STRATEGY RESEARCH PROJECT

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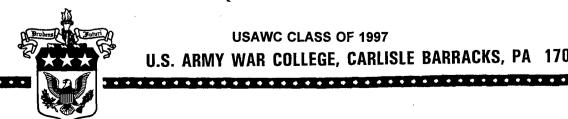
BUDGET STRATEGY FOR AN ARMY AFTER NEXT

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USAWC STRATEGIC RESEARCH PROJECT

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ABSTRACT

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This Strategic Research Project depicts a budget strategy that provides a framework to sustain the US Army with limited national resources in what could prove to be a prolonged period of peace. This proposed budget strategy has four principal features. A need to identify the types of threats the Army may face in the 21st century; develop the doctrine that will enable the Army to fight and win our nation's wars; identify technology concepts that the Army should develop into weapon systems, and finally educate Congress and the American people on budget requirements to ensure that the US Army will be able to keep up with change during a period of when national resources are used for social issues.

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Budget Strategy for an Army After Next

Budgeting is the single most important decision-making

process in governmental organizations in the United States,

and the support of our armed forces allows no exception to

that rule. Budgeting is a political process that allocates

scarce public resources among the social, economic, and

military needs of the United States. The United States

government presently spends about 48% of its budget on

direct payments to individuals, 15% on states in the form of

grants, 14% on retirement of the national debt, 18 % on

national defense, and 5% on other federal operations.

Discretionary reallocations of funds to support other

programs traditionally have been taken from the defense

budget in times of prolonged peace.

Budgeting has therefore become one of the chief

political decision-making systems, if not the major one, at

the national level. Although many policy decisions are

indeed made outside the budget process, virtually every

decision entails budgetary constraints. The recurring

questions--What shall we do? and Can we afford it?--demand

answers many times every year. The process by which the

federal budget takes shape is political and only thereafter, financial.

We are presently completing our post-war pattern of slashing budgets, deferring technology exploration, and reducing the size of the armed forces, particularly the Army. But much has changed at the end of the century to call into question the wisdom of continuing to rely on distance from the scenes of conflict and the reliability of our allies to compensate for draconian cuts in our defense capabilities.

The purpose of this Strategy Research Project is to articulate a budget strategy that provides a framework to sustain the armed forces with limited national resources in what could prove to be a prolonged period of peace. This proposed budget strategy has four principal features. We need to identify the types of threats the Army may face in the 21st century; develop the doctrine that will enables the Army to fight and win our wars; identify technology concepts that the Army should develop into weapon systems, and finally educate Congress and the American people on budget requirements to ensure that the armed services will be able

to keep up with change during a period when national resources are used for social needs.

Context

When the Soviet Union collapsed, the United States opted for a gradual reduction of its armed forces to a level whose validity could not be confirmed in terms of future requirements for the use of those forces. Army leadership opted to take its reductions in a manner that would allow the United States to get the maximum benefit from Cold War training and procurement programs, while meeting overseas commitments and continuing to explore emerging technologies. This produced decisions in which the remnants of the Cold War Army would benefit from technology appliqués to the tanks and personnel carriers, aircraft and communications equipment with which it had been equipped to fight the Soviets. This intermediate condition, called Force XXI, is being tested for adequacy in 1997.

At the same time, as research and development funds were cut, projects deferred or canceled, and new technology development postponed, the Army set out to prepare for the force it would need when existing stocks of 20th century material, overlaid with new technology or not, would finally

reach the end of their useful lives. This concept came to be known as an Army After Next. Its purpose is to engage the interests and energies of individuals and groups throughout the Army in exploring the kind of land force the United States would need about a quarter century from now. The Marine Corps is engaged in a comparable series of projects designed to identify likely requirements for land warfare in the second and third decades of the 21st century, with particular attention in both services on the enabling technologies associated with their concepts of warfare.

In one sense, then, the Army has learned not to repeat the decisions which after World War I denied an adequate Army budget for research, development, and modernization. Despite large budget cuts and massive demobilization, Army Chief of Staff General Douglas MacArthur urged Congress to appropriate funds in 1934 for the modernization and modest expansion of the US Army to cope with the interwar revolution in military affairs.[1] That initiative notwithstanding, the US Army deployed to war in 1941 with outdated equipment and untrained forces. The Army, as did all the services, suffered heavy losses at Pearl Harbor, Corregidor, and Kasserine.

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After World War II, America failed to invest in modernization of the Army and President Harry Truman dramatically reduced the Army budget. Five years later, Army units were committed to battle in Korea and were hammered by a better equipped and trained North Korean Army. Part of the blame for the Army's poor state of readiness for war in Korea must be shared by the Army's senior leaders, who were unable to articulate the need for an American Army in an environment shaped by a postwar strategy of one-sided nuclear attack.[2] The United States prevailed in these conflicts because the country was able to spend its way out of danger. Such a strategy will no longer work.

