

**SERVING VITAL INTERESTS:
AUSTRALIA'S STRATEGIC PLANNING IN PEACE AND WAR**

**FROM VIETNAM TO THE GULF AND AFTER:
LOGISTICS AND US ARMY STRATEGIC PLANNING
SINCE 1945**

Charles R Shrader

In the 50 years since the end of World War II, the nature of warfare and the missions of the United States Army have been transformed by developing technology and the changing political environment in ways only dimly foreseen in 1945. One salient fact that has emerged from the last half century of change is the degree to which logistical considerations have come to dominate strategic planning and military operations of all types, thereby confirming the 1948 prediction of the authors of *Logistics in World War II*:

Warfare will become more mobile, more mechanical, more destructive, more dependent upon science and technology. War will tend to involve more and more of the world's population and to spread to every corner of the globe ... It is inescapable that logistics will play a predominant role in any future conflict.¹

Despite general acknowledgment of the importance of logistics in modern war, many post-World War II US commanders and planners have nevertheless displayed a tendency to indulge their flights of operational fancy in seeming ignorance of the constraints imposed by basic logistical considerations of time, space, and mass. In part, this fault can be attributed to the prevalence of hasty as opposed to deliberate planning arising from the brevity of the decision-execution cycle and to the brief duration of most US Army deployments since 1945. Consequently, US Army strategic planning since World War II has been characterised by the failure to give proper weight to logistical considerations, the failure to integrate logisticians in the strategic planning process, and an overemphasis on combat forces as opposed to support forces in determining the force structure for operations. Some commanders and planners have avoided such shortcomings, but far too many continue to perpetuate errors first recognised over a century ago.

The Changing Nature of Warfare

Since 1945, the US Army has fought three major wars and participated in a large number of overseas deployments, many of which involved armed conflict. Certain fundamental conditions affecting the relationship of logistics and strategic planning have changed in this time. The most prominent of these changes have to do with the reduction in time available for thorough systematic planning, the growing prevalence of non-combat deployments, and the critical importance of transportation.

Reduced Planning Time

World War II strategic planners were generally permitted the luxury of deliberate strategic planning in which time was available for full consideration of logistical matters. After an initial period of hasty response, the planning for the major American combat operations in Korea, Vietnam, and the Gulf also became a deliberate exercise. However, the most common scenario for the employment of US military forces since 1945 has been the contingency operation—with or without actual engagement in combat.² The chief characteristic of these operations, as far as strategic planning is concerned, has been the short decision-execution cycle and the consequent tendency to ignore all but the most basic logistical considerations in the planning process.³ In most cases, the consequences of this tendency have been mitigated by the short duration and low intensity of combat, if any, in such operations. For the most part they have been 'come-as-you-are' operations, and what we have had on our back has been sufficient. As one of the Army's senior logisticians of the World War II era, General Carter B Magruder, has noted:

for a small war against an unsophisticated enemy the United States can provide most of the logistic requirements from such resources as it has kept available against the possibility of a major war.⁴

The Growing Prevalence of Non-Combat Deployments

Most of the US contingency operations since 1945 have not involved active combat operations. Those that did—for example, Operation URGENT FURY in Grenada in 1983, and Operation JUST CAUSE in Panama in 1989-90—justified in part the focus of the strategic planners on the operational aspects of the event. The first priorities were to seize and hold a lodgment in the target area and to protect the force. In such cases, the relegation of logistical considerations to a secondary place is both understandable and correct. That does not mean, however, that the tactical and operational plans can be developed without any consideration of the extant logistical constraints. On the contrary, to be successful the operational plan must always take into account the limits imposed by supply, maintenance, transportation, medical evacuation and treatment, and other logistical factors.

The deployment of US forces on operations in which active combat is not anticipated and which have as their major mission factor some other type of activity, such as peacekeeping or humanitarian relief, has become the norm rather than the exception.⁵ Such operations share most of the characteristics of combat-oriented contingency operations (short decision-execution cycle, lack of mission clarity, limited duration, limited force structure, primitive area of operations, etc), but they also differ in several significant ways. One of the chief characteristics of such operations is that their logistical component—deployment and redeployment aside—is often at the centre of the assigned mission. Such operations are also unlikely to be undertaken unilaterally by the US Army, but will be conducted in cooperation with other services, the armed forces of other nations, the United Nations (UN), and, particularly in humanitarian relief situations, a multitude of non-governmental organisations (NGOs). Accordingly, command and control will be much more complicated than in a straightforward wartime situation. Political considerations may limit the type and number of units and personnel deployed. Under such conditions, the normal 'teeth-to-tail' ratios may not apply, particularly if the mission is focused on providing relief to the local population or support for allies. Finally, the physical security of the deployed force is usually a major consideration, but the usual emphasis on operational security may be less critical than in a combat operation since the mission, size and composition of the forces, locations, and other data may be announced publicly even before the operation begins.

