine can move faster than four kilometers an hour through the use of the divisions lift aviation battalion. Firepower has also been significantly degraded through a reduction in anti-armor systems and a loss of deep firing systems. The historical performance of light divisions shows that from WWII to present they have lacked the mobility and firepower to conduct operations without significant augmentation. Force XXI is how the Army intends to defeat potentially larger forces through the use of advanced weapons systems and information technology. Improved information technology will provide the commander with near-perfect situational awareness that will allow him to make decisions and apply combat power faster than an enemy commander. Force XXI relies heavily on the use of mobility and firepower to defeat larger opponents and currently the light division just doesn't have enough of either to operate according to Force XXI.

The light infantry division doesn't meet the ground security needs of the United States of America because it isn't multi-mission capable, lacks the lethality provided by mobility and firepower, and can't operate according to Force XXI doctrine. Adopting a modern H-series TOE would be one method of solving this problem.

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Chapter 1

INTRODUCTION

Armies exist to defend the interests of their nations. These national interests will vary over time in relation to the environment. In 1999, the United States has interests throughout the world and the world's environment is changing at a vary rapid pace. This rapid change presents the U.S. Army with many challenges.

The changing world environment has resulted from a variety of factors. One of the most important of these factors has been the collapse of the Soviet Union.

The unpredictability of some regions around the globe is one of the results of the disintegration of the Soviet Union. When the world was divided into two distinct spheres of influence the actions of most nations could easily be predicted. The two superpowers exerted control and direction on their allies and client states. Now, the bipolar world is gone and only one superpower remains, the United States. The world in 1999 is faced with national, cultural, ethnic, religious and regional conflicts which are complicating inter and intra- national relations.

Another of the changes wrought by the fall of the Soviet Union has been a rise in nationalism. This nationalism is not only igniting deep-seated ethnic rivalries as in the former Yugoslavia, but is also causing close allies to focus more on their own interests. With the demise of the Soviet Union there is no longer a single threat and each country perceives its perils from its own national

perspective Henry Kissinger argues that "In the absence of a potentially dominating power, the principle nations do not view threats to the peace in the same way, nor are they willing to run the same risks in overcoming them."[1] This self-interest will tend to result in more competition and conflict between nations[2]. It could also complicate the forming of coalitions and the use of host nation support.

The Soviet Union's fall has also had a direct affect on the US military. The loss of the Soviet Union as an ever present monolithic threat has caused Congress to drastically reduce the defense budget, and subsequently the Army's force structure. At a time when nationalism is increasing the likelihood of conflict, the US military's ability to respond to these conflicts has been drastically reduced.

Globalization of the world economy has provided increased wealth to many regional powers. This has both short term and long term implications. In the short term, this increased wealth provides these regional powers the ability to purchase improved equipment, technology, weapons, and information.[3] This ability to acquire improved munitions and weapon systems has added a new dimension to the conflict on many potential third world battlefields. In many regions the "backwater battlefields in the developing world have become high-risk, increasingly lethal environments."[4] In the long term some regional powers may have the ability to become peer competitors of the U.S. China is well along the road to super power status. It's GNP will approach that of the U.S. by the second decade of the 21st century if it continues to grow at eight percent, which is slightly less than its growth in the 1980's.[5] The armies of many potential

regional opponents will be more lethal, but the armies of the world will span a broad spectrum of capability.

The armies of the world can be divided into three categories. The first, Infantry-Based Armies, are those armies of much of the less-developed world. They have some armor but are reliant on dismounted infantry for the bulk of their combat power. They resemble the armies of WWI but with more lethal weaponry. The second type is Armor-Mechanized-Based Armies. The armies of most industrial nations fall into this category. These armies typically mount at least forty percent of their forces in armored vehicles. These armies use quantity and weight of metal to compensate for a lack of technological sophistication. The final category is Complex, Adaptive Armies. These forces come from developed nations. These technically and tactically advanced armies are smaller but exceedingly expensive to equip, train, and maintain. They posses greater flexibility to seize opportunities on the battlefield as well to adapt to dynamic situations across the continuum of war and OOTW.[6] Most nations around the world are attempting to improve specific aspects of their military no matter what category they fall in. These limited improvements can have a profound impact because "by purchasing even small numbers of precision guided munitions (PGM), sophisticated sensors, and stealth technologies, regional adversaries obtain military capabilities completely out of proportion to the size of their economy or sophistication of their military in general."[7]

Another major area of change has been the rapid improvement and expansion of information technology. Rapid advances in microprocessing

technology continue to change the way we collect, communicate, and use information. These new systems allow large quantities of information to be both communicated and shared quickly. This capability has provided two applications that have military significance. The first is that of enhanced battlefield situational awareness. This is the ability for the commander to see the enemy and friendly situation more accurately and quickly than his opponent. Armed with this knowledge the commander can achieve battlefield efficiencies that allow him to act and apply combat power much faster than the enemy commander. The other significant military ability that information technology provides is the ability for both friendly and enemy forces to quickly influence the communications media, which impacts on national will.[8]

This paper answers the question: Can the current light infantry division meet the ground force security needs of the United States of America? This is answered by determining the national security requirements of the United States of America. Then the Light Infantry Division's doctrine, structure, and systems are reviewed to determine what its current capabilities are. Finally, the ability of light divisions to meet the criteria of multi-mission capability and lethality as stated in the NSS and NMS[9] are analyzed. This analysis shows that the light infantry division doesn't meet the ground force security needs of the United States of America because it isn't multi-mission capable and lacks the lethality provided by mobility and firepower.

Chapter 2

US RESPONSES TO THE SECURITY ENVIRONMENT

GOVERNMENT POLICY

The United States government has decided to address 1999's changing environment by staying engaged with the world community instead of retreating into our traditionally isolationist habit. The National Security Strategy (NSS) clearly articulates that engagement is the way to deal with change versus isolationism when its states: "The alternative to engagement is not withdrawal from the world; it is passive submission to the powerful forces of change..."[10]

The policy of engagement outlined in the NSS requires that the United States, "have the demonstrated will and capabilities to continue to exert global leadership and remain the preferred security partner for the community of states that share our interests."[11] The NSS requirement for demonstrated will means that all of the U.S. tools of power, to include the military, will have to have been previously used to express the determination of the U.S. government. The implication for the military is that it will be often used to support U.S. policy and that this use will be over a much broader range of operations. The NSS alludes to this when it addresses military involvement in peacetime engagement activities and activities to prevent and reduce potential conflicts.[12]

The other major requirement for engagement is that the United States possess the capabilities to continue to exert global leadership. The capabilities required of the military are superior military forces maintained at the level of

readiness necessary to effectively deter aggression, conduct a wide range of peacetime activities and smaller scale contingencies, and preferably in concert with regional allies, win two overlapping major theater wars.[13]

To meet the NSS requirement of "superior military forces," the National Military Strategy (NMS) identifies several characteristics that U.S. military forces will need to make them "superior military forces". The first characteristic articulated by the NMS is that U.S. forces be multi-mission capable. This means that U.S. forces, to include the army, must be capable of "responding across the full spectrum of crises, from major combat to humanitarian assistance operations."[14] The NMS not only requires military forces to be able to conduct these broad range of operations, but also requires that the military be able to "..quickly shift from one type of operation to another."[15] An implication of these requirements is that military forces should be armed and equipped to fight or operate across the full spectrum of conflict. It also implies that military forces be well trained in operations across the full spectrum of conflict. Being well trained is how a military force gains the agility needed to rapidly shift from one type of operation to another. This training should not only be in how to conduct the broad range of operations, but also should involve training with all of the different units involved to develop the habitual relationships required during the actual conduct of operations.

Another characteristic of superior military forces derived from the NMS is that U.S. military forces must be lethal. The NMS specifically states: "In situations such as a Major Theater War (MTW), the Armed Forces must be able

to gain the initiative quickly. Our forces must have the capability to halt an enemy; immediately initiate operations that further reduce his capability to fight; and mount decisive operations to ensure we defeat him and accomplish our objectives."[16] The lethality envisioned by the NMS will be achieved by leaders integrating the elements of combat power to achieve a decisive overmatch in combat power over the prospective enemy. Combat power is the ability to fight and results from the combination of maneuver, firepower, protection, and leadership. The effective application of these elements will decide the outcome of campaigns, major operations, battles, and engagements.[17] Another dimension of the NMS requirement of lethality is that it requires decisive combat power to be applied quickly, both to halt him and then to rapidly defeat the enemy. This means that those military forces deployed early must be capable of generating decisive combat power immediately.

The NMS identifies power projection as a strategic concept that will govern the U.S. use of military force. Power projection is the ability to rapidly and effectively deploy and sustain U.S. forces in and from multiple dispersed locations. This concept allows the U.S. to act even when the U.S. has no permanent presence or infrastructure in the area.[18] This concept is an important facilitator of the NMS guidance to quickly halt and defeat an enemy. While much of the NMS guidance on this subject is directed at the strategic mobility assets owned by the other services, the intent of this concept encourages the Army to do everything that is possible to provide lethal forces that are also deployable.