Since the end of Desert Storm in 1991, the Army has declined from 18 to 10 divisions; the first Quadrennial Defense Review, under way in 1997, could reduce the Army--active and reserve components alike--still further. Current trends of reduced Army budgets preclude investing in essential research and development; those funds declined from 25% of the budget in FY 89 to 18% in FY 97.[3] These trends create the likelihood that in future conflicts our sons and daughters will bleed needlessly on foreign soil as they did during the Korean war.

The Army cannot afford to adopt a budget strategy that risks the same bloody mistakes made in the 20th century by shortsighted reductions in investments in future defense capabilities. The concept of an Army After Next is intended to develop the basis for explaining to the American people and to their elected representatives how to avoid repeating previous mistakes in sizing national defense in an age of peace. Consequently, the Army must develop and articulate to Congress and to the American people a budget strategy suitable to build, operate, and sustain an Army After Next.

Identification of Potential Threats to an Army After Next

The Congress traditionally increases defense budgets when threats to the United States are identified. From the Civil War, World War I, World War II, the Korean War, Vietnam War, and Desert Storm, Army budgets were increased when threats were identified. The future threats the Army After Next will face are articulated in six broad categories. They include, "victory disease" as mentioned in Casper Weinberger's book, "The Next War"; information operations threats against western economies and armed forces; threats from international and domestic terrorism; a scenario involving a two major regional conflicts (MRC)

scenario such as the Middle East and North Korea; a China-Russian alliance against western nations; and finally threats from weapons of mass destruction used by rogue states.

Why is it important to discuss victory disease in designing a budget strategy for an Army After Next?

Victory Disease (Overconfidence)

The overwhelming victory by U. S. Forces in Desert Storm has, if anything, increased the danger of overconfidence and rapid disarmament.[4] Victory Disease is widespread among the officer corps and senior Army leadership. The Army downsized from 15 active Army divisions to 10 active Army divisions in 1991. Congress and the American people believe the Army has the same capabilities that it had during the Gulf War. This is not the case, 70% of the Army's logistics are in the reserves, 58% of combat support units are in the reserves, and 54% of combat units are also in the reserves.[5]

Mr. Weinberger and Mr. Schweizer further state, "the trouble with victory disease is that it ignores the valuable lessons learned from Desert Storm: victory in the gulf was the result of more than a decade-long commitment to

excellence in the armed forces."[6] "These accomplishments were not achieved by accident," General Gordon R. Sullivan, Chief of Staff of the Army 1991- 1995, reminds us. "They are the product of twenty years of dedication, planning, training, and just plan hard work."[7]

Victory Disease gives an Army a false sense of security when success is achieved on the magnitude of the US Army during the Gulf War. The US Army experienced victory disease after WW I, WW II, and the Korean War. This attitude prevents the US Army from looking at future threats.

The cure for victory disease is to study history of an Army that was successful in war. This study of history will alert the victor that other nations are studying your successes and that continued improvements in weapons systems and doctrine is needed in-order to dominate the battlefield in the future.

A new threat to the Army in the year 2025 is information warfare.

Information Warfare

Information systems will comprise the backbone of Army systems in the Army After Next. If this is the case, future threats will exploit any potential weaknesses known or found

involving information technology. A recent Army war game set in the year 2020 revealed the US. military's increasing reliance on satellite-based "information dominance," may prove as much a liability as an asset in a real conflict.[8] During the war game, the opposing enemy force destroyed several satellites that controlled Army command, control, communications and intelligence systems. This action of course surprised the national military command authority and had a devastating consequence on US. Army forces.

The Defense Information System Agency (DISA) reports that over 95% of DOD communications during peacetime travel over the relatively unprotected Public Service Network (PSN) and are largely outside the direct control or influence of the military. In both war and peace, the computer systems and networks on which a unit relies for logistics, personnel, administrative, maintenance, and financial data processing and transfer are vulnerable to attack. Often the Internet is a desired communication platform for intruders. Gaining access to a unit's computer and communication network can be accomplished by a wide range of methods and techniques.

DISA estimates that DOD experienced 231,000 incidents of actual penetrations in 1994.[9] These incidents, performed by intruders, included destroying data, modifying data or software, stealing data or software, and shutting down hosts or networks. Examples of DOD functions affected by these incidents were: ballistic weapons research, inventory and property accounting, knowledge-based simulation, payroll and business support, and mail hub for installation-wide electronic mail.

Information warfare attacks are the most dangerous to an Army After Next. Due to the present and ever-increasing dependence upon automated information systems within the Army, security of information and information systems has become more critical. Accordingly, security measures and procedures must actively, as well as passively, be developed for Army information systems for an Army After Next.

While "Victory Disease" may be more actual than physical, there is no doubt of the importance of the threat of information war to US forces and to the economy of the United States.