Operation SUPPORT HOPE, the US military component of the humanitarian relief effort in Rwanda and Zaire from July to October 1995, was typical of the new type of non-combat contingency operation. SUPPORT HOPE involved a small task force which never exceeded 3600 military personnel in the area of operations.⁶ Commanded by Lieutenant General Daniel R Schroeder, the US joint task force had the mission of providing humanitarian assistance, and as General Schroeder points out, the operation was important in that it demonstrated the value of military forces as enablers, not as replacements, for other relief agencies of the US government, the United Nations, and nongovernmental organisations. The principles followed in mobilisation, staging, deployment, employment, and redeployment of the task force were all 'standard', but the composition of the force, the engagement criteria, and the desired end state were much different from traditional combat operations. The short notice and consequent compressed planning and preparation time made deliberate planning almost impossible and adversely affected the ability of the task force to build the necessary connections with UN agencies and NGOs. As is noted in the Executive Summary, the participants 'met on the dance floor', even though the need to integrate US, UN and NGO activities was second in priority only to the security of the task force itself.⁷

The Critical Importance of Transportation

In the Korean War, the absolute lack of materiel was a major problem. The numerous and vast assembly lines of World War II were long since shut down, and the US Army encountered significant difficulties in producing the required munitions and other equipment needed to fight the war in Korea. By 1965, however, the perpetual mobilisation prompted by the Cold War made the logistical shortages of the Korean War a thing of the past. To be sure, there were times in the Vietnam War when certain critical items were in short supply, but distribution, rather than supply, emerged during the Vietnam War as the governing logistical factor in strategic planning and operations. The great distances and resulting long shipment time for materiel from the United States to Vietnam demonstrated clearly that transportation was the critical factor. The subsequent prevalence of short-notice contingency deployments has only served to increase the importance of adequate sealift, airlift, and movement control. And, as General Magruder has noted: if the transportation system will support, or can be developed in time to support, the forces necessary to carry out the operational plan, the rest of the logistics can usually be brought into line within a reasonable time'.⁸

The degree to which transportation has become the critical logistical factor was evident in the Gulf War of 1990-91.⁹ President George Bush ordered the first deployment of US troops to the Gulf on 7 August 1990. By 1 March 1991, coalition forces in the Gulf region included over 539,000 US and 270,000 coalition military personnel as well as over 12,400 tracked and 117,000 wheeled vehicles, 1800 helicopters, and a naval force of over 210 ships, including two battleships and six aircraft carriers with 360 combat aircraft. For the most part, these forces were moved to the Gulf from the United States and Europe in a period of just over 160 days. It took one full year to move 184,000 soldiers to Vietnam; that many moved to Saudi Arabia in just 88 days.

The United States Transportation Command coordinated some 576 ship voyages and 10,002 aircraft sorties to move over half a million troops and 5.7 million metric tons of equipment and supplies over the long supply lines from the United States, Europe, and elsewhere. The first of 13 Maritime Prepositioning Ships began unloading supplies to support the Marines in Saudi Arabia just nine days after notification, and 79 merchant ships of the Ready Reserve Fleet were activated to augment US and foreign charters. Over 15,400 air transport missions were flown, ferrying 524,000 tons of cargo and 484,000 passengers. The Civilian Reserve Air Fleet (CRAF) was activated for the first time, and over 100 CRAF planes flew the equivalent of two and one-half Berlin Airlifts in just 16 weeks. In theatre, an additional 9500 air missions moved over 100,000 tons of cargo and 75,000 passengers, and US transporters drove over 35 million miles. When the war was over, some 1.7 million tons of ammunition, equipment, and spare parts were shipped back to the United States or to other locations outside the Persian Gulf.

The most spectacular logistical feat of the war was General Norman H Schwarzkopf's sweeping left-hook deep into Iraq. The key to this spectacular movement was effective coordination of transportation. In the first phase, two large forward logistical bases were established and 150,000 men of the US VII and XVIII Airborne Corps with all their armour, artillery, and vehicles and 60 days of ammunition and other supplies were shifted 150 miles to the west over rudimentary desert roads. The time available for this massive undertaking was limited, and Lieutenant General William G Pagonis, the Army's chief logistician in the theatre, had to pledge that the troops and their equipment would be in position by the 21 February deadline. They were. The entire movement was accomplished in only 21 days. In the second phase of the operation, which began with the opening of the allied ground offensive on 24 February, logistical bases were set up in advance of ground troops who required some 14,000 tons of ammunition and 4.5 million gallons of fuel per day, a large proportion of which was moved into position by air.