The number of U.S. military forces available to respond to crises in 1999 are significantly fewer than those available during the cold war due to congressionally dictated downsizing. Despite this downsizing, many of the U.S.'s global security commitments remain the same and the NSS policy of engagement foretells that those forces still remaining will be used quite often. To allow a smaller force that is committed to many operations at dispersed locations to quickly halt and then defeat an enemy force, the NMS emphasizes the concept of strategic agility. The NMS defines strategic agility as "the timely concentration, employment, and sustainment of U.S. military power anywhere at our initiative, at a speed and tempo that our adversaries cannot match."[19] This concept allows a smaller force to be concentrated at a decisive location to achieve local superiority and maintain that superiority by conducting operations at a faster pace than the larger opponent can react to. In this way smaller U.S. military forces can succeed against the numerically superior forces they are likely to come up against. This concept is reliant on advancements in the revolution in military affairs (RMA). The RMA is the result of dramatic improvements in weapons and information systems technology.[20] These changes increase a force's lethality and should allow a smaller force that is thus equipped to defeat a larger force lacking these improvements. The Army is also using the concept of agility and tempo to find ways for our numerically smaller force to succeed against larger, future opponents through the concept of Force XXI.

FORCE XXI CHARACTERISTICS

The objective of the Force XXI initiative is to move the Army into the 21st Century capable of accomplishing the many missions specified in the NMS with the reduced force structure dictated by Congress. All Army forces will operate according to Force XXI doctrine, including the light infantry divisions. Force XXI doctrine and structure is important because it provides units with the lethality required by the NMS. Force XXI is designed to ensure that the U.S. Army is a complex, adaptive army that can defeat larger Infantry based or larger Armor-Mechanized armies. It does this by using improvements in weapon and information systems to amplify the effects of greater agility and tempo.

While some Force XXI operations are similar to what armies have been trying to do for ages, Force XXI does exhibit some unique characteristics. Some of these are modifications of previously held concepts while some are new and unique ideas. The characteristics of Force XXI are multi-dimensional operations, precision, non-linear operations, distributed operations, simultaneity, integration, and deliberate pattern of operations.[21] Precision, non-linear operations and integration are important concepts but are not related to the light division's lethality so they will not be discussed.

Force XXI operations are designed to be multi-dimensional. This characteristic is grounded in the concept of battlespace. Battlespace is traditionally defined as "the conceptual physical volume in which the commander seeks to dominate the enemy. It expands and contracts in relation to the commanders ability to acquire and engage the enemy."[22] Force XXI is designed

to operate in an expanded battlespace, which goes beyond the traditional physical dimensions of width, depth, and height. It also includes portions of the electromagnetic spectrum and extends beyond the physical boundaries of Force XXI units through their communications and digital connectivity to other army, joint, and coalition elements.[23] The commander's ability to engage and dominate the enemy is directly related to the range and effectiveness of his firepower assets and the speed and distance that his maneuver assets can move. Battlespace can't be controlled if a division lacks firepower and mobility.

Distributed operations also characterize Force XXI operations. Employment of emerging forces and capabilities will be executed throughout the depth, width, and height of our battlespace. These operations are distributed. Distributed operations are executed where and when required to achieve decisive effects instead of concentrated at a possibly decisive point. Distribution provides protection by allowing dispersment on a more lethal battlefield. Distribution also enhances agility by allowing greater flexibility to react to multiple changes in the situation.[24] Distributed operations are highly dependent on mobility. Mobility allows forces to move through-out the width and depth of the battlespace as well as permitting rapid dispersment. A division lacking mobility will have difficulty executing distributed operations.

Within the context of Force XXI operations simultaneity plays an important role. Simultaneous operations seize the initiative and present the enemy with multiple crises and no effective response. Digitization enhances the ability to plan, coordinate, and execute actions simultaneously. Each of these actions

creates an effect, the sum of which is greater than if they were discrete and sequential. Rather than a single concentrated attack, a series of attacks are executed as near-simultaneously as possible. For distributed operations to have a decisive effect, they must be conducted at a tempo and sequence that the enemy cannot endure. Upon indication of collapse, highly mobile forces exploit success by fires and maneuver to gain control and dominate the contested battlespace.[25] Simultaneous operations will not exist unless the forces executing them have mobility. If the light division lacks mobility it will have difficulty conducting simultaneous operations.

The final characteristic of Force XXI operations is Patterns of Operations. This means that Force XXI operations can be executed in a deliberate pattern of operations. These patterns are not necessarily phases nor are they required to be sequential, they are used to focus the many tasks required of the force. The patterns of operations are: project the force, protect the force, gain information dominance, shape the battle space, decisive operations, and sustain the force.[26] Projecting and sustaining the force are important patterns but will not be discussed further because they do not impact on a light divisions lethality.

Protecting the force is an ever present requirement. The capabilities inherent in Force XXI allow it to be done more efficiently. Common situational awareness allows early and accurate Intelligence Preparation of the Battlefield (IPB). IPB facilitates employment of security forces by signaling where a threat will appear, this keys the requirement for active security measures. Situational awareness also facilitates greater dispersion, which makes enemy targeting more

difficult. Deception inhibits enemy prediction of friendly actions, which promotes decisive operations and also protects the force. Another means of protecting the force is preemptive attack. Improved sensors, shooters and linkages enable the defeat of enemy attacks even before they occur.[27] Lethality is important to the concept of force protection. Mobility allows forces to disperse and firepower is required to conduct preemptive attacks. A division lacking the lethality provided by mobility and firepower jeopardizes it's ability to properly employ force protection.

Gaining information dominance "means creating a disparity between what we know about our battlespace and operations within it and what the enemy knows."[28] Army information operations (IO) are conducted within the context of joint IO, including PSYOPS and deception campaigns, as well as regular media operations. Successful IO results not only in eliminating enemy information capabilities, but also assists in providing greater clarity to battle command through improved situational awareness.[29]

Shaping the Battlespace is essential to setting the conditions for friendly success in decisive operations. Shaping the battlespace is more than traditional preparatory fires and deep battle. Rather, Force XXI forces set conditions in terms not only of what they do to the enemy, but also how they posture the friendly forces and take advantages of terrain, weather, and infrastructure. "The overall goal is to eliminate the enemy's capability to fight in a coherent manner before committing forces to decisive operations."[30] Shaping the battlespace starts with early, continuous, precise IPB. This facilitates joint and army fires,

even during early entry operations. IPB supports identification of the enemy main effort and other key assets. Fires strike to eliminate enemy critical capabilities while sensors locate and track the enemy main effort. Force XXI forces can not count on automatically shaping the battlespace as desired. Force XXI units must seek to create windows of advantage by setting conditions for decisive operations, evaluating the results, and then setting the conditions for another decisive action. These "windows of opportunity" must be planned, coordinated, and established in time and space for success.[31] Shaping the battlespace requires that divisions have the mobility to capitalize on these "windows of opportunity" and the firepower to strike critical enemy capabilities.

According to Training and Doctrine Command's (TRADOC) Land Combat in the 21st Century, decisive operations are those military operations that force the enemy to submit to our will.[32] Decisive operations require the precise integration and application of combat power and combat multipliers throughout the enemy's formation. These operations are conducted in depth and across all dimensions to rapidly destroy the enemy. Concurrently, by striking the enemy at multiple critical points in a sequence which appears to the enemy as a simultaneous action, will overload his ability to react. Overmatching situational awareness, as a product of digitization, yields more precise, effective, and efficient maneuver and fires. This awareness allows army elements to mass effects without the risk of massing forces. Information dominance enhances tactical surprise, which allows Force XXI units to fight when and where they choose. The final result of decisive operations is the destruction of the enemy's

means and will to fight.[33] The lethality provided by mobility and firepower is crucial to allowing divisions to conduct decisive operations. Overmatching situational awareness will be useless without the mobility and firepower to act upon it.

FORCE XXI BATTLE DYNAMICS

The emerging Force XXI "doctrine" known as battle dynamics provides the framework and understanding of Force XXI. Battle dynamics are operational manifestations of the Force XXI characteristics. The battle dynamics of Force XXI are battle command, battlespace, depth and simultaneous attack, early entry, and combat service support.[34] While all of these battle dynamics are important to Force XXI, the early entry and combat service support dynamics are outside the scope of this paper.

Battle command is the art of battle decision making and leading. It includes controlling operations and motivating soldiers and their organizations into action to accomplish missions. Battle command includes visualizing the current situation and a future state, then formulating concepts of operations to get from one to the other. It also includes assigning missions, prioritizing and allocating resources, selecting the critical time and place to act, and knowing when to make adjustments during the fight.[35] The Army's vision of Force XXI battle command is reflected in the Army Battle Command System (ABCS).[36]

ABCS uses information age technology to display real time friendly and enemy situations in a digitized image that can be displayed graphically in both mobile and heads-up displays. "This system permits commanders at every level

to share a common relevant picture of the battlefield scaled to their level of interest and tailored to their special needs."[37] This common picture will greatly enhance Force XXI dominance by enhancing situational awareness and ensuring rapid, clear communication of orders and intent, thereby reducing the confusion, fog, and friction of battle.