Terrorism

The role of US. military forces in the 1990s must evolve and adapt to meet the changed domestic and foreign conditions created by the institutionalization of terror. That new role will fall largely to the US Army, in that the other services are most naturally limited to protection of their facilities and equipment. In essence, the Army can be expected to develop a coherent doctrine of its own to fight terrorism at home and abroad, in support of domestic policies or international commitments.

Terrorists operating today are better organized, more professional, and better equipped than their counterparts in the 1970s and 1980s. They are likely to take greater operational risks in the 21st century because they will not have a viable military force to challenge an Army After Next. A loose confederacy of subnational groups will continue to seek ideologically based or single-issue goals. But the terror event will increasingly be co-opted by radical third world states as a tool of foreign policy and by larger powers as a means of surrogate warfare. Rogue nation-states such as North Korea and Iraq can use terrorism or conventional war to achieve their political objectives.

The Threat of one Major Regional Conflict or Simultaneous

Major Regional Conflicts

Iraq and North Korea are the two potential Major

Regional Conflict threats that pose a potential threat to an

Army After Next. The US Army engaged in combat with both

North Korea and Iraq in the 20th century and was victorious.

The government of Iraq will continue to try to accomplish

their political objectives to control the oil fields in

Kuwait and possibly Saudi Arabia. The North Koreans'

political objective is the reunification of their country

with South Korea.

The most dangerous predicament is that of North Korea

and Iraq engaging in coordinated offensive operations at the

same time to achieve their political objectives. However,

the current forces required to engage these antagonists

simultaneously do not exist in the Army today.

A Russian-Chinese alliance could pose a similar threat

to the United States in the 21st century as the Soviet Union

affected during the Cold War.

Russian-China Alliance

A Russian-Chinese alliance in the future poses threats

to US National Security. The Chinese and Russians are

currently trading military technology with each other.

Furthermore, China recently procured military technology

from Russia that can destroy US Navy carrier battle groups.

The Chinese government was humiliated when the United States

government deployed a naval carrier battle group in the

straits of Taiwan in March 1996. Chinese strategists have

long since jettisoned outdated Maoist theories of the

people's defense, calling for drowning any foreign invader

in a sea of popular resistance across the vast interior of

its country.

China has been profoundly influenced by the lessons of

the 1991 Gulf War. Chinese generals are today striving to

develop hi-tech capabilities suited for 21st century

warfare. That means building a more flexible, mobile

combined-arms force ready to wage small wars in border areas

or to project power well beyond them.[10] In part, this

reflects a worldwide trend; large conscript armies are

becoming a thing of the past. Even France, where the idea of

a nation-in-arms was born during the French Revolution,

decided recently to end conscription and downsized its

forces into a more professional, mobile elite force.

Of necessity, Moscow is allowing large segments of the Russian Army to atrophy while assigning its limited resources into special units and rocket forces. The Russians need hard currency for their failing government to resource the Russian Army's research and development efforts. Another reason for this alliance is the expansion of NATO. The President of Russia stated in March 1997, "the expansion of NATO will be the largest mistake of the United States since before World War II."[11] A subsequent meeting of Chinese and Russian leaders may reflect decisions to join forces to provide a counter to the NATO alliance, from the Russian perspective, while among the benefits to the Chinese is the acquisition of Russian arms technology.

The Russians and Chinese control a substantial inventory of weapons of mass destruction. An American Army After Next will have to be able to function in conditions where weapons of mass destruction (WMD) could be used or may already have been employed.

Threat of Weapons of Mass Destruction

Functioning in conditions where weapons of mass destruction have been used will be the greatest challenge to an Army After Next. This challenge also involves containing

the spread of weapons of mass destruction through a readiness to strike preemptively with special operations forces against production facilities that manufacture these weapons.[12] Scientists from Russia are being employed to provide WMD technological knowledge to rogue states. However, because of international law, we cannot legally do anything until some rogue state[s] began producing and assembling these weapons.

The threat of weapons of mass destruction indicates that some type of chemical-biological clothing must be developed for soldiers engaged in conventional warfare. There is also the possibility that such material could be needed for threats against the American people. Proper identification of these threats should prompt Congress to increase funding for Army research and development and modernization to build WMD protection equipment suitable for an Army After Next engaged in conflict or support to domestic authorities.

"Victory Disease", information warfare, terrorism, major regional conflicts, a Russian-Chinese alliance, and weapons of mass destruction are all future threats to an

Army After Next. With threats identified, a need for new doctrine exists to counter future threats in the year 2025.

Air, Land, Sea, and Space Battle Doctrine 2025

Doctrine provides the roadmap for technology development that will counter future threats to a nation-state. Therefore, doctrine provides the guidepost for resourcing budgets for research and development. Winston Churchill stated "the farther backward you can look, the further forward you are likely to see."[13] For example, the German high command planned the Polish campaign with great care in World War II. It pioneered a new method of warfare called blitzkrieg or lighting war. On September 1, 1939, German Stuka dive bombers attacked Polish troops, and heavier bombers struck at fortifications and industrial plants. On the ground, tanks and infantry raced through the Polish lines.