Undoubtedly, the war in the Gulf was extraordinarily successful from both the operational and logistical point of view, in large part because of the careful integration of logistical considerations in the operational planning. Nevertheless, wondrous technology and the dynamic story of a fast-moving and ultimately successful campaign masked the recurrence of

a number of very hoary problems, some of them going back nearly a century to the United States' first major overseas deployment to Cuba in the Spanish-American War. Deploying units did not know what their transportation requirements were and consistently sought to move to the Gulf considerable amounts of extra materiel. Transportation managers faced serious shortages of ocean shipping, and much of what was available was unsuitable to the task or required time-consuming repairs and modifications which significantly delayed the deployment. The efficient use of the scarce ocean shipping was further complicated by problems in calling forward units and cargo to the ports of embarkation and confusion regarding the assignment of transports. The conscious decision to defer the deployment of logistical troops in order to increase the flow of combat forces into the theatre of operations seriously complicated the provision of adequate logistical support. At the far end of the line of communication, serious shortages in logistical personnel led to backlogs in port clearance. Identification of cargo was just as serious a problem in 1990 as it had been in 1898. Containers on the pier in Saudi Arabia in 1990, like the railroad cars outside Tampa in 1898, were inadequately marked as to contents and had to be opened one-by-one to determine their contents thus hindering offloading operations and adding to the delays in port clearance. Eventual victory was not compromised by such logistical shortcomings, which were ultimately overcome in the Gulf just as they had been overcome in 1898, but it was clear that we had not solved some of the most fundamental problems of overseas deployment.

The Lessons of Vietnam

The Vietnam War of 1965-73 has proven to be the defining experience of the US Army in the second half of the twentieth century. The failure of the Army and the nation to achieve their goals in Vietnam prompted a decade of intense self-examination. For almost the first time in its history, the US Army not only systematically studied the causes of its failures, but acted in an aggressive and sustained manner to repair the defects discovered and consequently produced not only repair of the Army's psyche and a restoration of the Army's confidence, but new doctrine, new organisation, new equipment, and new training methods as well.

After 30 years, the lessons of the Vietnam War remain pertinent to the interests and concerns of Army planners. In part, this relevance is due to the fact that the conditions pertaining in Vietnam, although of course unique, have been shown to bear a remarkable resemblance to those encountered in subsequent operations involving the support of rapid deployment to undeveloped areas. Initially, US forces were committed to Vietnam without a long lead time for deliberate planning or preparations. Subsequently, US military power was applied incrementally with continual changes in logistical requirements furnishing little opportunity for coherent long-range planning. The Vietnam War was also conducted without mobilising Reserve forces and civilian industry, and the logistical operations of the military departments were subjected to a degree of control at the Department of Defense (DOD) level that required the referral of many logistical decisions to higher levels for resolution.

The 'lessons' of the Vietnam War are developed in detail in the 1970 report of the United States Joint Logistics Review Board (JLRB), which outlines a standard against which subsequent operations can be measured. The report consists of three massive volumes and 18 separate monographs, and Volume I contains an executive summary, presents 15 major findings, and highlights 46 of the 265 recommendations of the Board.¹⁰ The major findings—or 'lessons learned'—most pertinent to the interaction of logistics and strategic planning since the Vietnam War can profitably be grouped into two main categories for our present discussion: *Integration* and *Force Structure*.

Integration

Effective operational planning requires careful consideration of the logistical constraints that may apply as well as full integration of logisticians in the planning process. As a recent US Army doctrinal publication notes:

Tactical and operational success depends on fully integrated concepts of logistics and operations. Integration during planning ensures support of operations during execution. Logistics capabilities often affect the feasibility of a concept of operations. Based on the operational concept, logisticians develop a logistics concept which gives commanders the greatest possible freedom of action and enhances the agility and versatility of an operation.¹¹

Consideration of Logistical Constraints

One key lesson of World War II was that strategic plans depended on logistical factors, the best known example being the schedule for the production of landing craft which determined the date of most World War II amphibious operations. In Vietnam, this and many similar lessons had to be learned all over again. As the JLRB observed:

The planning system of the Department of Defense must provide for (1) a realistic appraisal of logistic resources to achieve balance between operational concepts and logistic capabilities; (2) the establishment of credible requirements for critical logistic resources; and (3) recognition ... of the impact of inadequate logistic resources on operational capabilities.¹²

To be sure, the training and indoctrination of a lifetime are hard to overcome. American military officers are raised in an environment focused on command in combat—be it on land, at sea, or in the air—rather than on staff work, the preparation for war, or the support of war-fighting forces. This long-standing command-combat bias—found even among logisticians—is completely understandable given the central focus of military affairs on war-fighting earlier in this century. However, the noncombat roles of military forces have now become much more important, just as they were for most of the nineteenth century when America's military forces fought few wars but expended a great deal of effort in assisting the growth of the American nation. The command-combat bias shared by many American military officers manifests itself in the attitudes of commanders and operational planners toward logistics. At best, logistical constraints are tolerated as necessary evils; at worst, they are overlooked or even overruled in the rush to combat.