Advanced Army and joint intelligence systems that feed into ABCS will enable commanders to detect and track enemy forces throughout a given battlespace. Friendly force situational awareness will be brought about by the digitization of each weapons platform and individual soldiers so that commanders know where every fighting system is located on the battlefield. This enhanced situational awareness will build confidence and agility into the maneuver of both mounted and dismounted elements.[38] Enhanced situational awareness allows a commander to make decisions faster than his opponent. However, if a force lacks the mobility and firepower to execute these decisions, the commanders fast decision is meaningless.

Battlespace is closely related to the components of battle command. Force XXI units will be able to dominate an expanded battlespace by possessing the ability to be more lethal and survivable while operating at a tempo greater than any enemy. The keys to both lethality and tempo are mobility and firepower. If a division lacks mobility and firepower its ability to dominate its battlespace is severely limited and not in accordance with Force XXI doctrine.

Battlespace involves the ability to visualize the area of operations and the way that all forces interact. In the physical sense battle space is that volume

determined by the maximum capabilities of a unit to acquire and engage the enemy. Future technology will greatly enhance the capability to target enemy units by being able to see the actual locations of both friendly and enemy forces. Force XXI forces, operating at an operational tempo controlled by the commander within his battlespace, will use an expanded array of weapon systems to engage enemy forces at greater distances and with increased accuracy. Based on enhanced situational awareness through ABCS, the operating tempo of these forces must be such that they will be able to outpace any adversary in both mounted and dismounted warfighting environments.[39] Excellent mobility is required to provide the speed needed to outpace any adversary and long range firepower systems are required engage the enemy at great distances. The light division lacking these systems significantly hinder its ability to dominate battlespace.

This expanded battlespace will also permit simultaneous engagement by a variety of joint warfighting systems available to the future task force commander. Battlespace expansion will achieve several advantages over the enemy. First through a variety of reconnaissance systems the enemy will be identified, disrupted, or destroyed before they can effectively engage friendly forces. Second, friendly force vulnerabilities are reduced through increased dispersion. This dispersion will provide friendly forces the protection inherent with dispersion, but allow friendly forces to mass when required. This ensures that force massing can be done rapidly and in varying combinations of combat, combat support, and combat service support. Finally, battlespace expansion will allow friendly forces to

conduct maneuver by use of both fires and rapid physical mass or dispersion of ground forces to sense and dominate a greater battlespace. These advantages will allow army units to achieve a maneuver force overmatch. This overmatch will allow the Force XXI organization to achieve battlespace domination when coupled with high tempo all weather, air-land continuous operations.[40] A light division lacking mobility will have great difficulty rapidly massing or dispersing.

Domination of the extended battlespace is inherent with Force XXI operations but requires deep and simultaneous attack capabilities. Depth and simultaneous attack enable the commander to directly influence the enemy through-out the width, height, and depth of his battlespace to rapidly defeat an enemy. Although these attacks may not achieve a simultaneity in application, they must appear seamless and nearly simultaneous in effect. Depth and simultaneous attack can be conducted by a wide variety of assets. These will include air, army aviation, ground maneuver units, precision fires, psychological operations, information operations, and special operations forces. Successful depth and simultaneous attack operations will place increased demands on intelligence systems. The intelligence systems sensors will have to be capable of sensing, locating, and identifying targets and after attack, assessing the damage.[41] Depth and simultaneous attack requires firepower assets that can deliver fires through-out the depth of the enemy's formation and maneuver forces that have the mobility to conduct near simultaneous operations.

An important concept that underlies all of Force XXI doctrine is tempo. Reduced force structure has resulted in greater emphasis being placed on tempo

during Force XXI development. The Army is required to get more combat effectiveness out of every unit that exists under Force XXI. By emphasizing tempo, the Army expects that the fewer and smaller units that exist under Force XXI will be engaged at a faster pace and this increased pace will help negate the loss of force structure.

The idea of using tempo to attain advantage in offensive operations is not new. The 1993 version of FM 100-5 identified it as a characteristic of the offense and defined it as "the rate of military action: controlling or altering that rate is a necessary means to initiative; all military operations alternate between action and pauses as opposing forces battle one another and fight friction to mount and execute operations at the time and place of their choosing."[42] FM 100-5 further states: "Commanders seek a tempo that maintains relentless pressure on the enemy to prevent him from recovering from the shock and effects of the attack."[43] In Chapter 7, FM 100-5 refines the definition of Tempo as a "combination of speed and mass that creates pressure on the enemy".[44] Tempo exists as a factor at all levels of war.

Upcoming doctrine clearly recognizes that tempo is required for decisive operations. The 1998 Draft version of FM 100-5 states that "Decisive operations require that Army forces operate at higher tempos than their opponents. Speed promotes surprise and can compensate for lack of mass."[45] Later FM 100-5 emphasizes the importance of tempo against a quality opponent when it states "Although a first class opponent with high morale and good leadership can maintain cohesion if destruction occurs gradually through attrition, his force may

collapse from sudden, accelerating catastrophic losses and relentless pressure thereafter."[46]

Increased tempo is derived from exploiting the initiative. The 1998 Draft version of FM 100-5 also states: "To win, the commander must seize, retain, and exploit the initiative by; maneuvering more rapidly than the enemy to gain positional advantage over the enemy, employing firepower to facilitate and exploit positional advantage, and being able to persist and exploit, assuring the sustainment of friendly forces before, during, and after the engagement with the enemy."[47] Maneuvering rapidly requires mobility and a light division lacking it will have a difficulty opperating at an increased tempo.

The improved information technologies embodied in Force XXI equipment like the ABCS and UAVs provide the information needed to exploit tempo by providing improved situational awareness. Better intelligence, shared among all elements through ABCS, allow commanders to control and vary tempo based on their superior knowledge of the friendly situation and with improved logistics asset visibility greatly enhances Force XXI units.[48] While ABCS and UAV's will provide the information required to exploit tempo it's useless unless a division has the mobility assets to rapidly move maneuver assets over extended distances and the firepower needed to provide destructive effect.

The future security environment will be a turbulent one filled with many regional crises across the full range of military operations. In these crises, the U.S. will be confronted by lethal regional opponents who are following their own national self interests. The U.S. policy of engagement ensures that the U.S. will

be involved in these regional conflicts. The NSS and the NMS require our military forces to be able to operate across the full spectrum of military conflict to MTW's where they must be capable of "gaining the initiative quickly".[49] Force XXI is the Army's method of meeting the NMS requirement for lethal forces while staying within the force structure constraints imposed by congress. The U.S. Army light divisions are a major portion of active Army force structure and as such must be able operate across the full spectrum of conflict in addition to operating according to Force XXI doctrine. Before a judgment can be rendered, the organization and capabilities of the current light division needs to be examined.

Chapter 3

THE LIGHT DIVISION

FOUNDING GUIDANCE

To understand the light infantry division's current capabilities it's useful to understand why it was created. In 1984 the Army began the process of building four light divisions in the active army. The 7th and 25th Infantry Divisions were converted from regular Infantry Divisions to light Infantry Divisions and the 6th and 10th infantry divisions (light) were created.

In the early 1980's Department of Defense (DOD) and Congressional leaders recognized that the probability of conflict in areas outside western Europe and the Korean peninsula was increasing. This concern influenced lawmakers to favor service programs that emphasized contingency operations and these programs received increased funding levels. To address the concern over contingency operations, two consecutive Chiefs of Staff of the Army (CSA), General Meyer and General Wickham, directed that the Army develop a proposed light infantry division force structure. The end result of this process was an approved light infantry division structure of 10,000+ men.[50]

General Wickham provided the guidance for the light infantry division structure that was finally adopted. General Wickham's guidance was influenced by the lack of strategic mobility. This concern was a major reason for developing the Army Of Excellence (AOE) light divisions, which contained the constraint that the new light division had to be capable of moving on 500 C-141 sorties.[51]

Strategic mobility is "the capability to deploy and sustain military forces worldwide in support of national strategy.[52]"The ability to move on 500 C-141 sorties was viewed as providing the light divisions with improved strategic mobility. Among the changes needed to give the light divisions the improved strategic mobility was: a significant reduction in the number of ground vehicles, reducing the caliber and number of artillery systems, number of anti-tank systems, and reducing the division's support command[53].