This new doctrine sounds very familiar to the 1986 version of AirLand Battle. Dr. Frederick Kagan, Professor of Military History at the US Military Academy states, "if the United States Army went to war tomorrow against a determined, technologically competent foe and based its operations on the doctrine outlined in Field Manual 100-5,

Operations, 1993, the results would be at best a bloody

victory, at worst a bloodier defeat.[14] Army doctrine has

become confused.[15] We did not look back far enough when we

wrote the 1993 version of Field Manual 100-5.

A budget strategy for an Army After Next requires a

doctrine that guides the building of the Army of 2025. Two

examples, first, Soviet military leaders decided in the

1920s to guide the revolution of military affairs by driving

technological change in a direction established by doctrine

rather than allowing unfettered technological change to

determine it.[16] The United States Army used doctrine in the

1980s to build the US Army of the 1990s that defeated the

Iraqi armed forces during the Gulf War. The architects that

are designing an Army After Next are not using doctrine to

guide the development of the Army of 2025. Evidence of this

was highlighted by the TRADOC winter wargame in January

1997. The red forces used future doctrine to fight the

battle in 2025 that included space, land, air, and sea

operations. The blue force commander used doctrine based on

the 1993 edition of FM 100-5. The red force commander was

more successful than the blue force commander because a

future doctrine based on warfare of 2025 was used to guide

his decisions. The Army should heed Winston Churchill's advice, "the farther backward you look, the farther forward you are likely to see."[17]

Second, AirLand Battle doctrine, epitomized by FM 100-5 / 1986, was and still is a very good doctrine for[18] reviewing core operational requirements for an Army After Next. The core operational requirement for an Army After Next indicates this new doctrinal foundation must be based on the 1986 version of FM 100-5. The doctrine of the 21st century includes air, space, land, and sea operations as the key core operational requirements that will drive the development of technology to build the Army of 2025.

With the identification of threats an Army After Next will face, and proposed doctrinal concepts outlined to guide technology development, specific technology concepts must be identified for inclusion in the development of the Army budget by the year 2000.

Technology Concepts for an Army After Next

Any useful discussion of technology concepts in its military role needs to refer to two basic postulates: First, what threats are we willing to arm against in the future? Second, can we define victory at various levels of war in

terms that assist in determining how much force and what kind of force must be available, and what is the cost in terms of dollars? In short this is the classic dilemma faced by armies and governments since they existed. What is the threat we face, what doctrine do we develop to defeat the threat, and how do we develop a budget strategy to resource this force? Technology concepts are discussed in this section of the paper to facilitate building an Army After Next.

The US Army is focusing its efforts on a future war against information warfare, terrorism, two major regional conflicts in North Korea and the Middle East, a Russian-China alliance, and weapons of mass destruction. These threats demand high levels of technological sophistication on the part of the US Army to bring force to bear successfully against all the above mention threats. The Army conducts intense combat for a relatively short time on the battlefield. The battlefield is measured in hundreds rather than tens of kilometers, relaying heavily on small, mobile units equipped with self-guiding armaments and capable of day-or-night, all weather combat. The management of this battle becomes information intensive at every level, from

squad to Joint Task Force headquarters. The real-time information and intelligence flow on the battlefield are possible only because of recent advances in computer technology. This new battlefield will be both dynamic and more dangerous than any battlefield in the 20th century.

Furthermore, the Russian General Staff conducted an analysis of the requirements for this future battlefield immediately following the Gulf War in March 1991. The following are exerts from the Soviet analysis: "The Soviet Military and the Future," by Stephen J. Blank and Jacob W. Kipp. "There can be no doubt that the Soviet understanding of the qualitative change in warfare...introducing what is essentially a new type of warfare moving into three-dimensions is no mere set of clichés. Already and duly demonstrated in the Gulf War, what has to be accounted for is the radical transformation not only of weapons systems themselves but also the manner in which they are employed.

Mr. Blank and Mr. Kipp farther states, "while the present phase with respect to military policy is largely one of reorganization, Soviet theorists look to the advent of <u>automation</u> which will involve decision-making processes with

the actual use of weapons, suggesting, indeed demanding

nothing less than radical change in force structure and

organization...introducing a high degree of robotics which

no longer entails mass armies but will require very much

improved training methods and requirements."[19]

Mr. Blank and Kipp indicate that in a remarkably

prescient article published in November 1988 two Soviet

military specialists-Colonel Migunov and Yurii Liz'Ko-set

out a future encounter which opened with monitoring of enemy

forces and their various echelons by space-based assets,

accompanied by early-warning and AWACS aircraft patrolling

overhead plus a variety of flying platforms carrying out

surveillance of the airspace and the ground near the

battlefront. Intelligence data so gathered is transmitted at

high speeds to automated centers for processing, evaluation,

and storage before disseminated to command and fire-control

centers. Cruise missiles are launched to attack bridges,

airfields, while RPVs track enemy movements. AI expert

systems identify targets.