Even when they deigned to consult the logisticians, the strategic planners in Vietnam paid little heed to the logisticians' warnings and often acted as if logistics were not a consideration at all. Consequently, planning for Vietnam did not properly anticipate the magnitude of the support operations required, and even when the planners understood the logistical implications of their strategic plans, the decision was to let logistical capacity not affect the deployment of combat forces. Failure to correct the critical logistical shortfalls identified in strategic planning before the substantial deployment of forces—or at least to give them a high priority—contributed to inadequate port throughput capacity, sea and aerial port congestion, inadequate storage facilities, and loss of identity of material, all of which adversely affected combat operations.

The rush of US forces to Saudi Arabia in the summer of 1990 to form a hasty defensive line against the expected advance of Iraqi forces from Kuwait into Saudi Arabia allowed little time for the careful integration of logistical considerations into the strategic planning process. However, the subsequent deliberate strategic and operational planning which led to the spectacular Allied air and ground offensive against the minions of Saddam Hussein involved careful consideration of the relevant logistical issues. Indeed, the operational plans were significantly constrained, particularly as to timing, by the need to transport massive amounts of men, equipment, and supplies the great distance to the Gulf. The operational plans, and in

particular the astounding 'Hail Mary' end run which opened the ground war against Iraqi forces in February 1991, quite properly took into account the logistical realities, and as a result the offensive operation achieved a striking victory.¹³

The *Joint Task Force Commander's Handbook for Peace Operations* points out that operations and logistics are inseparable.¹⁴ Of course, that is true in any type of operation, but it is also true that in many, if not most, non-combat operations the central mission focus may be essentially logistical in nature—for example, to provide relief supplies, medical care, and other services—rather than to conduct combat operations. Unless commanders and staff at every level understand the distinction, there will be problems. Lieutenant Colonel Christopher R Paparone has argued that in operations other than war a mismatch between the assigned mission and the commander's concept of the operation frequently results from the failure of combat-oriented planners to recognise that 'the operational main effort' may be logistical rather than operational.¹⁵ This failure to understand the centrality of logistics in most operations other than war can impair mission accomplishment, and Paparone has noted that:

We must recognize that command logistics may sometimes override the traditional combat orientation of commanders and staffs ... understanding the capabilities of reverse osmosis water purification units ... and mortuary affairs thus may be more important than directing the operations of a light infantry battalion.¹⁶

Integration of Logisticians in the Planning Process

It is axiomatic in the US Army that 'Logisticians Don't Get No Respect', but lack of respect for logisticians and failure to include them in all aspects of strategic planning can have tragic consequences. There is no room for exclusivity in the strategic planning process, but all too often the logistician is either not invited to the party or is ignored. For example, in Vietnam an experienced senior logistician was not assigned until 1 January 1966, when Major General Charles W Eifler took command of the 1st Logistical Command.¹⁷ A number of problems could have been avoided, or at least reduced, if a senior logistician had been integrated into the command structure early on, especially since the Army's logistical problems were greater than that of other services by virtue of having more common items to manage, a larger force, and a larger operational area. This failure to include a senior logistician prompted the JLRB to observe that:

A component commander required to furnish major logistic support to ground forces in a contingency operation must be provided with a logistic management capability, vested in an officer whose rank and logistic experience are appropriate to the ultimate scope of the logistic operation. This senior logistician and his staff must participate in prior planning for contingency operations and be deployed to the area concurrently with the forward echelon of the headquarters of the combat forces.¹⁸

The stringent operational security and compartmentalisation which usually characterise most strategic planning can also serve to exclude logisticians from the planning process. It is not uncommon to find that operational planners tend to focus almost exclusively on the combat arms units involved in any deployment and display a condescending attitude toward the supporting units which are frequently viewed—incorrectly, of course—as not being central to the mission and thus unworthy of the considerable effort needed to keep them properly informed about every aspect of the operation. This attitude is of long-standing in the US armed forces and is a potentially mission-defeating factor, as Lieutenant Colonel Gary H Wade noted in his study of Operation BLUE BAT, the US intervention in Lebanon in 1958.¹⁹ The confusion of the logistical effort connected with Operation BLUE BAT was due in no small part to the fact that 'no one, except a small cell of select planners, knew what was supposed to happen, and of course, no one knew when it would happen'.²⁰ Indeed, Wade goes on to argue that:

at the unit level, the commander and staff officers involved in a deployment will inevitably encounter varying degrees of confusion and poor coordination ...