General Wickham's vision of the new light division was expressed in his 1984 White Paper:

> This 10,000+ man force will have greater tooth-to-tail ratio than any of our other Army divisions and will be deployable worldwide three times faster than existing infantry divisions. It will be an offensively oriented, highly responsive division organized for a wide range of missions worldwide, particularly where close fighting terrain exists.[54]

The light infantry divisions were designed to be capable of operating across the broad spectrum of conflict, but focused toward low intensity conflict. They were also to be designed to maximize their combat power through the use terrain, particularly close and urban terrain.[55]

While these divisions were to focus training on low intensity conflict, they had to be capable of operating in mid and high intensity conflict. As a result of their reduced size and structure, these new divisions were designed to "be capable of rapidly reinforcing forward deployed US Forces in NATO or the Far East."[56] Strategic mobility was also supposed to give the light divisions the ability "to arrive in a crisis area before a conflict begins."[57] By arriving in a potential

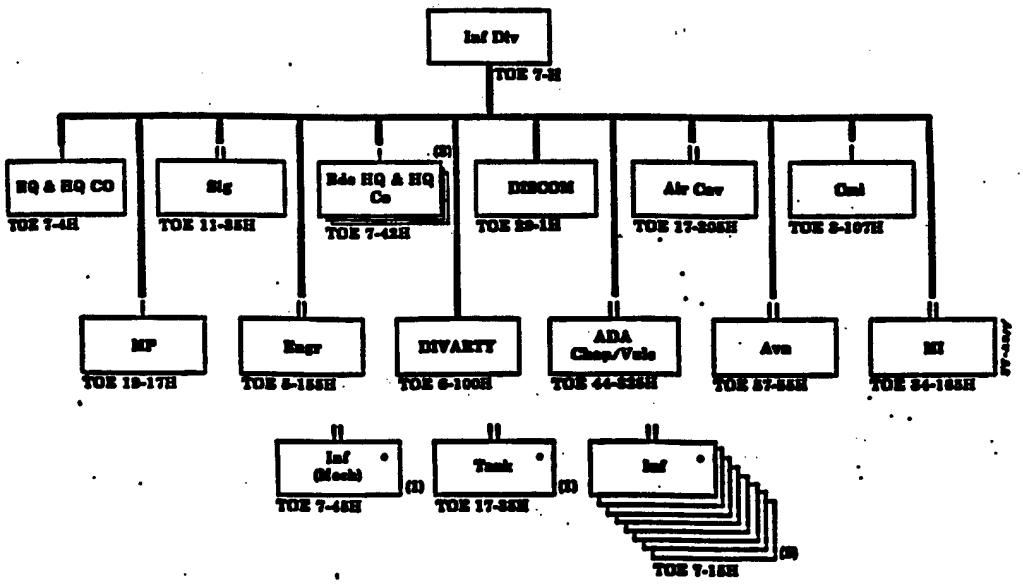
crisis spot early the light division demonstrated U.S. resolve and acted as a deterrent. For this deterrent to be effective and credible it was recognized that the "light infantry divisions must be able to fight—anytime, anywhere, and against any opponent."[58]

The light divisions were not intended to operate in mid and high intensity conflicts without augmentation. "In mid to high intensity scenarios such as Southwest Asia or NATO, light infantry forces may be augmented with tailored Corps units to strengthen their combat power and sustainability."[59] The guidance provided to determine the combat support (CS) and combat service support (CSS) structure for the new divisions was restrictive. Only those assets that would be needed every day, across the full spectrum of conflict, and in all types of terrain were included in the light divisions structure. Those CS and CSS assets that didn't meet that criteria were placed in the division's parent Corps headquarters.[60] This guidance resulted in a very austere structure that required augmentation in almost all situations. This augmentation, required of the new light divisions, differed drastically from the H-series infantry division it replaced.

THE H-SERIES INFANTRY DIVISION

In 1984, the U.S. Army had three infantry divisions organized under the H-series table of organization and equipment (TOE). These were the 7th Infantry Division at Fort Ord, the 25th Infantry Division in Hawaii, and the 2d Infantry Division in Korea.[61] The H-series TOE these divisions were structured under is depicted below:

INFANTRY DIVISION



This was a very versatile division organization with substantial firepower and mobility. Not only did this division structure have both a tank battalion and a mechanized infantry battalion, it also had three battalions of direct support 155mm towed artillery, and a GS artillery battalion of 155mm towed and 203mm self propelled artillery. The infantry battalions were both more lethal and more mobile. These battalions had significant indirect firepower with 107mm mortars at battalion and 81mm mortars at company level. The anti-tank capability was provided by twelve TOW anti-tank missile systems at battalion and two TOW systems in each company. Additionally, each line company had nine Dragon anti-tank missile systems.

These battalions were designed primarily to fight and move on foot. However, wheeled vehicles were present at company, battalion, and division level to speed movement by reducing the soldiers load by carrying equipment and if required, could move limited numbers of troops without seriously impairing their

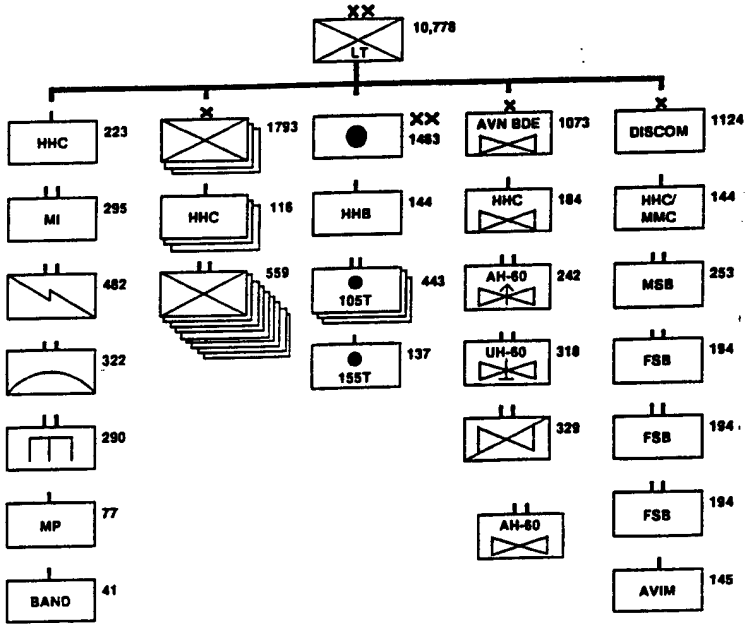
ability to logistically sustain themselves.[62] After 1985, when light infantry divisions began to deploy on actual contingencies, most of the combat, CS, and CSS "plugs" they received already existed in the H-series infantry divisions. After augmentation, the light division looked very much like the H-series infantry divisions, except they lacked the increased combat advantage that accrues to units that have trained together.

THE CURRENT LIGHT DIVISION

The current light infantry division is structured like the unit envisioned in General Wickham's 1984 White Paper. The light infantry divisions mission statement is:

> "to close with and destroy the enemy as well as to control land areas, including population and resources. These divisions make optimum use of offensive, decentralized, irregular-type operations by highly trained small units. Infantry divisions are austere and capable of conducting independent operations for only 48 hours. They are expert in urban warfare, jungle warfare, and infiltration operations and can kill enemy armored vehicles on any battlefield."[63]

To accomplish this mission the light division has the following structure:



This force structure is very austere because it lacks both organic mobility and firepower. The organization chart may not fully highlight how austere it's structure really is. The infantry companies are entirely foot mobile and have no organic vehicles. The infantry battalion has only slightly better mobility. It has thirty-five HMMWVs, but their primary missions are moving supplies, command and control, or as weapons platforms, not as troop transports. The dispositions of the battalions HMMWV's are two dedicated to BN HQ, six to the anti-tank platoon, six to the medical platoon, eight to the mortar platoon, one to the communications platoon, and twelve to the support platoon. The twelve HMMWVs in the support platoon are primarily dedicated to moving equipment, supplies, and ammunition.[64] If required, these vehicles can be used to move troops, but this is at the expense of moving required supplies. Each HMMWV can carry a maximum of nine soldiers, for a total of 108; this is less than the strength of one rifle company.

The infantry brigade has some organic transportation assets, but it has the same predicament that the battalion support platoons have. The brigade has ten 5-ton trucks but these are also dedicated to moving supplies, equipment, and ammunition. If required to move troops, each 5-ton truck can carry twenty-four troops for a total hauling capacity of 240 troops, this is less than two companies out of the brigade.[65]

The situation is similar at division level. The division support command (DISCOM) has the capability to move one infantry battalion with its transportation motor transport company when it is not required to move supplies, its normal

mission.[66] The light division also has a limited transportation capability with its assault aviation battalion. This battalion has two lift companies with a total of thirty UH-60 blackhawks. Each UH-60 is capable of carrying approximately twenty soldiers under war time conditions, which means this battalion has a total haul capacity of 600 soldiers, this is approximately one infantry battalion per lift.[67] More than one battalion a day could be moved if the aviation battalion can make multiple lifts. Multiple lifts would depend on a variety of factors, including the distance to the landing zone and crew rest.

The light division can only move one infantry battalion faster than four kilometers an hour by using it's assault aviation battalion. All other vehicular assets are required for logistics resupply, a capability that is already austere in the light divisions. The lack of mobility that can be provided by ground or air vehicles limits the pace of movement to an objective, repositioning, or exploitation to four kilometers an hour.[68] The total distance covered by these foot mobile infantrymen in one day is also limited by the lack of vehicle support to a total of approximately twenty to thirty kilometers for all operations conducted in a day.[69]

These movement capabilities are based on using organic divisional assets. The 1984 White Paper envisioned that the corps would provide needed aviation and/or wheeled vehicle assets to improve the mobility of the light division. However, these assets are intended to support all of the units in the corps. Augmentation is normally provided on a mission by mission basis, not by permanent attachment. Corps level assets can not normally establish habitual

support relationships and difficulties occur because they are not accustomed to training and working with the light division.