They also state that on the ground unmanned robot

vehicles search out enemy positions, illuminate them with

laser beams and transmit destruction signals. RPVs also

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illuminate targets which are then destroyed from the air by smart munitions. Computer-equipped command posts, drawing on their own expert systems, operate unmanned vehicles, working with automated fire-control systems attacking selected high priority targets. And behind them come the remote-controlled reconnaissance vehicles and tanks.[20]

Mr. Blank and Kipp end by discussing developments in both nuclear and nonnuclear strategic offensive forces which predicate a radically transformed military-political situation, a development driven by ballistic missiles with intelligent maneuverable warheads, long-range cruise missiles, PGWs, widespread application of stealth technology, orbital aircraft, and directed-energy weapons.

Russian theorists are developing doctrinal concepts to fight in the 21st century. Their doctrinal concepts determine which technologies they will develop to build their armed forces for the 21st century. We must identify what technologies are being developed in the US Army's Research Labs to facilitate defeating the Russian concepts in the Revolution of Military Affairs.

US Army Research Labs are working on advanced technology concepts in aviation, C4I, electronic warfare,

mounted forces, light forces, combat health support, Air Defense, Engineer, fire support, logistics, space, and modeling and simulation technology. The following are specific capabilities of the above mentioned technologies for an Army After Next:

Aviation Technology: Army aviation features the development of the RAH-66 Comanche and AH-64 Apache Longbow helicopters. The armed reconnaissance Comanche will be the "centerpiece of the digital battlefield" and the Apache Longbow will provide "all weather" attack capability. Battlefield commanders will quickly realize the advantages gained through the instantaneous transfer of digital reconnaissance data to the airborne shooters and their three-dimensional maneuverability/agility to control the ever changing battlefield tempo.[21] The aviation systems will be able to conduct dominant maneuver with substantial firepower. The future aviation forces can be equipped with laser technology and unmatched by other armies.

Command, Control, Communications, and Computers (C4): System sizes and weights will be minimized to increase the capabilities that can be deployed rapidly. Rapid task organization of Army components during crisis planning will

require compatibility with other units without prior

rehearsal or exercise to form a single organization for

mission execution.[22] This new command and control system

will allow US forces to conduct combat operations at a tempo

unequaled by 20th century warfare standards.

Intelligence and Electronic Warfare: For the far term,

future systems planning is focused on the integration of IEW

systems with command, control, and communication systems

into one C3IEW "systems-of systems" which will carry out the

collection, management, transport, and denial of battlefield

information.[23] Rapid decision making is the result of this

technology concept. Intelligence will be (real time) 24

hours a day.

Mounted Warfare: The need to more rapidly deploy the

mounted force to any battlefield in the world emerged as a

lesson learned from Operation Desert Shield/Desert Storm.

This new requirement for the force has drastically changed

combat vehicle design considerations. The creation of

lighter, more mobile, more supportable vehicles is now an

integral part of the science and technology investment

strategy. But simply increasing the deployability at the

expense of the capabilities of our combat systems is not

acceptable. We must increase deployability while simultaneously advancing our superiority in lethality, C4I, survivability, and battlefield mobility. This is where our technology base is critical in forming a viable basis for these new, more capable, smaller, lighter fighting vehicles.[24] The vision is to deploy a brigade size unit to anywhere in the world within 48 hours from the time of notification. Furthermore, future engine designs will include the capability to travel days without refueling the vehicle. A fuel pellet technology is being developed that replaces liquid fuel as we know in current conventional vehicles. This concept reduces logistics substantially. Moreover, vehicles will have self protection, defeating incoming direct fire weapons, and indirect fire munitions.

Light Forces: The light forces modernization strategy focuses on new materiel that increases lethality, mobility, and survivability while correcting deficiencies and providing the necessary tailorability across the spectrum of conflict. Priority is given to equipment that significantly increases flexibility and survivability. Early entry forces will gain increased lethality and survivability against heavy forces through application of the Hunter-Standoff

Killer concept, i.e., use of advanced forward sensors (Hunters) and standoff weapons (killers), that will be demonstrated in a "system-of-systems" which can engage enemy forces at ranges beyond their ability to counter.[25] Light forces will be connected to space assets that provide unprecedented situational awareness of the battlefield. Light forces will have operational fires from space and naval arsenal ships that increase combat power three-fold.