Overclassification and rigid planning compartmentalization breed confusion. Therefore, the planner must balance security requirements with the units' need to know. Improperly disseminated plans not only promote confusion, but also occasion slovenly appearance and poor performance. The most important planning lesson from the Lebanese experience is that planners must use a classification commensurate with security requirements and not create a smug in-the-know elite. If security restrictions prevent units from learning their assigned roles in a mission, it is self-defeating.²¹

Force Structure

World War II offered the lesson that 'combat power' cannot be measured simply in terms of the numbers of weapons and combat troops available. However, the senior leaders of the US Army—focused on keeping the Army 'lean and mean'—have often ignored the fact that in a modern high-technology global coalition war large numbers of men are required to accomplish the essential logistical tasks of producing, assembling and transporting the men and materiel of war to where they can be effectively brought to bear on the enemy.²² The impact of this fact on the force structure of the US Army in the twentieth century can be seen readily in Figure 1 which portrays the changing proportion of combat to support troops in various conflicts.

FIGURE 1
US Army 'Teeth-to-Tail' Ratio, 1917-1991²³

Conflict	% Combat Troops	% Support Troops	Cbt-Spt Ratio
World War I (1917)	87	13	.15
World War I (1918) ^a	54	46	.85
World War II (1942)	88	12	.14
World War II (1945) ^a	38	62	1.80
Korean War (1950) ^b	67	33	.49
Korean War (1953) ^b	60	40	.67
Vietnam War (1965) ^b	75	25	.33
Vietnam War (1971) ^{b,c}	53	47	.89
Gulf War (1990-91) ^b	44	56	1.27
Opn PROVIDE COMFORT ^{b, d}	81	19	.24

Notes

- a World-wide, Army Air Forces, students and replacements excluded.
- b Rough estimate, in-theatre only.
- c Same as on 31 December 1942.
- d All services.

Good strategic planning will balance carefully the need for both combat and support troops. Nevertheless, combat commanders and strategic planners have often failed to understand the critical importance of logistical troops, especially in the early phases of an operation. As General Magruder has noted:

Well-trained logistic troops are a critical requirement in war at the opening of a theater of operations. Without them, even if there is not fighting, unloading of shipping will be delayed and supplies will accumulate unsorted and unidentified and therefore unusable.²⁴

United States forces deployed overseas in World War II were chronically short of logistical personnel to operate the ports and lines of communications, handle the supplies, and provide the necessary logistical support to the troops in the field. The commander of Army Service Forces, General Brehon B Somervell, consistently and forcefully argued for the provision of larger proportions of service troops in every theatre, but the theatre commanders seldom acknowledged the critical importance of logistical personnel until the operation actually began. They then screamed for logistical support troops. The failure to assign logistical troops a sufficiently high deployment priority resulted in a reduction in combat effectiveness. General Magruder, a key participant in the World War II struggle between the strategists and the logisticians, observed:

Logistic troop requirements usually are, and I believe always should be, under attack. This is for the simple reason that more personnel in logistic units means less personnel in combat units. However, after a critical review has been made and logistic troop requirements for an operation adequately justified, then those logistic troops should be considered just as essential to the success of the operations as the combat troops. Although most commanders would probably agree to such a statement, it just never seems to be handled that way. Rather, it is handled as a logistician in the North African Theater of Operations described a troop basis meeting in early 1943. He said new troop units were asked for on the basis of parity; one tactical unit and then, in turn, one logistic unit—except that the approved list came out in the ratio of one infantry division to one heavy maintenance company.²⁵

The basic lesson is that 'the need for logistic troops precedes the need for combat troops in war'.²⁶ But in Vietnam, just as in World War II, the strategic planners tended to relegate logistical forces to low priority in the planned deployment, thereby depriving the commander of support forces at the critical early stages of deployment when they were most needed in order to avoid logistical confusion and wasted effort. The assignment of a fullblown Army logistical command was first requested in 1962, but the 1st Logistical Command was not established until April 1965.²⁷ Consequently, once the build-up began in earnest the inadequate logistical force structure was soon overwhelmed, and requirements exceeded logistical capacity throughout the build-up period. On 31 December 1965, there was a 122-ship backlog and unidentified cargo was stored everywhere.²⁸ Only then was the decision made to bring in sufficient logistical troops to sort it out.