Mobility isn't the only thing lacking in the light division. Firepower is also severely limited. The light division's division artillery (DIVARTY) has three battalions of 105mm howitzers and a battery of towed 155mm howitzers. That gives it a grand total of fifty-four 105mm howitzers and eight 155mm howitzers.[70] These artillery assets provide substantially less firepower than the four 155mm howitzer battalions and one battery of eight inch howitzers that were available in the H-series infantry divisions. The situation is similar in the light divisions infantry battalions. Each battalion has four 81mm mortars and six 60mm mortars for indirect fire support.[71] This is in contrast to four 107mm mortars and nine 81mm mortars in the H-series divisions. Additionally, each battalion has four TOW and eighteen Dragons or Javelins for anti-tank firepower.[72] This again is less than the H-series battalion, which had eighteen TOWS and twenty-seven Dragons for a much greater anti-tank punch. The light division does have one attack helicopter battalion equipped with AH-58 attack helicopters. While these helicopters are capable aircraft that are easy to deploy, they have nothing in the way of firepower compared to the AH-64 or the AH-1 Cobra they replaced.

LIGHT INFANTRY DIVISION HISTORICAL PERFORMANCE

History shows that the light infantry divisions haven't met the criteria of multi-mission capability and lethality from WWII to present. The creation of the light divisions in the mid-eighties was not the first experience the U.S. Army had

with light infantry divisions. In 1942 the Army had concerns over the availability of strategic transportation assets and began looking at the possibility of creating light infantry divisions to ease this problem.[73] These divisions were to have an established strength of approximately 10,000, require minimal logistical support, have the capability for augmentation, and be rapidly deployable.[74] In 1943, the creation of three light divisions was authorized. The 71st and 89th Light Divisions were activated and underwent extensive evaluation for eight months.[75] The results were not positive. The divisions reported that they did not have sufficient communications equipment, vehicular transportation, or reconnaissance elements and that the engineer battalion was inadequate.[76] During exercises it was discovered that the divisions could not support themselves in rough or difficult terrain and were incapable of sustaining offensive operations.[77] These findings caused the senior evaluator, MG J. Milliken, to state: "...the light division, both motor and pack, are not properly organized and equipped ...(and) should be returned to a standard division."[78] Based on the results of this evaluation the 71st and 89th divisions were reorganized into regular infantry divisions before being deployed into combat. The 10th(mountain) division had it's end strength increased to 14,000 men and had 6,000 mules added to its structure before it deployed to fight in Italy.[79] Despite these additions, it remained essentially a light division in terms of mobility and firepower. This lack of mobility and firepower is one of the reasons used to explain why the 10th (mountain) division suffered a brutal 992 killed and 4,154 wounded in only four months of combat

Since the Light Divisions were created in 1985 they have been used in both combat operations and operations other than war. In 1989, the 7th Infantry Division(Light) participated in Operation Just Cause. In Just Cause, elements of the 7th ID were initially deployed to Panama in an effort to demonstrate U.S. resolve and deter aggression. When deterrence failed, the 7th ID attacked other light infantry forces in urban and jungle environments. This was the near textbook situation envisioned for the use of light divisions, but even here there was a demonstrated lack of mobility and protected firepower. The remainder of the division deployed from Fort Ord but was forced to deploy in a very constrained strategic air flow. This constrained airflow allowed for only ten vehicles per battalion (BN) to be deployed, this is twenty-five less than the units are authorized.[80] However, the 7th Infantry Division (ID) was able to successfully accomplish all its assigned missions. This was despite the inherent air lift restrictions and lack of ground vehicle transportation. Two factors that were unique to Operation Just Cause facilitated this. The first factor was that the elements of the 7th ID already in Panama conducted their initial assaults against close-in targets, this required limited mobility assets to arrive at the objectives. The second factor was that the combat operations conducted by 7th ID after the initial assaults were conducted using air assaults supported by the consolidated aviation task force.[81] This aviation task force had three times the lift aviation assets normally available to the light infantry division in it's organic structure.[82] This robust aviation support wasn't always adequate enough to meet all of the 7th ID's mobility requirements and the unit resorted to using commercial or

confiscated vehicles to improve their ground mobility. The M113 Armored Personnel Carriers and M551 Sheridan tanks of the 5th ID (mech) and the 82d ABN augmented the light forces and were invaluable as both troop carriers and weapons platforms and were in constant demand.[83] These systems were invaluable in compensating for a lack of firepower.

Shortly after Operation Just Cause, the U.S Army was involved in Operation Desert Shield/Storm. Faced with constrained airlift and the requirement to get forces on the ground quickly, the Army did not deploy the 7th or the 10th ID. The 82d Airborne Division was deployed on Operation Desert Storm and although it required more time to deploy, it possessed more organic firepower (particularly anti-tank) and greater mobility than a light division. The light divisions lack of mobility and firepower translated to a lack of lethality and was why no light division deployed to Desert Storm. Despite having more fire power and mobility than a light division, the 82d has much less firepower and mobility than a mechanized division. As a result of this, the 82d was relegated to a secondary role in Operation Desert Storm.[84]

Following Desert Storm, the Army deployed 3rd Battalion, 325th (Airborne) from it's base in Italy for Operation Provide Comfort. This operation assisted Kurdish refugees by conducting relief operations and providing security. The 3-325 IN was required to established a security zone while simultaneously conducting peacekeeping and humanitarian assistance operations. The 3-325 was successful because it possessed the required tactical mobility in it's existing TOE. The 3-325 IN is a separate airborne battalion and has over 150 wheeled

vehicles to provide ground transportation.[85] This substantial organic tactical mobility was essential to accomplishing their varied mission. Having these vehicles organic to the organization provided several advantages. First, it ensured that 3-325 IN already possessed trained vehicle operators and second, that the unit was proficient in mounted and convoy operations. [86] This allowed the battalion to focus its predeployment training on skills unique to the area and the operation. Because he believed that future peacekeeping operations would be similar to Operation Provide Comfort, the battalion commander of 3-325 IN emphasized that "U.S. forces heading for peacekeeping duties must have adequate tactical mobility to operate in the large, often remote sectors that so often characterize such areas."[87] A light infantry division would be unable to execute this same mission with-out significant augmentation and a lengthy train-up. The light infantry division's inability to execute this mission demonstrates it's complete lack of multi-mission capability and begs the question where on the spectrum of conflict they can operate because this operation was an OOTW operation that was towards the lower end of the spectrum of conflict.

While airborne units were used in Desert Storm and Provide Comfort, the Army deployed a true light division for Operation Restore Hope/UNOSOM II and demonstrated the problems that result from a lack of lethality. The 10th Mountain Division went to Somalia and executed both peacekeeping and humanitarian operations. Conditions similar to those encountered during Operation Provide Comfort were also present in Somalia. The environment presented large and remote areas of operation, long distances between units, with requirements to

move equipment and supplies long distances in convoys, and the need to find and monitor possible mounted threats ("technicals").[88] These missions required enhanced tactical mobility. The 10th Mountain Division units were augmented with HMMWVs, and up to two truck platoons per light battalion.[89] While the light forces were able to accomplish all of their missions in Somalia with wheeled vehicles, some problems were identified with self protection. The wheeled vehicles proved to be very vulnerable and provided little protection to occupants during urban operations. This was particularly true during the rescue and recovery operations conducted 3-4 October 1993 in support of the Ranger company and downed Blackhawk helicopter where many casualties were taken by unprotected passengers in HMMWVs and trucks. Wheeled vehicles also proved to be very vulnerable to mines. In three mine incidents involving HMMWVs, 92% of the passengers became casualties, half of them fatal.[90] Armored vehicles with their inherent mobility and firepower could have reduced casualties and potentially averted a strategic defeat for the U.S.A.

Operation Uphold Democracy found the 10th Mountain Division deployed to Haiti. Once again this mission required tactical mobility and the mission requirements of this operation stressed the tactical mobility of light forces. In this operation HMMWVs and 5 ton trucks were used to provide mobility. This time, however, the 10th ID infantry battalions had sufficient HMMWVs. This was accomplished by redistributing air defense and artillery HMMWVs to the infantry.[91] Because these assets came from within the division, the units were able to train on mounted operations and convoy procedures before deployment,

an experience which greatly improved the conduct of operations in Haiti.[92] The added wheeled vehicles provided the required tactical mobility and allowed the unit to accomplish all of its missions. However, there were problems because the cargo HMMWV's provided no troop protection. In working with the Marines in Haiti, the 10th ID found the Light Armored Vehicle (LAV) to be very versatile providing both protected tactical mobility and intimidating street mobs.[93]

All of the historical examples sited highlight the fact that light infantry divisions have required additional augmentation every time they have conducted operations. Much of this augmentation was required to correct a significant mobility or firepower shortfall.