Combat Health Support: Modernization efforts focuses on the development of medical materiel for countering potentially mission aborting infectious diseases as well as chemical and biological warfare agents. Additional capabilities of the medical program include technologies supporting far-forward casualty treatment; individual sustainment (self aid devices and techniques) to reduce the severity of ballistic, thermal, and directed energy injuries; topical skin protectants; blood substitutes; and the use of miniature film x-rays. The modernization strategy also addresses nutritional and physiological approaches to minimize the impact of military operational stresses which degrade the capabilities of, or render inoperable, the human component of combat systems.[26] New food technology is also

being developed that enables troops to take tablets that embody the same nutrients of MREs and cooked meals. This technology concept reduces logistics requirements.

Air Defense: Initiatives emphasize survivable target acquisition (both passive and active) and positive identification; cost effective fusion of multiple sensor/processor modules into automated target acquisition and force control suites; multiple missile guidance modes against the reactive threat; high energy, insensitive propellants, and alternate propulsion concepts; missile seeker upgrades to integrate advanced fuzing techniques and smart focal plane arrays; hit-to-kill technology; dispersed, distributed, survivable command and control (C2)[27] . This technology concept provides full dimension protection that allows unit freedom of maneuver on the battlefield.

Engineer: The Intelligent Minefield (IMF) will enhance the antiarmor lethality of early entry forces, cue fires beyond line-of-sight, and provide the potential to revolutionized maneuver. For mobility, the pacing technologies include sensor IR, microwave, multi-spectral, seismic and acoustic decoys, explosive neutralization, information processing, robotics, and other emerging

technologies.[28] These technologies enable mounted and dismounted formations to avoid minefields.

Fire Support: The Artillery Extended Range Cargo Projectile Technology is a concept that addresses conventional artillery needs for increased ranges (40-50 km) for mounted forces. The Long-Range Fiber-Optic Guided Missile Technology will provide light forces with a long range (40+ km) precision guided artillery weapon that will provide surgical kill capability for light forces against heavy armor, helicopter, and bunker targets.[29] This technology concept enables Army mounted and light forces to conduct deep precision fires on enemy stationary or moving targets.

Logistics: Total distribution initiative integrates logistics planning tools, computer simulation and modeling techniques, advanced microelectronics, satellite tracking, and communications technology to significantly enhance total asset visibility by displaying the requirements for and the location of assets at the strategic, operational, and tactical levels.[30] Smart logistics tracks all repair parts and other assets. This technology concept provides mounted

and light forces a degree of agility unknown to modern warfare.

Space: Theater Missile Defense Technology concept is to destroy or disrupt enemy theater missile (TM) capabilities by attacking the air, ground, space, and special operations conducted to prevent the launch of hostile theater missiles by striking missile launchers and their command and control, communications, logistics, reconnaissance, intelligence, surveillance, and target acquisition support.[31] The High Energy Space Laser technology concept can be evaluated for applicability of attacking ground and space targets with laser weapons.[32] This is the most promising technology concept of all science and technology research and development on-going in Army research labs. This technology concept has the same destruction capability as nuclear weapons without radiation.

Modeling and Simulation Technology: The long term objective of the modeling and simulation concept is to develop and implement a single, comprehensive system of synthetic environments for operational and technical simulation which can support combat development, system acquisition, developmental and operational test and

evaluation, logistics, training, developmental and operational test and evaluation, mission planning, and rehearsal in Army specific and joint operations.[33] This technology concept will significantly shorten the research and development timelines to field Army systems. More testing and development can be done using super computers that run very complex computations. Over 60 percent of weapons technology research and development can be accomplished using super computers. A significant amount of time and funds can be saved and applied to procurement of weapon systems for an Army After Next.

All of these technology concepts are currently in the US Army's Science and Technology Master Plan. Priority must be given to develop these technologies by focusing on the above technology concepts. An Army can dedicate sufficient research and development resources to develop these technologies into weapon systems. Again, budgeting is a decision making system for allocating resources to achieve priorities. The technology concepts should be the Army's science and technology priorities for the development of an Army After Next.

To execute the budget strategy for an Army After next,
Congress and the American people must be educated on the
framework to build an Army with limited resources in times
of prolonged peace.

Educating Congress and the American People

An Army's leadership must be able to educate the
elected leadership, the news media, and citizens so the
correct policies and institutions can be sustained to build
an Army After Next. In a Luntz Research poll conducted of
1,000 people nationwide between February 22 and 23, 1995, 79
percent of Americans responded that it is still important to
modernize military forces, despite the end of the Cold War,
while just 16 percent stated that modernization is not
important.[34] If 79 percent of Americans indicate that it is
important to modernize our military forces, then what are
the problems we are having with funding research and
development, and modernization? The problem is that we have
not developed a marketing strategy to motivate our citizens
to tell Congress and the President that budgeting for a
future Army is important.

We should ask ourselves five questions in developing
this strategy to galvanize the American people and Congress.

First, what is our intent in building an Army After Next?