The need for adequate logistical forces in a theatre of operations extends to the staff necessary to control and administer those forces properly, particularly at the unified command level. With respect to the situation in Vietnam, the JLRB noted that:

Although the basic responsibility for the support and maintenance of forces must remain with the Services, unified commands must plan for and be staffed for active involvement, when required, in the multiservice aspects of transportation and movement control, construction, ammunition and POL resupply, communications, medical evacuation and hospitalization, and control of critical items.²⁹

In general, US doctrine assigns responsibility for logistical support to the individual services, but in Vietnam unified commanders soon found themselves immersed in detailed logistical problems without the staffing to handle such problems. For example, both the Commander-in-Chief Pacific (CINCPAC) and the Commander, US Military Assistance Command-Vietnam (COMUSMACV), became involved in the operational details of allocating transportation resources among the services and matching shipments with capacities, the control of certain critical supply items (M-16 rifles, and cluster bomb units, for example), the coordination of medical treatment and evacuation, and the development of massive construction projects, POL systems, and communications long-lines systems.

Another significant lesson regarding logistical force structure that strategic planners must bear in mind is that, if possible, the wartime organisation of logistical forces should be the same as the peacetime organisation. This argues for the retention in the peacetime structure of sufficient logistical forces to provide the initial response in any conflict. But logistics troops in

the peacetime forces are apt to be cut in the name of 'economy' and elimination of 'fat'.³⁰ The solution adopted by the US Army has been to locate the major portion of the logistical troop strength needed for contingency operations in the Reserve components and to call them up as necessary. But the call-up and preparation for deployment of even the best Reserve unit takes considerable time, perhaps as much as three months.³¹ Moreover, there is no assurance that the political situation will favor a Reserve call-up. Consequently, as the JLRB noted,

when contingency operations are undertaken and the Reserves are not called up, serious deficiencies in logistic units and trained logistic personnel may be expected. There is a need, therefore, to enhance readiness to respond promptly to limited war of scope comparable to the Vietnam conflict without reliance on national mobilization or callup of Reserves to conduct logistic operations.³²

All of the services faced the dilemma of limits on overall personnel strength and the increases in requirements for combat troops in Vietnam, which created new logistical demands without time for organisation and training of individuals and units. Plans in 1964 and early 1965 were based on the assumption that a major contingency action would be accompanied by mobilisation of appropriate Reserve forces. However, for political reasons the reserve forces were never called up except in very selective cases. Moreover, the Army's base in the continental United States was overly civilianised. The extensive use of civilian contractors to perform essential logistical tasks in the theatre of operations proved feasible, but even so there were never enough trained military specialist personnel for theatre operations.³³

It should also be noted that since World War II, US Army forces have seldom operated alone. The participation of the other Services is a given, and often the US Army must operate with the armed services of allies as well as a broad range of other governmental and non-governmental organisations. Inasmuch as the United States is often in the best position to supply and coordinate the operation, US strategic and logistical planners must not neglect the logistical needs and capabilities of all participants. The presence of civilian agencies in the theatre of operations—increasingly common in all operations—demands special attention. As the JLRB noted:

During the planning process, it is especially important to define clearly the responsibilities for and the relationships between military and civilian activities.³⁴

The lessons of World War II and Vietnam with respect to the importance of a balanced force structure and the need for logistical personnel in the theatre of operations have never been absorbed thoroughly. The tendency of US civilian and military leaders to undervalue the role of logistics and to emphasise combat forces at the expense of logistical forces, which are often 'the limiting factor of American strategy' continued to plague the US Army in the otherwise successful Gulf War.³⁵ The examination of the timephased force deployment list for any recent contingency operation will also attest to the continued focus of commanders and strategic planners on combat forces and the consequent relegation of logistical forces to a low deployment priority. For example, in Operation SUPPORT HOPE in Rwanda, 'the requirement for tailored capabilities that seems to be increasingly a feature of today's deployments' required 'deep tailoring' which in turn depended on the ability to control the Time-Phased Force Deployment Data (TPFDD) in ways which the Joint Operations Planning and Execution System (JOPES) was not entirely able to do satisfactorily, thereby adversely affecting the ability of the commander to exercise responsive command and control and to influence the type and sequence of capabilities arriving in the operational area.³⁶

Conclusion

The experience of World War II established the salient importance of logistics in modern warfare and demonstrated the degree to which strategic planning must often be constrained by logistical considerations. Since World War II the missions which the US Army has been called upon to perform as well as the organisation, equipment, and doctrine of Army forces have changed in many fundamental ways, but the basic primacy of logistical considerations in strategic planning has become even more prominent. Even so, Army strategic planners still display a disconcerting tendency to refuse to allow the dreary facts of logistics to dictate the shape of their strategic plans, especially when planning time is short and the duration of the operation is expected to be relatively short, as it almost always is. The focus continues to be on the intricacies of the operational plan, even when the essence of the assigned mission is primarily logistical in nature. This unwarranted focus on operations to the neglect of the logistical realities is most clearly seen in the continuing over-emphasis on combat forces in the deployment plan, the chronic under-manning and low priority of support forces in the time-phased force deployment plans, even for peacekeeping forces in situations where no significant combat is expected to occur. In part, this emphasis on operational matters to the neglect of logistics is a function of the short planning-execution time cycle characteristic of US Army operations since 1945. When time is short, logistics is left to last, and the logisticians are often not invited to the planning party. This tendency is exacerbated by the degree to which strategic planning, particularly its logistical components, has become dependent on automated planning systems such as JOPES and computer-generated time-phased force deployment plans which all too often have as a basic premise the need to deploy maximum combat power and leave the supporting forces to follow slowly if at all. This is seen even when the essence of the mission assigned is logistical rather than operational in nature, such as in a disaster relief operation.