Equipment changes for light units

Most of the improved weaponry and equipment currently being fielded or developed for light infantry is focused at either improving the light infantry's lethality or command and control capability. The new systems being fielded or developed include the following:

JAVELIN: This new anti-tank missile is currently being fielded as a replacement for the Dragon. It is a fire and forget, exceptionally accurate weapon system with a 2,000 meter range that can defeat all known armor. While this new missile is more capable than the dragon, it is not lighter. Javelin weighs in at 49.2 pounds, heavier than the Dragon.[94]

M240B Machine Gun (MG): This machine gun is currently replacing the venerable M60 MG. The M240B provides nine times the reliability with the same

lethal, penetrating, and extended range ammunition. However, the new weapon weighs four pounds more than the M60.[95]

Land Warrior: This system consists of an Intrgrated Helmet Assembly Subsystem, Software Subsystem, Computer/Radio Subsystem, Weapon Subsystem, and Protective Clothing and Individual Equipment Subsystem. The system will give each soldier the capability for global positioning, radio communications, computer memory, and improved situational awareness. While this system will provide improved lethality and better situational awareness, it also significantly increases the individual soldiers load. This imposes a greater resupply requirement on a very austere resupply system without providing any additional resources. Currently the backpack, which includes the computer, Global Positioning System, radio, and batteries, adds an additional eight pounds to every infantryman. The new Objective Individual Combat Weapon will weigh approximately 14.1 pounds, 5.4 pounds heavier than the M16A2.[96] Other systems continue to increase the weight infantrymen will have to carry. This additional weight serves to degrade the mobility of the light infantryman, leaving him less mobile than the soldiers of an adaptive army. The soldiers of an adaptive army know the precise location of the opponents position and can quickly move to that location before the enemy can properly react.

Chapter 4

ANALYSIS

The NSS imperative of engagement is the U.S. government's overarching method to address the changing world environment found in 1999. 1999's world environment is very different from that which existed before the end of the cold war. Intra and inter-state conflict are on the rise because super power's no longer contain the rise of religious, cultural, and economic differences that have arisen in 1999. Nations are prone to follow their own national interests rather than collective interests or high minded principles because of the lack of a single threat.[97] This form of nationalism not only makes the probability of conflict between states greater, but also makes it more difficult to build coalitions against regional powers that are threatening U.S. interests.

1999 also finds many regional powers having increasing access to wealth because of improved global economies. This increased wealth and access to technology is giving them a much greater military capability.[98] Better armed regional powers mean that U.S. forces deployed against them, particularly early deploying forces, will need to have an even greater military capability.

Technology is also leaping ahead in 1999. Improved weapons technology has made new weapons more lethal and information technology can greatly increase the volume, accuracy and speed of information made available to battlefield commanders.[99] Improvements in these areas can help offset the numerical disadvantage that may confront U.S. forces. This is a distinct

possibility, particularly for early deploying U.S. forces because of the downsizing of U.S. forces since the end of the cold war.

The policy of engagement means that the U.S. will continue to exert leadership in world affairs.[100] This involvement means that the U.S. will be involved in the many conflicts from OOTW to war that are part of 1999's environment. This policy will require the use of a smaller U.S. military in opposition to regional powers that are better armed now than ever.

To support the NSS policy of engagement, the NMS directs the military services to have forces that are multi-mission capable.[101] This characteristic is important because the NMS realizes that the policy of engagement will involve the U.S. military in many different OOTW scenarios or wars and that the military forces available are much smaller than during the cold war. This means that all military forces must be capable of operations in both OOTW environments and full scale war. Given the small number of U.S. forces available, no one force can be allowed to specialize in only one form of operation at the exclusion of all others. The army can no longer afford to maintain an "Army of Armies"[102] in which forces are designed to specialize in one only level of war. The Army embraces this concept in the tenant of versatility. Versatility is the ability of units to meet diverse mission requirements and for commanders to shift focus, tailor forces, and move from one form or type of operation to another rapidly and efficiently. It is also the ability to be multi-functional and to operate across the full range of military operations.[103] This would suggest that light infantry divisions must be capable of operating across the full spectrum of conflict.

While General John A. Wickham stated that the light infantry divisions "must be able to fight –anytime, anywhere, and against any opponent"[104], they were designed to be optimally employed in low intensity conflict. It was recognized that if they were to be employed in mid- to high intensity conflict the light infantry divisions would have to be augmented with Corps level assets to strengthen their combat power and sustainability.[105] In practice, the light infantry divisions have required augmentation every time they have been committed to OOTW or combat operations. OOTW operations and in particular peacekeeping, have proven that greater mobility is required than exists in the light division and has resulted in the light divisions augmentation with additional transportation assets. This is due to the large and often remote sectors that peacekeeping forces are required to control and operate in.[106] Light divisions have also required augmentation for combat operations in a low intensity environment. 7th ID requirement for support from the consolidated aviation task force and 10th Mountain's augmentation in Somalia are evidence of this.

The need to augment light infantry divisions for every operation they undertake degrades their ability to comply with the Army tenant of versatility. The definition of versatility requires forces to "move from one form or type of operation to another rapidly and efficiently".[107] This is difficult to do when your force requires augmentation with forces that you have no habitual relationship with. Gaining units that are new to an organization usually requires additional training to incorporate them into the organization and to train the organization how to

properly work with the new organization. All of this takes time and does not assist in meeting the rapidly and efficiently requirement of versatility.

The NMS concept of strategic agility is dependent on the ability to deploy military power world wide at a speed and tempo that our adversaries can not match.[108] The light division was designed to ease the problem of deployment by making the light division deployable in 500 C-141 lifts.[109] This, however, has never happened because light divisions have always required augmentation and augmentation increases the number of sorties required to move the division. While the light division may assist in meeting goal of increased mobility on paper, in actuality when it is augmented to the level required to make it a viable force for modern contingencies, it looks very much like the H-series division it replaced with similar deployment characteristics.

The NMS requires that the Armed Forces "must be able to gain the initiative quickly. Our forces must have the capability to halt an enemy; immediately initiate operations that further reduce his capability to fight; and mount decisive operations to ensure we defeat him and accomplish our objectives."[110] This is accomplished by combining the elements of combat power to achieve a decisive overmatch over the enemy. The elements of combat power are maneuver, firepower, protection, and leadership. For the purpose of brevity this paper only addresses the light divisions ability to achieve overmatches in maneuver and firepower. "Maneuver is the movement of combat forces to gain positional advantage, usually in order to deliver or threaten delivery of direct and

indirect fires."[111] Movement is based on tactical mobility and will serve as the measure of effectiveness for maneuver. The light infantry division can move only one infantry battalion at a pace faster than a walking infantry man by using its organic helicopter battalion.[112] All other infantry battalions are limited to a speed of approximately four kilometers an hour and a maximum distance per day of twenty kilometers.[113] This means that the light infantry division lacks the tactical mobility needed to achieve a maneuver overmatch over a prospective opponent. Many regional powers are using new found economic wealth to improve their military forces to include their mobility. Even infantry based armies in third world countries may have the same or even greater mobility than a light infantry division. This is because these armies have some vehicles organic to their army, they will have access to the civilian vehicles that exist in their country, and they will have prior knowledge of the terrain.

Mobility is also extremely important to in the generation of tempo and tempo is central to Force XXI operations. Force XXI places a premium on tempo because it allows a smaller force to defeat an overall numerically superior force by attacking smaller parts of the larger enemy at a pace faster than the enemy can react to. In this manner the enemy can be defeated in detail before he can react and concentrate superior forces. To operate at a tempo faster than the enemy, Force XXI forces require enhanced situational awareness provided by the detailed knowledge of friendly and enemy dispositions and the tactical mobility to physically move based on this situational awareness. The ABCS and Land Warrior systems will provide situational awareness needed to operate at an

increased tempo. However, none of the projected equipment additions for light infantry divisions will do anything to improve tactical mobility. In fact, the Land Warrior system could actually impede tactical mobility because of the increase in weight it adds to the soldiers load. The Land Warrior system itself adds an additional 13.5 pounds to every infantryman's load. Additional weight will also be added to the infantry company's load because while the Javelin anti-tank system and the M240B machine gun are excellent weapons systems, they are also heavier than the weapons they replaced and there has been nothing added to the infantry division to help manage this added weight.[114] The net result is that the infantryman could actually be slower and travel less distance than before these equipment changes, despite having near perfect situational awareness. The impact on tempo is that while decision making may be more rapid, the ability to actually execute will not be improved. With-out an improvement in tactical mobility, the infantry division can not operate at the tempo required for Force XXI operations.

Firepower is another element of combat power that is essential to meet the NMS guidance that directs that our forces "must be able to gain the initiative quickly. Our forces must have the capability to halt an enemy; immediately initiate operations that further reduce his capability to fight; and mount decisive operations to ensure we defeat him and accomplish our objectives."[115] Firepower provides destructive force and is the amount of fire that may be delivered by a position, unit or weapon system. [116] Some of the recent equipment changes occurring in light infantry divisions are improving the light divisions ability to

deliver firepower in the close fight. The addition of the Javelin anti-tank system greatly improves the divisions anti-tank capability and the addition of the M240B gives the division a much more reliable system to provide long range automatic small arms fire. While the light division's ability to deliver firepower in the close fight has improved, nothing has been done to improve its ability to deliver fire in depth. This is an important consideration because one of the battle dynamics of Force XXI is depth and simultaneous attack. This dynamic seeks to conduct multiple simultaneous attacks throughout the entire depth of the enemy's battle space.[117] Its goal is to overload the enemy's ability to cope by presenting an overwhelming number of actions throughout the depth of the battlefield.[118] The light division's ability to apply firepower in depth or to conduct deep attacks is limited. The light division has only three battalions of 105mm artillery and a battery of 155mm artillery. This amount and caliber of artillery pales in comparison to that which is available to a U.S. heavy division or what was available to an old H-series infantry division. It is also inferior to that which is available to most regional powers. Even the oldest and smallest ex-soviet artillery piece these regional powers could employ, the D-30, exceeds the range and projectile weight of all the light division artillery except for the 155mm battery. Additionally, the light division has only one battalion of AH-58D Kiowa warrior helicopters available for deep attacks. While this helicopter is more deployable, it has less range and has less ordnance than the AH-64. With all of these limitations, it will be difficult for the light infantry division to operate according to the Force XXI dynamic of depth and simultaneous attack.