Second, what concept will we use to build the future Army?

Third, what objectives will define success in building an

Army of 2025? Fourth, what resources do we have to develop

an Army After Next? Last, how are we going to build an Army

After Next with current budget constants?

To answer the first question, we must articulate our

vision of why building an Army After Next is important to

the national security of the United States. This vision must

demonstrate to the American people that drastic downsizing

and deep budget cuts will create conditions for an Army that

cannot win its nation's wars. Congress and the American

people must understand that the sons and daughters of this

great republic will bleed in battle if we do not develop a

budget strategy to build an Army After Next. We do not want

to repeat the same mistakes of an unready Army as

demonstrated three times doing the 20th century.

The second question, concepts we are going to use to

build the future Army, suggests that an Army leadership must

inform the American people of how we are going to build an

Army After Next. They must understand that new doctrine will

be developed to guide technology solutions for threats in

the future. The American people must understand that these procedures will save billions of dollars so that other government programs can be resourced with these savings. Last, the American people must understand budgeting for an Army After Next will not interfere with future Social Security of Medicaid payments.

The third question, steps we are going to take to build the future Army tells us that the American people must know the Army will first devise a budget strategy as any corporation does when embarking on any enterprise. We must show Congress and the American people that the Army will rid itself of excess force structure. Excess force structure costs money and detracts from Army readiness.

The fourth question--resources we have to work with to build the Army of the 21st century implies that we must work with current resources. The United States spends 23.9 percent of its federal budget on national defense. The other major government resource expense is the national debt, which takes 14 percent of the national budget. In the long run, balancing the budget will free additional resources for other government programs and for funding an efficient national defense.

The last question is how are we going to synchronize

building an Army After Next with the needs of the United

States? The American people must understand that a credible

defense is required for continued survival and prosperity of

the nation. However, other pressing issues such as funding

education and building schools are all integrated with the

national security of the United States. Congress and the

American people must understand that the reserves and the

National Guard will have to downsize to free resources that

can be applied to building an Army After Next. Downsizing

the reserve and National Guard force structure from eight to

four divisions saves billions of dollars that can be used to

build an Army After Next. Seventy percent of the active

Army's logistics are in reserve forces. This places the

nation at risk. Some of these forces must be placed in the

active force. In the end, America's Army must win our

nation's wars as it has done in the 221 year history of the

United States.

Conclusion

In conclusion, this Strategy Research Project has

outlined a budget strategy that provides the framework to

build an Army After Next with limited national resources.

The strategy encompasses four principal features: identification of future threats; developing doctrine for the 21st century; identification of technology concepts that the Army should develop into weapon systems; and educating the American people and Congress on budget requirements for an Army After Next.

Identification of threats drives doctrinal development which drives technology concepts that enable an Army to counter identified threats. The 21st century Army doctrine must include air, land, sea, and space operational concepts. It is within these dimensions that future war will be waged. However, our 1993 version of AirLand Battle doctrine has left out the importance of maneuver warfare concepts as written in the 1986 version of FM 100-5. The future doctrine must return to maneuver warfare concepts.

Technology along cannot win our nation's wars. However, technology properly applied can give the US Army a decisive edge over future threats. Future technology such as the future combat vehicle and laser technologies will give America's Army a decisive edge of unprecedented magnitude in the 21st century. The science and technology recommendations

in this paper can be used as the basis for building an Army After Next.

Educating Congress and the American people is the most important part of the budget strategy for an Army After Next. Without convincing our citizens of the need for an Army After Next, this strategy will not work. Seventy-nine percent of the American people think the military should modernize. The Army leadership must explain to the American people why we need to modernize the Army in periods of prolonged peace. The Army leadership must explain the consequences of downsizing and deep budget cuts for the Army. Our citizens must be reminded often of the failures as well as the successes of the American Army in the 20th century.

Outdated equipment and poor training resulted in unnecessary causalities during World War I. The initial defeat at Pearl Harbor, Corregidor, and Kasserine during World War II was the result of deep budget cuts. The disastrous defeat of Task Force Smith during the Korean war was caused by poor training and deep budget cuts. The disasters of the 20th century might have been avoided if a budget strategy in periods of prolonged peace had been

established. The United States prevailed in all these conflicts because the country was able to spend its way out of danger. This strategy will no longer work. However, a budget strategy for an Army After Next will win our nation's wars in the 21st century.

End Notes

[1] Douglas A. Macgregor, "Breaking the Phalanx: A new Design for Land Power in the 21st Century," (Praeger Publishers, 1997), 12.

[2] Harry G. Summers, Jr., "Mid-Intensity Conflict: The Korean War Paradigm," in *The United States Army: Challenges and Missions for the 1990s*, ed. Robert L. Pfaltzgraff, Jr., and Richard H. Shultz, Jr., (Lexington, Mass.: Lexington Books, 1991), 44.