If the military forces of the United States are to succeed in performing the many non-combat missions which are sure to come our way in the coming years, we must change our thinking as well as our doctrine and force structure. Success will hinge on the degree to which the institutional biases of the past century are overcome. As the Joint Logistics Review Board acknowledged a quarter-century ago:

It is certain that some future emergencies will develop logistic problems that did not surface in the Vietnam era. On the other hand, each of the Board's findings and many of its recommendations are related to basic principles of logistics and management. An intensity of warfare higher than that in Vietnam will accentuate the need to adhere to these fundamentals. The details of some of the recommendations may alter with new techniques and capabilities, but the underlying principles are enduring.³⁷

APPENDIX 1

Selected US Contingency Operations, 1958-95

Operation	Date	Duration
Lebanon (BLUE BAT)	16 Jul-14 Nov 1958	2 months
Dominican Republic (POWER PACK)	30 Apr 1965-27 Sep 1966	17 months
Panama (JUST CAUSE)	20 Dec 1989-31 Jan 1990	6 weeks
Grenada (URGENT FURY)	24 Oct-3 NOV 1983	2 weeks
Kurdish Refugee Relief (PROVIDE COMFORT)	Mar-Jul 1991	5 months
Haiti (UPHOLD DEMOCRACY)	Oct 1994-Mar 1995	6 months
Somalia (RESTORE/ CONTINUE HOPE)	3 Dec 1992-25 Mar 1995	28 months
Rwanda (SUPPORT HOPE)	17 Jul-6 Oct 1994	3 months
Bosnia (JOINT ENDEAVOUR)	Dec 1995-*	ongoing*

* As at time of publication of original book in 1996.