Chapter 5

Conclusion

This paper has addressed the question: Can the current light infantry division meet the ground security needs of the United States of America? The answer is clearly no, not with it's current structure.

The future security environment will be one in which there are many conflicts that will involve well armed regional powers. These conflicts will range the full spectrum of conflict from humanitarian relief operations to major theater wars. The U.S. policy of engagement means that the U.S. will be involved in many of these conflicts. This involvement will pit a smaller U.S. military against regional powers that are becoming increasingly better armed. As a prescription for success in this environment, the NSS and the NMS require the U.S. military to be multi-mission capable [119] and lethal.[120]

The light division fails to meet either of these requirements. Its lack of combat power significantly degrades both its versatility and its lethality. The lack of combat power is the result of deficiencies in mobility and firepower. Mobility suffers because the light division is only able to move one infantry battalion at a pace faster than four kilometers an hour using its helicopter assets.[121] Firepower is deficient because of a lack of firepower assets that can attack the enemy in depth. This lack of combat power makes it practically impossible for a pure light division to operate at the higher end of the spectrum of conflict and even difficult to operate in low intensity conflict.

It's clear that changes must be made to the light infantry division if it's to be a credible force in the future, and with downsizing, all forces must be credible across the full spectrum of conflict. One way to make the light infantry division relevant in the future is to revert to the old H-series infantry division structure but with today's weapons. This would improve mobility by providing the division commander with an armor battalion and a mechanized infantry battalion. It would put the pace of operations above four kilometers an hour and facilitate an increased tempo past initial objectives and expands the battlespace that that the division can control. Mobility would also be improved at the infantry battalion and company level because organic truck assets would exist that could carry excess equipment, ammunition, and weapons that are not needed for the mission at hand and there by reduce the soldier's load. Reducing the soldiers load increase his speed of movement, increase the distance he can travel in a day, and permit an overall increase in tempo. These changes would also unleash the full potential of the land warrior system by permitting increased situational awareness while not over burdening the individual soldier with uneeded weight.

The H-series TOE would also improve firepower by substituting 155mm M198 howitzers for the 105mm howitzers currently in DIVARTY's three artillery battalions and adding an MLRS battery. These changes would not only provide needed firepower for the close fight, but would also begin providing the light division the ability to have an actual deep fight. The armor battalion, mechanized infantry battalion, and an added anti-tank company in each infantry battalion equipped with an additional twelve TOWS would provide significant anti-tank

firepower. This level of anti-tank firepower would enable a light division to actually perform the "hold" mission that early arriving forces are required to perform. It would also allow the light infantry division to be a true partner with heavy divisions and actually perform economy force missions to allow the heavy divisions to be utilized for decisive operations elsewhere. While changing to a modern H-series TOE wouldn't add any more attack helicopter battalions to the light infantry division, it would change the type of helicopter assigned, the AH-1 Cobra attack helicopter, or given that systems phase out, the AH-64 Apache. This change would greatly enhance the light divisions deep attack capabilities and allow the division to operate according to the Force XXI concept of depth and simultaneous attack because the Apache has greater range and can carry significantly more ordinance.

While all of the changes required to go to a modern H-series infantry division are important, it is possible that the Army may not be able to afford all of them. Should this occur, the most important and pressing are those associated with mobility. The first and least costly changes made are those required to give the infantry battalions some mobility and make the land warrior system viable. This can be accomplished simply by putting trucks back in the rifle companies and giving the battalion support platoons their five ton trucks back. Once this change is made additional change could be made as money becomes available. What's certain is that change is required. The light divisions can not be allowed to remain structured to fight a non-existent cold war era guerrilla threat in an era of increasingly lethal regional threats.

[1] Henry Kissinger, *Diplomacy* (New York: Simon & Schuster, 1994), 809

[2]Ibid., 23

[3] *National Military Strategy (Washington D.C.: Department of Defense, 1997),* 3-6

[4] Ibid., 1

[5]Henry Kissinger, 826

[6] TRADOC Pamphlet 525-5, *Force XXI Operations* (Fort Monroe, Va: U.S Army Training and Doctrine Command, 1994) 2-17

[7] Ibid.,3-7

[8] National Military Strategy, 3-6

[9] Ibid., 3-6

[10]*National Security Strategy,* (Washington, D.C.: The White House3, 1998), 2

[11] Ibid., 1

[12] Ibid., 12-13

[13] Ibid., 7

[14] *National Military Strategy* (Washington D.C: The Joint Chiefs of Staff, 1997), 3-6

[15] Ibid., 1-6

[16] Ibid., 3-6

[17] Field Manual 100-5, *Operations* (Washington D.C: Department of the Army, 1993), 2-10.

[18] National Military Strategy, 21

[19] Ibid., 19

[20] TRADOC PAM 525-5, *Force XXI Operations* (Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1994), 5-7

[21]Ibid., 10

[22] Field Manual 101-5-1,*Operational Terms and Symbols* (Washington D.C: Department of the Army, 1997), 1-18

[23] *Land Combat in the 21st Century,* 10

[24] Ibid.,12

[25] Ibid., 13

[26] Ibid., 13

[27] Ibid., 14

[28] Ibid., 15

[29] Ibid., 15

[30] Ibid., 15

[31] Ibid., 16

[32] Ibid., 16

[33] Ibid., 16

[34] TRADOC PAM 525-5, 3-17

[35] Field Manual 101-5-1,1-17

[36] TRADOC PAM 525-5, 3-17

[37] Ibid., 4-17

[38] Ibid., 5-17

[39] Ibid., 6-17

[40] Ibid., 7-17

[41] Ibid., 9-17

[42] Field Manual 100-5, 9

[43] Ibid., 7-3

[44] Ibid., 7-3

[45] Field Manual 100-5, *Operations (Revised Final Draft)* (Washington, D.C: Department of the Army, 1998), 6-27

[46] Ibid., 6-27

[47] Ibid., 7-6

[48] TRADOC PAM 525-5, 14-17

[49] National Military Strategy, 3-6

[50] William B. Caldwell, *Not Light Enough to get there, Not Heavy Enough to Win: The case of U.S. Light Infantry* (Fort Leavenworth, K.S: US Army Command and General Staff College, 1987) 28-35

[51] John L. Romjue, *The Army of Excellence: The Development of the 1980's Army* (Fort Monroe, VA: US Army Training and Doctrine Command, 1993), 36

[52] FM 101-5-1,O*operational terms and Graphics* (Washington, D.C.: Department of the Army, 1997) 1-145

[53]John L. Romjue, 42-43

[54] GEN John A.Wickham, White Paper, *Light Infantry Divisions* (Washington D.C: Department of the Army, 1984) 1

[55] Ibid., 1

[56] Ibid., 1

[57] Ibid., 2

[58] Ibid., 1

[59] Ibid., 1-2

[60] William K. Sutey, *Light Infantry, Augmentation, and the M113A3 Armored Personnel Carrier: A Step in the Direction of Versatility* (Fort Leavenworth K.S: US Army Command and General Staff College, 1993), 22

[61] John L. Romjue,15

[62] Student Text 100-5, (Fort Leavenworth, K.S: US Army Command and General Staff College, 1985), 5-2, 8-5

[63] Field Manual 71-100-2, *Infantry Division Operations* (Washington D.C: Department of the Army, 1993), 1-1

[64] William R. Puttmann, *The Infantry Division (Light) Firepower and Mobility in the Desert: How Effective?* (Fort Leavenworth, K.S: US Army Command and General Staff College, 1988), 53

[65] Ibid., 53

[66] William K. Sutey, 24

[67] Ibid., 24

[68] Field Manual 21-18, *Foot Marches* (Washington D.C: Department of the Army, 1989), 3-9

[69] Ibid., 3-9

[70] FM 71-100-2, p1-2

[71] FM 71-100-2, p1-2

[72] FM 71-100-2, p1-2

[73] William B. Caldwell, 4

[74] Ibid., 6

[75] Ibid., 6-7

[76] Ibid., 7

[77] Robert R. Palmer, *Reorganization of Ground Troops for Combat, Study No. 8* (Washington D.C: Headquarters Army Ground Forces, Historical Section, 1946), 46

[78] Ibid., 47

[79] William B. Caldwell, 51

[80]John M. Spiszer, *The Light Infantry Company and Tactical Mobility: A Step in Which Direction?* (Fort Leavenworth, K.S: US Army Command and General Staff College, 1998), 11

[81] Ibid., 11

[82] Thomas Donnelly, Margaret Roth, and Caleb Baker, *Operation Just Cause: The Storming of Panama* (New York: Lexington Books, 1991), 81