[3] Association of the United States Army, "Army Budget Fiscal Year 1997: An Analysis," (AUSA Institute of Land Warfare, 1996), 26.

[4] Casper Weinberger and Peter Schweizer, The Next War (Regency Publishing, Inc., 1996), xviii.

[5] Jeffrey A. Jacobs, The Future of The Citizen-Soldier Force, (University Press of Kentucky, 1994), 6.

[6] Ibid, p. xviii.

[7] Ibid, p. xviii.

[8] Army Times, "Hidden Soft Spot in Satellite Might," (*Army Times*, March 10, 1997), 20.

[9] Army Research Lab, "Information Warfare Strategy Report," (http://ftp.arl.mil/~rick/,9 March 1997)

[10] Anthony Davis, "Security: China's New-Look Army...The PLA tested higher tech in the Strait war games," (http://pathfinder.com/@afwf7wqa3myxggq/ asiaweek/96/0412/nat7.htl, 31 January 1997)

[11] President Boise Yelston, "Yelston Talks: Remarks reference NATO expansion: (Remarks given to reporters in Russia 25 March 1997 reported on NBC Nightly News)

[12] Douglas A. Macgregor, *Breaking the Phalanx*, 25.

[13] Ric Edelman, The Truth About Money (Georgetown University Press,1996), 29.

[14] Frederick Kagan, "Army Doctrine and Modern War: Notes Toward a New Edition of FM 100-5," (*Parameters*, Vol. XXVII, No. 1, Spring 1997), 134.

[15] Ibid., p. 134.

[16] Ibid., p. 138.

[17] Edelman, The Truth About Money, 29.

[18] Frederick Kagan, Army Doctrine and Modern War, 134.

[19] Stephen J. Blank and Jacob W. Kipp, The Soviet Military and the Future, (Greenwood Press, 1992), 46.

[20] Voennye Znaniya, Very much a pre-Gulf War prescription in "EVM I roboty," (No.II 1988), 28.

[21] Army Science and Technology Master Plan, Fiscal Year 1996, December 15, 1995, p. III-E-3[16]

[22] Ibid., p. III-D-1.

[23] Ibid., p. III-F-2.

[24] Ibid., p. III-G-1.

[25] Ibid., p. III-H-2.

[26] Ibid., p. III-J-1.

[27] Ibid., p. III-L-1.

[28] Ibid., p. III-N-3.

[29] Ibid., p. III-O-6.

[30] Ibid., p. IV-P-1.

[31] Ibid., p. D-5, volume II.

[32] Ibid., p. D-44.

[33] Ibid., p. IV-U-1, Volume I.

[34] Edwin L. Dale, Jr. and Jeffrey A. Eisenach, The People's Budget: A Commonsense Plan for Shrinking the Government in Washington, (Regency Publishing, Inc., Washington, D.C., 1995), 126.

Bibliography

Army Times. Hidden Soft Spot in Satellite Might. Army Times, March 1997.

Army Research Lab. "Information Warfare Strategy Report." March 1996.<http:ftp.arl.mil/~rick/>.9 March 1997.

Army Science and Technology Master Plan, Fiscal Year 1996, December 1995.

Association of the United States Army. Army Budget Fiscal Year 1997: An Analysis. AUSA Institute of Land Warfare, 1996.

Blank, Stephen J, and Jacob W. Kipp. The Soviet Military and the Future. Greenwood Press, 1992.

Dale, Edwin L., Jr., and Jeffrey A. Eisenach. The People's Budget: A Commonsense Plan for Shrinking the Government in Washington. Regency Publishing, Inc., 1995.

Davis, Anthony. "Security: China's New-Look Army...The PLA tested higher tech in the Strait War Games."<http://pathfinder.com/@afwf7wqa3myxggq/asiaweek /96/0412/nat7.htl>31 January 1997.

Edelman, Ric. The Truth About Money. Georgetown University Press, 1996.

Jacobs, Jeffrey A. The Future of The Citizen-Soldier Force. University Press of Kentucky, 1994.

Kagan, Frederick. Army Doctrine and Modern War: Notes toward a New Edition of FM 100-5. Parameters, Vol. XXVII, No. 1, Spring 1997.

Macgregor, Douglas A. Breaking the Phalanx: A new Design for Land Power in the 21st Century. Praeger Publishers, 1997.

Summers, Harry G., Jr. "Mid-Intensity Conflict: The Korean War paradigm", in The United States Army: Challenges and Missions for the 1990s. Lexington Books, 1991.

Weinberger, Casper., and Peter Schweizer. The Next War. Regency Publishing, Inc., 1996.

Yelston, Boise. "Yelston Talks: Remarks reference NATO expansion." <u>NBC Nightly News</u>, March 1997.

Znaniya, Voennye. Very Much a pre-Gulf War prescription in "EVM I roboty... No. 11, 1988.