Endnotes

1. *Logistics in World War II: Final Report of the Army Service Forces—A Report to the Undersecretary of War and the Chief of Staff by the Director of the Service, Supply, and Procurement Division, War Department General Staff* (facsimile reprint of the 1948 edition, Washington, DC, 1993), 251. The terms 'strategic planning' and 'operational planning' are used interchangeably throughout this paper, although strictly speaking the US Army makes a clear distinction between 'strategy' (the use of campaigns to achieve policy objectives) and the operational art' (the achievement of military objectives in a theatre of operations). For the most part, we are concerned here with 'operational' rather than 'strategic' planning.
2. A few of the most prominent US contingency operations since World War II are listed in Appendix 1.
3. Gilbert S Harper ('Logistics in Grenada: Supporting No-Plan War', *Parameters* 20 [June 1990], 50-63) stresses the lack of time for detailed planning and coordination in most contingency operations. The first US deployment in World War II, Operation BOBCAT (to Bora Bora for the purpose of constructing a naval fuel depot), is an excellent example of what can happen when the time for planning and preparation is insufficient: see Charles R Shrader, 'BOBCAT—Rapid Deployment in 1942', *Military Review* 69: 3 (March 1989), 28-37.
4. Carter B Magruder, *Recurring Logistic Problems As I Have Observed Them* (Washington, DC, 1991), 46-7.
5. The US intervention in the Dominican Republic in 1965 was the harbinger of this new type of operation. Deployed US forces did see limited combat, but by and large the operation was political in its objectives and became in large part a humanitarian relief effort. As a multi-national operation, it shared many of the characteristics of more recent non-combat operations. The operation is discussed in some detail in Lawrence A Yates, 'Mounting an Intervention: The Dominican Republic, 1965', *Military Review* 69: 3 (March 1989), 50-62, and in Lawrence M Greenberg, *United States Army Unilateral and Coalition Operations in the 1965 Dominican Republic Intervention* (Washington, DC, 1987).
6. The operation is described in Headquarters, United States European Command, *After Action Review: Operation SUPPORT HOPE* (Stuttgart, 1994).
7. *After Action Review: Operation SUPPORT HOPE*, 3.
8. Magruder, *Recurring Logistic Problems*, 42.
9. The transportation achievements of the Gulf War can be gleaned from such works as: *Army Focus 91—Operation DESERT STORM* (Washington, DC, 1991); James D Blundell, *Special Report: Operations Desert Shield/Desert Storm—The Logistics Perspective* (Arlington, September 1991); Scott W Conrad, *Moving the Force: Desert Storm and Beyond* (McNair Paper No 32; Washington, DC, December 1994), Douglas Menarchik, *Powerlift—Getting to Desert Storm: Strategic Transportation and Strategy in the New World Order* (London and Westport, 1993); and James K Matthews and Cora J Holt, *So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm* (Washington, DC, 1995).
10. Joint Logistics Review Board, *Logistic Support in the Vietnam Era* (Washington, DC, 1970). The 15 key 'lessons learned' are summarised in Volume I: *A Summary Assessment with Major Findings and Recommendations*, under the headings: Responsive Logistic Planning; Early Management Capability; Force Structure; Ammunition; Transportation; Joint Logistics Responsibilities, Foreign Assistance; Construction; Support in the Combat Area; Communications; Common Supply; POL; Excesses; Containerisation; and Concepts for Future Logistic Support in the Combat Area.
11. *FM 100-5: Operations* (Final Draft), December 1991, 9-5.
12. *Logistic Support in the Vietnam Era*, I, 6.
13. The degree to which the allied air campaign and the logistical preparations for the famous 'Hail Mary' end-run were integrated in the operational planning is clearly established by the chief US Army logistician in the Gulf, Lieutenant General William G Pagonis, and his chief logistical planner, Colonel Michael D Krause, in *Operational Logistics and the Gulf War* (The Land Warfare Papers No 13; Arlington, October 1992). Pagonis and Krause point out that the need to cripple Iraqi observation—a feat accomplished by the allied air campaign—was a necessary precondition for beginning the repositioning of men and materiel for the ground attack in the west. They also note that the air campaign was extended for an additional week in order to facilitate the building of the necessary logistical bases and the repositioning of the two corps.
14. *Joint Task Force Commander's Handbook for Peace Operations* (Preprinting Version) (Fort Monroe, 28 February 1995), EX-7, Chapter IV (pages 59-72) of this handbook covers 'Logistics Support'.
15. Christopher R Paporone, 'Logistics—Sometimes the Main Effort', *Army Logistician*, March-April 1996, 13.
16. *Ibid.*
17. Colonel Robert W Duke had arrived in Saigon in mid-March 1965 to head a logistical planning cell, and he became the first commander of the 1st Logistical Command upon its activation on 1 April 1965. See Joseph M Heiser, Jr, *Logistic Support (Vietnam Studies Series)* (Washington, DC, 1974), 9-10.
18. *Logistic Support in the Vietnam Era*, I, 7.
19. Gary H Wade, *Rapid Deployment Logistics: Lebanon, 1958* (Combat Studies Research Survey No 3, Fort Leavenworth, 1984), 15. Excessive security restrictions nullified much of the good work already accomplished in the plans and caused the biggest breakdown in planning for the operation.'

20. Ibid, 17.
21. Ibid, 82.
22. Kent Roberts Greenfield, *The Historian and the Army* (Port Washington /London, 1970), 91.
23. Compiled from various sources. Unless otherwise noted, this chart provides an estimate of the world-wide US Army ratios.
24. Magruder, *Recurring Logistic Problems*, 121-2.
25. Ibid, 25.
26. Ibid, 27.
27. *Logistic Support in the Vietnam Era*, I, 6. On 15 January 1965, the Joint Chiefs of Staff recommended approval of a 2100-man logistic force and immediate deployment of a 230-man advance party, but the Office of the Secretary of Defense delayed final approval, and only a small planning staff had arrived in Vietnam by March 1965.
28. Ibid, 10.
29. Ibid, 12.
30. Magruder, *Recurring Logistic Problems*, 26-27. General Magruder notes that at the beginning of World War II, the active Army had only 11 per cent of the logistics troops necessary to support overseas the available combat units.
31. Ibid, 27 .
32. *Logistic Support in the Vietnam Era*, I, 8.
33. Ibid, 7. Nor were there ever enough qualified personnel in the services to supervise the civilian contractors properly.
34. Ibid, 43. The lack of visibility of civilian programmes, which competed for scarce logistical resources, was a major problem for the US forces in Vietnam. For example, the US Agency for International Development (USAID) alone accounted for 40 per cent of all cargo entering Vietnam in 1966 (see *ibid*, 12).
35. Douglas Menarchik, *Powerlift—Getting to Desert Storm: Strategic Transportation and Strategy in the New World Order* (London/Westport, 1993), 1.
36. *After Action Review: Operation SUPPORT HOPE*, 5 and 30.
37. *Logistic Support in the Vietnam Era*, I, 75.