[83] John M. Spiszer, 11

[84] Ibid., 12

[85] Ibid., 14

[86] Ibid., 15

[87] John P. Abizaid, "Lessons for Peacekeepers." *Military Review* 73, no.3 (1993) : 19

[88] John M. Spiszer, 16

[89]Stephen Michael, "CSS Operations in Somalia." 84, no.4 (1994): 30

[90] William C. Schenck, "Vehicle Mine Survivability." *Center for Army Lessons Learned From the Front* (March-April 1995): 7

[91] John M. Spiszer, 19

[92] Ibid.,19

[93] Ibid., 20

[94] Ibid., 29

[95] Ibid., 30

[96] Ibid., 31

[97] Henry Kissinger, 19

[98] National Military Strategy, 8

[99] TRADOC PAM 525-5, 3-4

[100]National Military Strategy, 1

[101] Ibid., 1-6

[102] TRADOC PAM 525-5, 2-17

[103] Field Manual 101-5-1, 1-160

[104] GEN John A. Wickham, 1

[105] Ibid., 1

[106] John M. Spiszer, 19

[107] Field Manual 101-5-1, 1-160

[108] National Military Strategy, 19

[109] John L. Romjue, 42-43

[110] National Military Strategy, 3-6

[111] Field Manual 100-5 1993. 2-10

[112] William K Sutey, 24

[113] Field Manual 21-18, 3-9

[114] John M. Spiszer, 29

[115] National Military Strategy, 3-6

[116] Field Manual 100-5, 2-10

[117] TRADOC PAM 525-5, 7

[118] Ibid., 9

119 National Military Strategy, 1-6

[120] Ibid., 3-6

[121] William K. Sutey, 24

BIBLIOGRAPHY

Books

Bellamy, Chris. *The Future of Land Warfare.*_New York: St. Martins's Press, 1987.

Clausewitz, Carl. *On War.* Edited and translated by Michael Howard and Peter Paret. Princeton, NJ, Princeton University Press, 1976.

Donnelly, Thomas, Margaret Roth, Caleb Baker. *OPERATION JUST CAUSE: The Storming of Panama.* New York: Lexington Books, 1991

English, John A. *On Infantry.*_New York: Praeger Special Studies, 1981

G. & C. Merriam Company, *Webster's New Collegiate Dictionary.* Springfield: C. H. % C. Merriam Company, 1981

Goldman, Alan R. and Gerald A. Halbert. "Will America Be Prepared for Its Next Peer Competitor?" in *Landpower Essay Series, February 1998,* by Association of the United States Army (Arlington, VA: Association of the United States Army, 1998

Hart, Liddel. *The Future of Infantry*_Harrisburg, Pennsylvania: Military Service Publishing Co., 1936

Kissinger, Henry. *Diplomacy.* New York: Simon & Schuster, 1994

Marshall, S.L.A. *The Soldiers Load and the Mobility of a Nation.* Quantico, VA: Marine Corps Association, 1980

Mazar, Michael J. *LIGHT FORCES & the FUTURE of U.S. Millitary Strategy.* New York: Brassey's (US), INC., 1990

Romjue, John L. *THE ARMY OF EXCELLENCE: The Development of The 1980's Army.* Fort Monroe, Virginia: United States Training and Doctrine Command, 1993

Sullivan, Gordon. *America's Army: Into the Twenty-First Century.* Hollis, N.H.: Puritan Press, Inc, 1993.

Ullman, Harlan K. *In Irons: U.S. Military Might in the New Century.* Washington D.C: National Defense University press, 1995

Woodard, Bob. *The Commanders.* New York: Simon & Schuster Inc.,1991

Periodicals

Abizaid, John P. "Lessons for Peacekeepers." *Military Review* 73, no. 3 (1993): 11-19.

Ernst, Carl F. "Javelin- The Knockout Punch." *Infantry* 86, no.5 (1996): 1-2

Michael, Stephen. "CSS Operations in Somalia." *Infantry* 84, no. 4 (1994): 29-33

Newman, Richard J. "Warfare 2020." *U.S. News and World Report* (August 5, 1996): 34-42

Schneck, William C. "Vehicle Mine survivability." *Center Army Lessons Learned From the Front* (March-April 1995)

Schneider, James J. "Theory of the Empty Battlefield." *Journal of the Royal United Services Institute for Defense Studies* (1987): 37-44

Wass de Czege, Huba. "Mobile Strike Force: A 2010 Potential Force" . *Military Review* (July-August 1996): 70-84

Government Documents, Manuals, and Publications .

Field Manual *101-5-1: Operational Terms and Graphics.* Washington: Department of the Army, 1997

Field Manual *100-5: Operations.* Washington. Department of the Army, 1993

Field Manual *100-5: Operations (Revised Final Draft).* Washington: Department of the Army, 1998

Field Manual *71-200-2: Infantry Division Operations.* Washington: Department of the Army, 1993

Field Manual *71-100: Division Operations.* Washington: Department of the Army, 1996

Field Manual *25-101: Battle Focused Training.* Washington: Department of the Army, 1990

Field Manual *21-18: Foot Marches.* Washington: Department of the Army, 1989

House, Jonathan M. *Towards Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine, and Organization.* Fort Leavenworth, KS: US Army Command and General Staff College, 1984

Johnsen, William T. *The Future Roles of U.S. Military Power and Their Implications.* Carlisle, PA: Strategic Studies Institute, U.S Army War College, 1997

Lupfer, Timothy T. *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War.* Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1981

Office of the Chairman of the Joint Staff. *National Military Strategy of the United States of America.* Washington D.C. September 1997.

Palmer, DR. Robert R. *Reorganization of Ground Troops for Combat, Study No. 8.* Washinton, D.C.: Headquarters Army Ground Forces, Historical Section, 1946

Student Text 100-3. *Battle Book.* Fort Leavenworth, KS: US Army Command and General Staff College, 1997

The White House. *A National Security Strategy For A New Century.* Washington D.C. October, 1998

Troxell, John F. *Force Planning in an Era of Uncertantity: Two MRCs as a Force Sizing Framework.* Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 1997

US Army. *ST 71-2: Tactics, Techniques, and Procedures for the Digitized Brigade..* US Army Armor Center, Fort Knox, KY, February 1996.

US Army. *TRADOC Pamphlet 525-5: Force XXI Operations.* Washington: Department of the Army, August 1994

US Army. *Land Combat in the 21st century.* Fort Monroe, VA, Department of the Army, 1994

Wickham, John A. *Light Infantry Divisions: White Paper.*_Washington, D.C.: Department of the Army, 1984

Lecture

Epstein, Robert M. Lecture on *Napoleonic Warfare* presented to the School of Advanced Military Studies at Fort Leavenworth KS, 4 December 1998

Monographs

Caldwell, William B. *Not light enough to get there, not heavy enough to win: The case of US Light Infantry.* Fort Leavenworth, KS:, U.S. Army Command and General Staff College, 1987

Cranford, Teddy C. *Coping with Change: Operational Art and Force XXI.* Fort Leavenworth, KS: US Army Command and General Staff College, 1996

Everson, Robert E. *Light Infantry Vulnerabilities that Represent Strategic Vulnerability in Operations Other Than War.* Fort Leavenworth, KS: US Army Command and General Staff College, 1995

Ghee, Su Poon. *Equipping the Light Infantry Division in the 90's.* Fort Leavenworth, K.S: U.S. Army Command and General Staff College, 1986

Grigsby, Wayne W. *The Current Interwar Years: Is the Army Moving in the Correct Direction?* Fort Leavenworth, KS: US Army Command and General Staff College, 1996

Hagen, Marshall A. *Employment of Light Infantry in Contingency Operations: What do we do without Armor.* Fort Leavenworth, KS: US Army Command and General Staff College, 1998

Jones, Brian D. *What are the risks of building a high tech, narrowly focused Army?* Fort Leavenworth, KS., U.S. Army Command and General Staff College, 1996

O'Brian, John J. *Size 12 Leather Personnel Carriers: Tactical Mobility and the Light Infantry.* Fort Leavenworth, KS: US Army Command and General Staff College, 1991

Peddy, Charles A. *The Light Infantry Division: No Tool for the Tactical Commander.* Fort Leavenworth, KS: US Army Command and General Staff College, 1989

Puttmann, William R. *The Infantry Division (Light) Firepower and Mobility in the Desert: How Effective?* Fort Leavenworth, KS: US Army Command and General Staff College, 1988

Spiszer, John M. *The Light Infantry Company and Tactical Mobility: A Step in Which Direction?* Fort Leavenworth, KS., U.S. Army Command and General Staff College, 1998

Sutey, William K. *Light Infantry, Augmentation, and the M113A3 Armored Personnel Carrier: A Step in the Direction of Versatility.* Fort Leavenworth KS: US Army Command and General Staff College, 1993

Tomlin, Harry A. *Organizational Design of Light Forces: A Structure for all Seasons.* Fort Leavenworth KS: US Army Command and General Staff College, 1989

Webb, Thomas D. *Empty Battlefield XXI: Revolutionary Tactics for the Force XXI Light Infantry Unit.* Fort Leavenworth, KS., U.S. Army Command and General Staff College, 1997